



Single Electricity Market

Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code

SEM Committee Proposed Position Paper and Request for Further Comment

2nd September 2010

SEM-10-060

EXECUTIVE SUMMARY

Introduction

This paper sets out the position of the SEM Committee on each of the major issues described in detail in the July 2009 Consultation Paper SEM-09-073. It takes account of the very substantive comments received from twenty nine stakeholders.

The July Consultation Paper was wide ranging and complex, even by normal industry consultation standards. It covered economic, technical and legal aspects of the future regulation of the SEM. Some respondents have suggested the Paper addressed too many issues, particularly at this relatively early stage of the SEM. To be fair, the underlying issues are complex, important, and far reaching. While their impact in terms of scale and likely timing may still be unclear, their existence has been known for some time. They have also been anticipated in earlier SEM consultation papers.

In very broad terms, the July Consultation Paper addressed the strains on the current SEM design which will inevitably arise from the prospect of accommodating a major escalation in renewable – and largely intermittent – generation. This escalation has been enshrined in Irish government policy, and it is anticipated for Northern Ireland in the context of the upcoming Strategic Energy Framework, as a key tool in the realisation of the 2020 consumption targets for renewables for Ireland and the UK which are mandatory under EU law. These strains will become even more acute if there is a material time lag between the rollout of the investments in generation capacity and in the associated network infrastructure due to, for example, planning difficulties. Among the specific issues considered in the July Consultation Paper were:

- the construction of the market schedule;
- the resulting allocation of infra marginal rents;
- principles underlying the dispatch process;
- interpretation and application of the principle of priority dispatch;
- case for differentiating between categories of generation qualifying for priority dispatch;
- the case for “deemed” firm access, and
- treatment of variable price takers in the market schedule.

The July Consultation Paper must also be seen in its wider context. There are currently a number of very important parallel, but separate, work streams under way in this general area. These include Gate 3 connection offers process and associated issuance of constraints studies and connection processes in Northern Ireland, the medium term review of the Capacity Payments Mechanism (the CPM), very recently, the ground breaking work by

both TSOs on “All Island TSO Facilitation of Renewables Studies”. Other areas of the SEM, such as the market for ancillary services, are bound to come under review before too long. None of this is to advocate change for the sake of change. It is a question of balancing a market design that is stable, on the one hand, but reasonably dynamic and responsive to major externally driven challenges on the other hand. The SEM Committee appreciates the need to keep these various work streams aligned and consistent with one another.

In addition to the above, it is necessary at the outset to consider the July Consultation Paper and this proposed position paper in the context of the legal duties and functions of the SEM Committee. The SEM Committee’s principal objective is the protection of the interests of consumers of electricity in Ireland and Northern Ireland supplied by authorised persons wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the sale or purchase of electricity through the SEM. When carrying out its functions, the SEM Committee must also have regard to, *inter alia*, security of supply, the effect on the environment in Ireland and Northern Ireland and the need, where appropriate, to promote the use of energy from renewable sources. In addition to the above provisions, it is noted that the SEM legislation provides that the SEM Committee shall *‘have regard to the objective that the performance of any of their respective functions in relation to the Single Electricity Market should, to the extent that the person exercising the function believes is practical in the circumstances, be transparent, accountable, proportionate, consistent and targeted only at cases where action is needed’*.

General Comments on Stakeholders’ Responses

Before addressing each of the twelve specific issues set out in the July Consultation Paper, the SEM Committee makes the following five general comments by way of guidance to its approach to these issues. These general comments take up some of the more recurring themes which emerged from the consultation process.

Firstly, the SEM Committee recognises that since the July Consultation Paper was written all Member States now face mandatory renewable consumption targets by 2020 under Directive 2009 /28/EC. Regulators cannot ignore these mandatory targets. Wholesale market designs and rules do have a role in this regard. But these rules cannot, on their own, be expected to deliver the 2020 renewable targets. Government support schemes also have a vital role to play, as the EU regime explicitly recognises. Furthermore, Regulatory Authorities cannot pursue the renewables consumption objective blindly when they are designing or revising market rules. Other legitimate policy objectives of efficiency, cost minimisation to end customers, fairness to all market participants, stability, and long term security of supply have to be borne in mind. The legal requirements on the SEM Committee and the Regulatory Authorities (the RAs) in the context of the SEM as set out above are noted in

this regard. All that said, the SEM design must, as a minimum, not be configured in such a way as to be seen to actively frustrate the realisation of the 2020 mandatory renewables targets.

Secondly, the SEM Committee is very conscious of the fact that there are major external market uncertainties facing the SEM, *regardless of whatever decisions are made on the issues set out in the July Consultation Paper*. These could well continue for some while. Examples include (i) attitudes and decisions on public planning (for generators as well as for networks), (ii) how forthcoming private finance for investment will be in the market place etc. This uncertain external environment puts a premium on regulatory decision making which is stable and predictable but also flexible and adaptable. In other words, regulators should guard against being over certain on longer term external market developments or attempting to “tie down the future.” Several stakeholders have emphasised this point to us

Thirdly, the SEM Committee appreciates the vital importance of regulatory stability, particularly for businesses and financiers with a time horizon of 15 years or so. But it cannot pursue a doctrine of stability at all costs. The SEM Committee will certainly be careful about revisiting fundamentals of SEM design (including the role of firmness in connection offers and eligibility for inclusion in market schedule) so soon after the SEM was set up. But these fundamentals will be revisited if, and when, it is evident that circumstances make it necessary to do so. Otherwise end customers could become prisoners indefinitely to a market design that is not adaptable to changing market circumstances and pressures.

Fourthly, the SEM Committee appreciates that meeting 2020 renewables targets will require, among other things, a major network investment programme. The RAs will allow for the associated capital investments in future five year revenue reviews, provided of course that the investments *are* actually delivered, and are done so efficiently. This is borne out, for example, by the current CER proposals on the 2011-2015 revenue reviews for the TSO and DSO in Ireland. In addition, the RAs will implement appropriate incentivisation schemes to promote timely and efficient delivery of required infrastructure. The need for a co-ordinated approach to the planning and delivery of network infrastructure across both jurisdictions to the appropriate degree is noted in this regard.

Fifthly, the SEM Committee agrees with those stakeholders who have emphasised the need to approach the “scheduling and dispatch” issues in a holistic manner – i.e. in a manner which is consistent with development in other work streams (e.g. ancillary services). There may well be a case, as some stakeholders have suggested, for dealing progressively with the twelve specific issues rather than on an “all in the one go” basis. The task is to create as reasonably clear a regulatory framework as can be expected for market players and potential investors, including recipients of connection offers on the island.

The Twelve Specific Issues

Issue 1 – Alignment of MS and Dispatch

Consultation Paper: *It is proposed that the RAs should seek to ensure that the construction of the market schedule is such that infra-marginal rents are allocated to generating units that are of value to the real-time operation of the system, and where deemed appropriate to make the necessary changes. Any resulting change in design rules would have to take account of (i) the materiality of deviations between market schedule and dispatch and (ii) the costs of any reforms.*

SEM Committee Position: The SEM Committee acknowledges that Issue 1 has the potential to imply some radical changes to the basic design of the SEM. This is illustrated more clearly when we turn to Issue 2 (below) which, in practical terms, spells out the kind of policy measures which are implied by the specific options in the general principle embodied in Issue 1.

The SEM Committee also acknowledges that the July Consultation Paper did not attempt to forecast the likely timing or financial scale of the underlying problem of a potentially escalating divergence between market schedule and dispatch. The SEM Committee will not embark upon any significant revision of market design rules unless and until it has established - that such revision is warranted by a level of material and sustained harm to end customers on the island which would otherwise accrue. The evidence and advice from the TSOs to date would suggest that this is not an immediate prospect. The divergences between market schedule and dispatch should remain manageable at least for the next couple of years.

The SEM Committee's next step is to set out the parameters for estimating and assessing such a level of *material harm* to end customers before considering revision of current market design rules. This revision, if undertaken, could lead to adoption of one or other of the market design reforms described in the July Consultation Paper (see Issue 2 below). It could also encompass other measures if appropriate – e.g. enhancement of the role of the market for ancillary services. This parameter setting exercise will be difficult, by its very nature. Attempting to quantify the parameters precisely or authoritatively will be particularly difficult. At this stage the SEM Committee considers that the assessment of *material harm* to end customers will be measured against the following key objectives:

- protection of end customers, the need to ensure costs are appropriate being noted in this regard;
- security of supply, and
- sustainability and facilitation of renewable targets.

* * * *

Issue 2 – Allocation of Infra Marginal Rents Behind Constraints

Consultation Paper: *The RAs would welcome views on how access to the market schedule for plant situated behind export constraints should be limited and on the options in this regard described below, or indeed alternative options.*

- *Retain status quo*
- *Option 1: ignore concept of firm access as it currently operates and model export constraints in the market schedule*
- *Option 2 : Respect concept of firm access and allocate IMRs to generators only to the extent that they enjoy firm access Option 2A: As in Option 2 plus trading of access rights*
- *Option 3: Respect concept of firm access but reallocate any “residual capacity” to non firm generation on the day*

SEM Committee Position: The pursuit of any one of these options other than retention of the status quo – or indeed any variation on them – would only arise if and when the “level of material harm” test under Issue 1 would have been met in the specific context of allocation of infra marginal rents behind constraints. The SEM Committee does not have to decide between the options at this stage, and indeed the binding status of any such “decision” at this stage would be debatable.

The SEM Committee can say, however, that should the “level of material harm” test be met, its thinking at this stage is to favour Option 1 over the other options. While Option 1 would create greater risks for generators as a whole, it would incentivise new generation which is coincident with network development and create greater efficiency and competition at generator level.

The SEM Committee notes that any change considered in this regard will be appropriately assessed in the context of the decision making framework set out previously by the SEM Committee and any measures considered will be one that is proportionate to the issue in hand.

* * * *

Issue 3 – Least Cost Dispatch

Consultation Paper: *Given that it would represent the most efficient short-term use of available resources, and is consistent with existing dispatch processes, the RAs propose that the TSOs should continue to dispatch the system to minimise production cost of generation, taking into account system security requirements and, as now, disregarding any concept of firmness in the dispatch process*

SEM Committee Position: The SEM Committee considers that this proposal should continue to determine dispatch. No convincing case to the contrary emerged in the consultation exercise.

* * * *

Issue 4 – Interpreting Priority Dispatch

Consultation Paper: *The RAs welcome comments on the following alternative approaches to applying the priority dispatch principle to renewable generation; these approaches range from an absolute to a more heavily qualified approach:*

- *Option 1 – dispatch irrespective of cost*
- *Option 2 (a) – dispatch on economic merit*
- *Option 2 (b) – priority in tie breaks*
- *Option 2 (c) – dispatch taking account of subsidies*
- *Option 2 (d) – dispatch at effective price (e.g. VoLL)*

SEM Committee Position: The SEM Committee recognises the importance of the principle of priority dispatch for renewable generation. It is a key policy instrument in progressively achieving the mandatory objectives for 2020 set out in Directive 2009/28/EC. This is clear from reading the Directive. The Committee will therefore interpret the principle within both the letter and the spirit of the Directive and ensure that the System Operators apply it accordingly. It is noted that in the SEM priority dispatch is facilitated by affording qualifying generators the option to register as Price Takers.

It is also clear that the only qualification to this principle identified in the Directive relates to the secure operation of the system(s). On this basis, priority dispatch is, de facto, an exception to the general principle of economic merit precedence determining dispatch. The precise final details, or the last word, on just how far the application of the priority dispatch principle must go in every case have probably still to be worked out. This appears to be the case not only on this island but in other EU systems as well. Nevertheless, the Committee is drawn to the “absolute” rather than the “qualified” end of the spectrum of interpretation advanced in the July Consultation Paper, and is committed to developing priority dispatch rules based on transparent and non-discriminatory criteria.

The SEM Committee does see some role for cost consideration to be borne in mind, at least in very exceptional situations. For example, in exceptional circumstances applying priority dispatch without any consideration of costs, either in financial terms or in terms of environmental impacts, might not make sense. Similarly, Option 2 (d) above is reasonable and, in principle, would have no impact on the percentage of demand being met by renewable

generation. Such exceptional situations must not be on such a scale, however, as to threaten the progressive realisation of the mandatory 2020 renewables targets.

This SEM Committee position will be kept under review in the light of the forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.

On the issue of determining priority *between* different categories of generation currently enjoying priority dispatch, the Committee thinks it is reasonable – subject to any forthcoming provisions on this issue in the transposition of Directive 2009/28/EC into domestic law – that generation granted *mandatory* priority dispatch (renewables) be given precedence over generation granted *discretionary* priority dispatch by a Member State (e.g. peat or CHP).

* * * *

Issue 5 – Information Provision by TSOs

Consultation Paper: *The TSOs (and asset owners) should continue to make available information relating to:*

- (a) their understanding of what changes to the scheduling and dispatch of generation are being contemplated in light of the increasing level of renewable generation on the system, including where there may be technical limitations on the quantity of certain types of plant that can be accommodated on the system: and*
- (b) their view on how technical issues (for example system inertia, fault levels etc.) will be resolved*

SEM Committee Position: The SEM Committee strongly endorses this proposal, as did respondents to the July Consultation Paper. Such exchange of information between operators, regulators and market players will be vital to overcoming the major technical and financial challenges posed by the very challenging renewables integration objectives on the island. A good recent example of such information provision is the recent publication by the TSOs of their “*All Island TSO Facilitation of Renewables Studies*”.

* * * *

Issue 6 – Grid Code

Consultation Paper:

TSOs continue to place emphasis on and enforce Grid Code.

TSOs keep Grid Code under review to ensure generation supports satisfactory operation of the system.

SEM Committee Position: The SEM Committee endorses the proposal that more strict enforcement of Grid Code compliance – by both renewable and conventional plant – as well as regular review of the Codes themselves, will be vital to achieving efficient system operation and an acceptable balance in the distribution of the burden of meeting the 2020 renewables consumption targets. Again, the recent “*Facilitation of Renewables Studies*” from the TSOs reinforce this point. The SEM Committee has agreed to the use of Generator Performance Indices (GPI) to be used by TSOs to commercially incentivise generators to comply with grid code requirements and intend to expand this scheme to match the growing importance of grid code compliance.

* * * *

Issue 7 – Deemed Firm Access

Consultation Paper

The RAs propose that a concept of “Deemed Firm Access”, whereby connection applicants would be allocated a Firm Access Quantity (FAQ) or Maximum Export Capacity (MEC) in advance of completion of the necessary transmission system reinforcements, should not be introduced to the SEM.

SEM Committee Position: The SEM Committee remains of the view that there is not a convincing case for the introduction in the SEM of a concept of Deemed Firm Access. Among other things, this would have the potential to encourage over investment in generation behind export constraints and increase customer costs over the longer term.

* * * *

Issue 8 – Hybrid Plant and Priority Dispatch

Consultation Paper

The RAs propose that the rules applying to hybrid plant should depend upon which of the options for treatment of priority dispatch plant are eventually chosen. The RAs welcome views on how the principles of priority dispatch should be extended to hybrid plant as part of the response to this consultation.

SEM Committee Position: From the inquiries it has made, it appears to the SEM Committee that there is considerable legal uncertainty over the status of hybrid plant for priority dispatch purposes and how such plant should be treated in this regard. This may become clearer when the 2009 Directive is transposed into domestic law. Meanwhile the SEM Committee will keep the situation under review.

* * * *

Issue 9 – Determination of SMP when Demand met by Price Takers

Consultation Paper: *The RAs propose that PFLOOR remain as a lower limit to SMP and continue to be consulted upon annually under the T&SC Code.*

SEM Committee Position: The proposal in the Consultation Paper will be followed insofar as PFLOOR will continue to be used in Excessive Generation Events and as a lower limit to SMP. The Regulatory Authorities will consult upon PFLOOR annually as has been done to date in the SEM.

* * * *

Issue 10 – Quantity of Generation Paid PFLOOR

Consultation Paper

The RAs propose that the quantity of generation charged PFLOOR in the event of the Excessive Generation Event arising from an excess of Price Taking Generation should not exceed System Demand. The MSQs of Price Taking Generation should, in such circumstances be pro-rated down so that the total quantity is equal to System Demand.

SEM Committee Position: The proposal in the Consultation Paper will be followed. In practical terms, the effect is to reduce the quantity of price taking generation being remunerated (charged) when total supply exceeds demand.

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Issue 11 – Tie Breaks

Consultation Paper

The RAs propose that where tie-break rules are required, de-loading should be instructed on a pro-rata basis in a manner determined by the TSOs.

SEM Committee Position: The proposal in the Consultation Paper will be followed in principle. It is fair and pragmatic. The SEM Committee accepts the advice from the System Operator that relying on the “firm” status of connected generators or their historic date of connection would not be practical.

The SEM Committee notes responses regarding the issue of the potential impact of the above approach on renewable generators connecting in Ireland and Northern Ireland and the implication of this for achievement of targets and potential impacts on sustainability. The SEM Committee requests further comment on this from interested parties.

* * * *

Issue 12 – Treatment of Variable Price Takers in the Market Schedule

Consultation Paper

VPTs should be bound by the same rules as other generation in the MS. If 'status quo' is maintained re allocation of IMRs behind export constraints, VPTs should be limited in the market schedule to output or FAQ.

SEM Committee Position: The proposal in the Consultation Paper will be followed. Changes to the Trading and Settlement Code will be progressed to align the treatment of Price Taking and Price Making generators as per the Consultation Paper.

* * * *

Next Steps

The following are the key next steps in this process:

- Submission of comments on this paper by interested parties by close of business (17.00hrs) Friday, October 29th 2010.
- Publication of assessment framework regarding the level of material harm to customers in the SEM which would warrant revision of market design rules.
- Final position paper publication in January 2010.

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1. Introduction

This paper sets out the SEM Committees proposed decisions and request for comment regarding twelve specific matters raised in a consultation paper issued in July 2009 regarding principles of dispatch and the design of the market schedule in the Trading and Settlement Code.¹

That consultation paper was issued subsequent to a 2008 discussion document on the treatment of wind generation in the SEM in the context of non-diverse intermittent generation more generally and a consequent paper setting out the SEM Committees initial response to comments received and next steps that would be undertaken to progress the various matters raised.²

The 2009 consultation paper sought to progress matters relating to dispatch and remuneration under the market schedule. This included, *inter alia*, principles underlying the dispatch process, treatment of plant qualifying for priority dispatch, the construction of the market schedule and allocation of infra marginal rent thereunder, 'curtailment', deemed firm access, treatment of Variable Price Takers and matters relating to PFloor definition and application.

Matters such as how wind is rewarded under the Capacity Payment Mechanism (the CPM), consideration of ancillary services, Grid Code compliance, System Operator incentivisation and market modelling of future generation portfolios were progressed separately.

Twenty nine responses were received to the 2009 consultation paper and these are published in tandem with this proposed position paper except in cases where the respondent requested that the response be treated as confidential.

- AES
- Airtricity
- ART Generation
- Aughinish Alumina
- Ballynancoran
- Bearnna Gaoithe Teo.
- Bord Gais Eireann
- Bord na Mona

¹ Ref: Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code: A Consultation Paper, July 8th 2009, SEM-09-073

² Ref: Wind Generation in the SEM: Policy for Large-Scale, Intermittent Non-Diverse Generation Discussion Paper, February 11th 2008, SEM/08/002 and Initial Response to Comments and Next Steps, September 23rd 2008, SEM-08-127

- British Wind Energy Association
- Dublin Waste to Energy
- EirGrid Plc.
- Endesa Ireland
- Enercomm
- ESB Customer Supply
- ESBI
- ESB Power Generation
- Gaelectric
- Indaver
- Irish Wind Energy Association
- Mr. John Kingston
- Meitheal na Gaoithe
- NIE ES
- NOW Ireland
- RES
- Saorgus
- SWS
- Synergen
- Tynagh
- VPE

Having considered the comments received, the SEM Committee now publishes proposed positions on the matters addressed in the 2009 consultation paper and requests further comment.

Section 2 of this paper provides background while Section 3 gives the context for this paper. An overview of key themes that emerged from the responses is set out in Section 4. Section 5 provides an overview of the 2009 consultation paper and addresses each of the twelve issues examined therein in turn, setting out the SEM Committees proposal for each issue and requesting comment. Section 6 outlines next steps and progression to decisions.

Interested parties are invited to submit comments on the proposed decisions set out in this paper. Comments should be submitted, preferably in electronic format, by 1700hrs on Friday, October 29th 2010 to the following:

James McSherry
Commission for Energy Regulation
The Exchange
Belgard Square North
Tallaght
Dublin 24
jmcsherry@cer.ie

Andrew McCorriston
Northern Ireland Authority for Utility Regulation
Queens House
14 Queens Street
Belfast
BT1 6ER
Andrew.McCorriston@uregni.gov.uk

All comments received will be published on the All Island Project website unless marked confidential.

The SEM Committee will hold an industry forum during the consultation period. Parties who wish to register for this forum should contact Kathyann Purcell at the Commission for Energy Regulation on 00353 1 4000800 or by e-mail at kpurcell@cer.ie by Wednesday, September 8th.

Respondents may wish to refer to the following documents which provide background to the issues addressed in this paper and to related matters:

- The SEM Electricity Market High Level Design Decision Paper, 10th June 2005, AIP/SEM/42/05
<http://www.allislandproject.org/GetAttachment.aspx?id=231d41c8-fa80-4b18-99e4-fa9d5b10a40c>
- The Value of Lost Load, the Market Price Cap and the Market Price Floor: A Response and Decision Paper, 18th September 2007, AIP-SEM-07-484
<http://www.allislandproject.org/GetAttachment.aspx?id=27ca9930-8e75-4abc-b5f0-2e1d50869aaf>
- Wind Generation in the SEM: Policy for Large Scale, Intermittent, Non-Diverse Generation Discussion Paper, 11th February 2008, SEM08-002
<http://www.allislandproject.org/GetAttachment.aspx?id=054790c0-107d-413c-beb7-3c1d7c887c76>
- Wind Generation in the SEM: Policy for Large-Scale, Intermittent, Non-Diverse Generation Initial Response to Comments and next Steps, 23rd September 2008, SEM-08-127
<http://www.allislandproject.org/GetAttachment.aspx?id=e8fef74b-f774-4423-ad5a-931921528642>
- Impact of High Levels of Wind Penetration in 2020 on the Single Electricity Market: A Modelling Study by the Regulatory Authorities, January 2009, SEM-09-002
<http://www.allislandproject.org/GetAttachment.aspx?id=20cff228-2b30-48af-af07-539a3c65523c>
- SEM Committee Strategy Information Paper, 12th March 2010, SEM-10-013

- <http://www.allislandproject.org/GetAttachment.aspx?id=5d50b98a-5aef-47e1-a3f7-904cc7aeac9e>
- Harmonised All Island Ancillary Services Policy: A Decision Paper, 27th February 2008, SEM-08-013
<http://www.allislandproject.org/GetAttachment.aspx?id=20252281-e52a-4ae5-a2a4-102c8546b045>
 - Harmonised All-Island Ancillary Services Rates and Other System Charges: Information Note to Service Providers, 29th June 2010, SEM-10-04
<http://www.allislandproject.org/GetAttachment.aspx?id=dec61fc2-15a6-43ef-8941-8eb4b4a71801>
 - SEM Electricity Market Scope of CPM Medium Term Review: Information Paper, 17th November 2009, SEM/09/105
http://www.allislandproject.org/en/cp_decision_documents.aspx?article=e8b5dd74-5be7-4dc6-a17d-20aadb247683
 - SEM Regional Integration: Consultation Responses and SEM Committee Decision, 3rd March 2010, SEM-10-011
<http://www.allislandproject.org/GetAttachment.aspx?id=8dd9e94f-8330-46ce-81b3-ad9ea360ea18>
 - Gate 3 ITC Programme Final Results: Scheduled Firm Access Quantities, EirGrid, 29th January 2010
<http://www.eirgrid.com/media/Gate%203%20ITC%20Results%202010-2023.pdf>
 - Consultation on TSO and TAO Transmission Revenue for 2011-2015 Consultation Paper, July 5th 2010, CER/10/102
<http://www.cer.ie/GetAttachment.aspx?id=35a98a6d-d3fd-4ce1-9060-19b7d3394aa3>
 - A Draft Strategic Energy Framework for Northern Ireland 2009, July 2009, Department of Enterprise, Trade and Investment
http://www.detini.gov.uk/draft_strategic_energy_framework_2009-2.pdf
 - All-Island TSO Facilitation of Renewables Studies: Final Report of Work Package 3, 4th June 2010
<http://www.eirgrid.com/media/Facilitation%20of%20Renewables%20WP3%20Final%20Report.pdf>
 - Directive 2009/28/EC of the European Parliament and of the Council on the Promotion of the use of Energy from Renewable Sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, 23rd April 2009
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:en:PDF>

2. Background to Proposed Decision Paper

The original discussion document published in 2008 set out to promote discussion on key issues that may arise in the SEM due to increasing levels of intermittent, principally wind, generation. This was in the context of the then recent publication of the All Island Grid Study³ and renewables targets. It was recognised at that juncture that an increasing influx of wind generation would pose new challenges for the operation and management of the electrical system due to the remote location of wind generators and the technical characteristics of those generators. From a system operation perspective, the challenges considered at the time included management of transmission constraints, system operator incentives, principles underlying dispatch, reserve issues and the question of 'curtailment'. From the position of the Trading and Settlement Code the issues raised included the treatment of wind in the unconstrained schedule and in the setting of the SMP, compensation for constraints and 'curtailment', treatment of firm access and the valuation of wind under the CPM. Readers are advised to refer to the discussion document for further detail on the issues considered at that point in time.

Subsequently the SEM Committee determined how certain issues would be progressed. The issue of treatment of wind under the CPM was examined by the completion of analysis of actual payments to all generation under that mechanism for the first eight months of the SEM and is now being carried forward in the context of the CPM review.⁴ Harmonisation of ancillary services was subsequently progressed. The Regulatory Authorities have noted that the primary responsibility to propose any new services or amendments to the existing services rests with the TSOs but note that service providers may also do so.⁵ Modelling of the market to assess the impact of increasing wind on SMP and associated generation revenues was carried out and findings published in 2008.⁶ Work regarding incentivisation of system operator behaviours will commence post the publication of a decision paper on the work being progressed in this paper regarding dispatch and TSC matters.⁷

The 2009 consultation paper on relevant dispatch and TSC matters set out options and proposals regarding the following issues:

³ Ref: <http://www.dcenr.gov.ie/Energy/Latest+News/All-Island+Grid+Study+Published.htm>

⁴ Scope of CPM Medium Term Review: Information Paper 17th November 2009, SEM-09-105

⁵ Harmonised All Island Ancillary Services Rates and Other System Charges: Information Note to Service Providers, 29th June 2010, SEM-10-042

⁶ Impact of High Levels of Wind Penetration in 2020 on the Single Electricity Market: A Modelling Study by the Regulatory Authorities, January 2009. SEM-09-002

⁷ Ref: Wind Generation in the SEM: Policy for Large-Scale, Intermittent, Non-Diverse Generation Initial Response to Comments and Next Steps, SEM-08-127, September 23rd 2008, Section 5

- the need to ensure that the construction of the market schedule is such that infra marginal rents are allocated to generating units that are of value to real time operation of the system and to make changes where deemed appropriate to that end;
- a request for views on how access to the market schedule for plant situated behind export constraints should be limited, on the options set out regarding this matter in the consultation paper and an alternative options;
- the treatment of Variable Price Takers (VPTs) in the market schedule, specifically the application of FAQs in that context;
- the setting of PFLOOR in Excessive Generation Events, the quantity of generation charged PFLOOR in such events.
- the introduction of deemed firm access whereby FAQ or MEC is allocated in advance of the completion of necessary transmission system infrastructure reinforcements;
- the fundamental principle underlying the dispatch process and rules for tie breaking situations in that context;
- the treatment of plant that qualify for priority dispatch under legislation and the treatment of 'hybrid' plant in that regard;
- the need for the TSOs and asset owners to continue to make available information regarding their growing understanding of issues arising from increasing renewables penetration and the potential need for changes in that light and
- the need for continued and additional emphasis on Grid Code compliance and the need to keep the Code under review in the context of future generation portfolios.

Further detail on the specific twelve matters examined is set out in the 2009 consultation paper along with proposals and/or request for comment on these issues.

3. Context

It is important to note the context of the consultation and to acknowledge relevant developments that have occurred since the publication of the discussion document in 2008.

3.1 Legal Developments

As set out in previous papers, policy in relation to the renewables sector has been initially driven by developments at European level. The 2001 Directive on the promotion of renewables sets out indicative targets for Member States for electricity produced from renewable energy in 2010.⁸ Directive 2009/28/EC (the 2009 RES Directive) builds on its predecessor and sets out binding targets on Member States for consumption of energy produced from renewable source in 2020. In Ireland, the government has determined the relevant contributions from electricity in this regard will be 40%. Whilst Northern Ireland does not have a specific target under the 2009 RES Directive, it will contribute to the UK target and the framework and it is stated in the Draft Strategic Energy Framework for Northern Ireland 2009 that the Department of Enterprise, Trade and Investment considers that Northern Ireland should set a new strategic goal to increase the amount of electricity from renewable sources to 40% by 2020. Article 16 of the 2009 RES Directive provides for priority access for renewable generation and, in that context, priority in dispatch. It is noted that the latter is a mandatory requirement.

It is noted that neither government has yet commenced transposition of the 2009 RES Directive and the SEM Committee is mindful that transposition may impact on how priority dispatch is provided for in the SEM in future. The Regulatory Authorities, under the auspices of the SEM Committee, will continue to keep the governments in Ireland and Northern Ireland abreast of the progression of this consultation, including proposals in relation to priority dispatch.

In addition, all Member States must submit National Energy Action Plans (NREAPs) to the EU this year. The NREAPs set out the trajectory to reach each Member State's target and supporting information.⁹

In Ireland, secondary legislation was passed in December of 2009 providing that a TSO, on receipt of certification that states that a combined

⁸Ref: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:en:PDF>

⁹ http://ec.europa.eu/energy/renewables/transparency_platform/action_plan_en.htm

heat and power generating stations produces high efficiency combined heat and power, shall give priority dispatch to that generating station insofar as the operation of the electricity transmission system permits. This is in the context of Article 8(1) of Directive 2004/8/EC.¹⁰

The duties of the Commission for Energy Regulation (the CER) and of the Northern Ireland Authority for Utility Regulation (the NIAUR) and of the SEM Committee in relation to SEM matters are set out in relevant legislation in Ireland and Northern Ireland.¹¹ The principal duty of the SEM Committee and of the Regulatory Authorities in the context of SEM matters is the protection of consumers in Ireland and Northern Ireland wherever appropriate by promoting effective competition. In each case when carrying out their functions the SEM Committee and the RAs must have regard to, *inter alia*, the effect on the environment in Ireland and Northern Ireland and the need, where appropriate, to promote the use of energy from renewable sources. In carrying out the above duties and functions in the context of the SEM the SEM Committee and the Regulatory Authorities are cognisant of the 2009 Directive regarding renewables. Finally, it is noted that the CER, the NIAUR and the SEM Committee shall '*have regard to the objective that the performance of any of their respective functions in relation to the Single Electricity Market should, to the extent that the person exercising the function believes is practical in the circumstances, be transparent, accountable, proportionate, consistent and targeted only at cases where action is needed*'.

3.2 Penetration of Renewables Update

In Ireland, we are on track to reach our 2010 target, having reached gross consumption figures of 14.4% for 2009.¹² At time of writing there were 1715MW of renewables installed, 1440MW of that being wind generation. In addition 1188MW are contracted to connect with 3864MW receiving offers as part of Gate 3. In addition to Gate 3 there are 11,772MW of renewable generation applications in the queue, 11,700MW of which is wind.¹³ The Gate 3 process and associated programme for network upgrade (Grid 25) are designed to deliver the 2020 target of 40%. The REFIT scheme that exists to support the reaching of renewable targets is being reviewed by the DCENR at present with a view to making submissions to the EU for state aid clearance for extensions to the scheme. It should also be noted that Ireland has already achieved

¹⁰ Statutory Instrument No. 499 of 2009, European Communities (High Efficiency Combined Heat and Power Regulations 2009

¹¹ Electricity Regulation (Amendment) (Single Electricity Market) Act 2007 and The Electricity (Single Wholesale Market) (Northern Ireland) Order, Statutory Instrument NO. 913 (N.I. 7)

¹² Renewable Energy in Ireland 2010 Update, Sustainable Energy Authority of Ireland, Section 4

Ref:

http://www.seai.ie/Publications/Statistics_Publications/SEI_Renewable_Energy_2010_Update/RE_in_Ire_2010update.pdf

¹³ Source: EirGrid, 17th August 2010.

instantaneous wind penetration levels of 50%. While other Member States have achieved similar levels, undoubtedly the achievement of this level of penetration in a small system with low levels of interconnection, relatively speaking, has made this more challenging to achieve.

In Northern Ireland at time of writing there were 356.86MW of renewables installed, 339.93MW of that being wind generation. The Northern Ireland Renewables Obligation (NIRO) is DETI's main policy measure for supporting the development of renewable electricity in Northern Ireland. The Renewables Obligation Order (NI) 2007 places a statutory requirement on electricity suppliers to source an increasing portion of their electricity from renewable sources. Renewable Obligation Certificates (ROCs) are issued to renewable generators at various rates depending on size and technology. Suppliers can meet their obligation under the RO by either submitting ROCs or paying a buyout price.

3.3 New Information regarding the Impact of Increased Penetration of Renewables on the Island of Ireland

Whilst it was noted at the outset that potential challenges may arise with increased penetration of renewables, notably wind, further information is now available which will assist the SEM Committee in reaching decisions regarding the matters raised in the 2009 consultation paper, but also regarding relevant SEM matters more widely such as decisions regarding the CPM medium term review, the evolution of ancillary services and demand side management. Here we focus on two key issues: delivery of network needed to support future generation to 2023 and technical issues associated with increasing penetration of intermittent generation. An update on these issues is provided below.

3.3.1 Delivery of Network and associated Constraints

In Ireland an assessment has been made regarding the dates on which the deep reinforcement works associated with plants that are included in the third Gate for processing of applications under the Group Processing Approach (the GPA) will be completed. In that context audited scheduled firm quantities for both renewable and conventional applicants eligible for a connection offer as part of Gate 3 as well as for relevant non GPA applicants for the period 2010 to 2023 have been calculated using EirGrid's Incremental Transfer Capacity (ITC) programme. The ITC assesses the capability of the transmission grid to accommodate Gate 3 applicants on a firm basis¹⁴. Therefore, the SEM Committee has now available to it this detail regarding availability of firm access for relevant

¹⁴ Ref: ITC Programme Scheduled Firm Quantities from 2010 to 2023:
<http://www.cer.ie/GetAttachment.aspx?id=36446bd3-7584-4823-8ba0-af72171dcca0>

generators in Ireland, given assumptions made regarding timelines for provision of supporting infrastructure.

In addition, as part of the process for the issuance of connection offers to Gate 3 applicants, EirGrid has carried out a study of the estimated, possible generator output reductions that may be faced by renewable generators receiving offers under that process for each year to 2022. These studies look only at physical dispatch and do not examine market outcomes/payments. The information set out below is based on work carried out pre finalisation of the studies for Gate 3 as these studies were not complete at the time of writing,

These studies estimate transmission constraint and wind curtailment levels based on a single, co-optimised simulation with curtailment and constraint levels identified by post-processing the output data.¹⁵ Here, Ireland and Northern Ireland are treated as a single system in the production cost model employed for the purpose of producing an optimal, minimum cost commitment and dispatch. In the model employed generators are committed and dispatched on an economic basis with priority afforded to renewables¹⁶. Demand figures from the update to the 2009-2015 Generation Adequacy Report were used with delivery of transmission reinforcements added to the model in line with the assumptions from the ITC model. Transmission outages associated with upgrades were also modelled. The operational rules used reflect the requirement to have a minimum number of conventional generators synchronised and include provision for operating reserves.¹⁷ Both the Moyle and the East West interconnector are used as available to export at hours when wind would otherwise be curtailed. In addition, the operational rules employed include assumptions regarding the ability of the power system to operate in a safe, secure and reliable manner with increasing levels of instantaneous wind penetration in the context of the FoRS. It is noted that it is assumed here that the ability increases in the period to 2020, this being dependent on certain preconditions being met. At a high level, it has been estimated that, for the assumptions made, with all of Gate 3 progressing, on average combined constraining and curtailment are estimated at between approximately 12% and 16% in 2020. It is noted that transmission constraints, which are location specific, are estimated at less than 1% in 2020 on the basis that necessary network upgrades are in place at that

¹⁵ Readers should note that the terms ‘curtailment’ and ‘constraint’ are used here in the context of the meaning assigned to the them in the study and the resulting outputs regarding the incidence of these two issues are in that context and in the context of the allotment of each within the study for that purpose. The terms ‘curtailment’ and ‘constraint’ are used here to mean the changing of output of relevant generation in order to ensure provision of the various services necessary to ensure the safe and secure operation of the electricity system and the changing of the output of relevant generation due to transmission network limitations respectively.

¹⁶ Qualifying renewable plant were modelled at an assumed offer price of zero.

¹⁷ It is considered that further work is required to assess if additional reserves will be required in the context of increasing wind penetration.

junction. The above are sensitive to the assumptions made and approach taken to the studies.¹⁸

In Northern Ireland the matter of further network development and investment will be examined and consulted upon in due course.

The information above allows the SEM Committee to better understand the nature of potential constraint and curtailment volumes and costs that could occur in the future, depending on the coincidence of infrastructure and plant build, on the principles underlying dispatch, operational rules employed, use of interconnectors and other assumptions made. It is noted that constraints associated with provision of infrastructure are in the main transitory in nature and reduce as infrastructure build is completed. To date, constraints associated with underlying infrastructure have been estimated ex-ante by the TSOs in annual submissions to the Regulatory Authorities for approvals in relation to constraint budgets. These estimates have been €122m, €106m and €107.2m respectively for the periods 2008/2009, 2009/2010 and 2010/2011.¹⁹ Note that the SEM Committee has approved each of the above estimates. Whilst the System Operators have advised that it is not possible to accurately break down constraint costs to apportion them to individual drivers ex-post, estimates of constraint costs in aggregate for the total set of drivers have turned out to be within 10% of these estimates.

3.3.2 Technical Issues associated with Increasing Levels of Intermittent Generation

The All Island Grid Study (the AIGS) was published in January of 2008 pre the publication of the discussion paper on the challenges for the SEM posed by increasing penetration of wind generation. One of the recommendations of that study was that further technical studies be carried out to examine the dynamic behaviour of the power system accommodating high proportions of renewable generation. To this end, in early 2009 the System Operators initiated a suite of studies designed to examine the technical challenges associated with the integration of significant volumes of intermittent generation (wind) on the all island system. These studies, the Facilitation of Renewable Studies (FoRS), were undertaken with the ultimate aim of enabling the development of a robust set of operational rules such that the SOs can manage the system in a safe and secure manner with increasing penetrations of wind generation.

¹⁸ Note that the above are based on an installed capacity of 8179MW of wind on the island. This is greater than the number assumed in the FoRS studies.

¹⁹ SEMO Revenue and Tariffs for October 2009- September 2010 Decision Paper 28th August 2009, SEM-09-089

Due to the technical characteristic of windfarms, increasing instantaneous penetration will impact on the dynamic characteristics of the power system. The focus of the FoRS is on identification of potential technical issues in this context such that mitigation measures can be developed to inform future system operation. It is noted that, given the target for renewable generation on the island, levels of instantaneous wind generation output will be experienced here that are unlikely to be experienced in larger synchronous systems in Europe. The studies were completed in May of this year and the key findings have been published.²⁰

The studies indicate that at high instantaneous penetrations of wind generation, the integrity of the frequency response and the dynamic stability of the power system are compromised. The studies also suggest that the voltage and reactive behaviour of the system will require significant management and that this is related to the performance of *all* generators on the island as well as how the network is developed. Finally, the studies indicated that voltage disturbances could result in temporary loss of windfarm output which could in turn lead to a voltage dip inducing significant frequency response challenges on the power system. This latter issue will be the subject of further study to quantify the effect, assess the potential impact of this issue and examine approaches to mitigation.

It is stated in the final report that, whilst mitigation measures can be employed to a degree, it will be necessary to limit the amount of wind generation on the all island system at times as a result of the issues examined. Assuming no network limitations on wind output, ability to export as required and that *all* generators perform as required under the Grid Codes/Distribution Codes, at an installed wind capacity of just over 6,000MW (which facilitates the reaching of 40% renewables penetration on the island) dispatching down of wind of between 5% and 7% may be required.

In addition to the issues associated with high levels of instantaneous wind penetration, the wider issue of flexibility of the power system is noted. Whilst some aspects of flexibility have been captured implicitly in the FoRS, consideration of other aspects is merited.

It is noted that, unlike the matters set out in Section 3.3.1 relating to the underlying network existence and capability which are largely transitional in nature, issues set out here are enduring in nature to some degree.

The SEM Committee's framework for the assessment of the need to review the SEM to ensure that the SEM legal objectives continue to be met due to the degree of divergence between the market schedule and dispatch will take account of the findings of the studies carried out in the context of Gate 3/Grid 25 and those of the FoRS.

²⁰ Facilitation of Renewables Studies Work Package 3, Final Report, 4th June 2010
<http://www.eirgrid.com/media/Facilitation%20of%20Renewables%20WP3%20Final%20Report.pdf>

3.3.3 SEM Evolution and Decision Making

The SEM has been in operation since November 1st 2007. The development of the SEM design commenced as far back as 2004, culminating in the SEM High Level Design Decision in June 2005. At the time of publication of the wind discussion paper in early 2008, the market had only been in existence for just over three months. The SEM is now over two and a half years old and the SEM Committee have reviewed the operation of the market and have concluded that it has been operating successfully thus far, delivering additional capacity required and fair and cost-reflective pricing. The SEM Committee has been encouraged by the fact that the market is continually attracting significant interest in the development of new generation plants.²¹

In addition to annually reflecting on the operation of the SEM, the SEM Committee hold an annual Strategy Day to discuss and review progress on all ongoing SEM development work and to look at potential policy areas for review over the medium term. The first such day was held in November of 2009 and subsequently an information note was published.²² In that note the SEM Committee concluded that the SEM is fit for purpose in meeting its objectives, at least in the medium term, where this is defined as the period to 2015/16. In addition, the SEM Committee set out the need to give consistency to investors and existing market players whilst allowing the market to develop and adapt to changing circumstances in line with the SEM objectives as set out in governing legislation to the benefit of electricity customers and participants. Furthermore, the SEM Committee stated that the longer term strategic development of the SEM should be based on the SEM objectives and key external drivers. The key SEM objectives can be succinctly stated as follows:

- protection of the interest of consumers of electricity on the island of Ireland via promotion of effective competition where appropriate;
- security of supply;
- sustainability, and
- regulatory consistency.

In light of the SEM objectives, the SEM Committee set out an assessment framework for SEM Committee decisions regarding policy matters and stated that, due to the importance of regulatory consistency, any fundamental changes to the market design should be reviewed in that context. That framework is reproduced here given the nature of the matters being addressed in this paper:

²¹ Ref: SEM Committee Annual Report 2008, SEM-09-022, 24th March 2009 *and* SEM Committee Annual Report 2009, SEM-10-127, 11th March 2010

²² SEM Committee Strategy Day Information Paper, SEM-09-013, 12th March 2010

Decision Making Paradigm

- SEM Strategic Objectives: Decisions have to be measured against SEM Committee strategic objectives and must further these.
- Regulatory Consistency Decisions must be in line with the original principles and design of the SEM and targeted only at cases where action is needed.
- Cross Issue Impact Assessment: Decisions on changes to SEM design must include an assessment of interactions and impacts of proposed changes across the market and other work stream proposals. All proposals for change to include a regulatory impact statement and a cost-benefit analysis of the proposed change to the existing market design.

Beyond the medium term, projects that do not meet each of the above criteria may feed into a Long Term Strategy.

4. Overview of Key Themes Emerging from Responses

This section sets out four key, general themes that emerged from the responses and the SEM Committee's position in relation to those matters.

4.1 The Need to Examine and Address Issues in a Holistic Manner

A number of respondents expressed the view that the SEM Committee needs to consider the matters examined in the 2009 consultation paper in a holistic manner such that they consider them in the context of the overall market design and in the context of potential market changes arising from regional integration. The necessity to consider the downward pressure on infra marginal rent resulting from increasing penetration of wind generation was highlighted. The need to avoid implementing changes that would result in internally inconsistent elements within the SEM design was highlighted. The need for a 'big picture' consultation on 'Day 3' issues was raised in that context. It was also noted that the paper did not examine the wind ranging proposals set out therein from a cost-benefit perspective or fully assess the implications of them. It was also stated that there is merit in further consultation, notably on issues that are very complex in nature. Some respondents expressed the view that the matters set out in the consultation paper are in some cases seeking to effect a fundamental re-design of the market as they would result in changes to the SEM that are outside of the High Level Design.

SEM Committee's Response

The SEM Committee is mindful of the need to consider the matters set out in the 2009 consultation paper in the context of the wider SEM market design and, notably, in the context of the other key revenue streams to participants (the CPM and AS arrangements) and connection policy. The SEM Committee also recognises the role that government support schemes operating alongside the market have in remuneration and incentivisation of generation of certain types. The SEM Committee notes that there are a number of other work streams examining related issues and there is a need for consistency of decision making to achieve stated objectives. The SEM Committee also notes that it is important that costs and benefits are examined to ensure changes are beneficial to customers on balance. The SEM Committee notes in this regard the framework for decision making set out in the Information Note published subsequent to the SEM Strategy day in 2009. This provides for issues to be considered in a holistic manner and for costs and benefits to be taken into account when making decisions. It is noted that the framework also provides guidance regarding decision making that would represent a change to the

SEM High Level Design. The framework is set out in brief in Section 3.3.3 above and further information can be found in the Information Paper. Regarding consultation, the SEM Committee notes that this paper is a proposed position paper rather than a decision paper as it is recognised that, given the wide ranging and complex nature of the matters raised, and the potential for significant change to the SEM, further consultation with industry is merited.

4.2 The Need to Recognise Mandatory Renewables Targets

A recurring theme that emerged from many responses is the need to recognise the importance and binding nature of renewables targets. Views expressed saw the 2009 consultation paper as not giving sufficient weight to EU policy and binding Member State targets arising under the 2009 RES Directive.

SEM Committee's Response

The SEM Committee notes the wider policy area and recognises the fact that Member States now face binding, mandatory targets regarding renewables in 2020 and may face penalties if these targets are not delivered. The SEM Committee acknowledges that, whilst it is not tasked explicitly with delivery of such targets, it should ensure as a minimum that the SEM is not configured in a manner that actively frustrates the delivery of these targets. In addition, the SEM Committee notes the need to take account of cost and efficiency considerations in the context of the Internal Electricity Market Directive 2009. The need to strike a balance between cost, sustainability and competition considerations is a tension that is well recognised. The SEM Committee notes the interplay of these issues in the SEM Objectives as set out in governing legislation. Finally, the SEM Committee recognises the role that support schemes have to play in delivery of the targets.

4.3 Managing Regulatory Risk in Times of Uncertainty

Many respondents raised concern that the 2009 consultation paper and matters proposed therein could serve to increase the perception by investors of regulatory risk in the SEM. Of particular concern is the timing of the publication, just two years into the SEM, and the fact that fundamental change to the SEM High Level Design is being contemplated. In the latter case, many respondents expressed the view that such changes are being contemplated in the absence of supporting evidence that indicates that such changes are warranted at this juncture. It was suggested that rather than making changes now, matters that are likely to arise in the future that may give rise to the need to revise the market design should be flagged in advance so as not to create uncertainty and

trigger points established for the implementation of any proposed changes. Many emphasised the external economic and market uncertainties facing SEM between now and 2020 in that context. Others noted that risks should not be allocated to parties (generators) which they are unable to either influence or control.

SEM Committee Response

The SEM Committee acknowledges the importance of a stable regulatory environment in order to facilitate investor confidence and help to minimise costs associated with investments. However, the SEM Committee notes the fact that uncertainties exist, as highlighted by certain respondents. These included, at time of writing the 2009 consultation, the question of the impact of increased penetration of renewables, mostly wind, on System Operation and maintenance of a secure and reliable all island system and the potential degree of constraints arising as Grid 25 and network upgrades in Northern Ireland are being delivered. In addition issues such as the impact of decisions regarding planning permissions on the delivery of Gate 3 in Ireland, how robust the market is to 40% renewables and at what pace regional integration will progress are not yet certain.

The SEM Committee sees the need to look forward at potential issues and challenges that may impact on the achievement of the SEM objectives and that therefore may warrant changes to the SEM as important for the continued success of the SEM. Whilst the market must evolve it is recognised that care must be taken not to rush into decisions on matters where the likelihood and/or the potential impact of issue have not been appropriately examined and quantified. Indeed, under legislation the SEM Committee and the RAs have to 'have regard to the objective that in the performance of any of their respective functions in relation to the Single Electricity Market should, to the extent that the person exercising the function believes is practical in the circumstances, be transparent, accountable, proportionate, consistent and targeted only at cases where action is needed'. Given the above, the SEM Committee are not minded to make changes to the SEM rules and/or the High Level Design (HLD) unless due consideration has been taken as above. Section 5 of this paper sets out the proposals on the twelve matters raised in the 2009 consultation paper. The SEM Committee notes the need to carry out a regulatory impact assessment /cost benefit in cases where changes are proposed to the SEM HLD as per the assessment framework set out by the Committee previously. In this paper no changes are proposed in certain cases until such time as certain events materialise, as is the case for issues examined in sections 5.1 and 5.2 as set out below. The SEM Committee considers that adopting this approach ensures that action is only taken when necessary but that market participants are aware of the fact that changes may be made should the need arise, the nature of such need being clear and understood.

4.4 The Need to Ensure Timely and Efficient Delivery of Infrastructure

The majority of respondents emphasised the need to focus on the delivery of the necessary infrastructure to support continued investment in generation. Some saw the lack of adequate transmission infrastructure as the underlying factor causing many of the issues raised in the consultation paper. The requirement to implement appropriate and effective incentive arrangements on the System Operators and the asset owners was noted by many.

SEM Committee Response

The SEM Committee is aware of the importance of the timeline and efficient delivery of infrastructure to support the progression of the SEM in a manner that meets the stated objectives. The SEM Committee notes that whilst this is a key issue, it is not the sole driver of all of the issues set out in the consultation paper. The SEM Committee agrees that incentivisation of timely and efficient delivery of this infrastructure is necessary. It is noted that incentivisation is a matter for the CER and the NIAUR as regulatory authorities. In Ireland, this matter is being progressed in the context of the consultation on TSO and TAO transmission revenue for the period 2011 to 2015.²³ Incentivisation options will be considered by the NIAUR in the forthcoming price control for NIE T&D for the period 2012 onwards.²⁴

²³ Consultation on TSO and TAO Transmission Revenue for 2011-2015 Consultation Paper, July 5th 2010, CER/10/102, Section 6.3

²⁴ Strategy Paper on Northern Ireland Electricity plc Transmission and Distribution Fifth Price Control (RP5), July 2010, Section 6.4

5. Issues and Proposals

The 2009 consultation paper set out a range of issues and twelve options and/or proposals for how to address those issues. Broadly speaking these issues can be broken down into dispatch issues, TSC issues, the treatment of firm financial access and the question of deemed firm. In the first instance, underlying principles were set out re dispatch decisions and the construction of the market schedule under the TSC. Related dispatch and TSC issues were then discussed, with firm financial access dealt with in that context. The question of the introduction of 'deemed firm' was also examined.

The issues are examined below in turn. They are re-arranged here from the order of presentation that appeared in the 2009 consultation paper to deal with what are considered the five more substantial issues first. Please note that the 2009 consultation paper set out twelve proposals/options. Here, there are eleven issues listed below as the proposals regarding the making available of information by the TSOs on relevant technical issues and the proposals in relation to Grid Code matters are included in one Section (Section 5.8).

5.1 Principle Underlying Construction of the Market Schedule

Background

The role and construction of the market schedule were discussed in the 2009 consultation paper. In essence, the paper recognises the complementary role of dispatch and remuneration under the market arrangements. The overall objective of meeting demand for electricity at least cost to consumers on the island (subject to system security and reliability requirements) requires that the portfolio provided by generators (and demand as appropriate) is efficient and that that portfolio is then used efficiently. Least cost dispatch is considered as the method by which the latter, short term requirement is achieved. The former is delivered by sending appropriate incentives to developers via the remuneration mechanisms in the market.

Applying this in the SEM, the market schedule is one of three key remuneration streams that, in tandem, are designed to deliver the correct incentives to promote long run efficiency. Whilst the focus here is on the market schedule, the role of the CPM and ancillary services arrangements is noted and the SEM Committee is minded that this issue must be looked at in a holistic fashion.

Given the above, in the SEM generators are paid at their bid price when dispatched, this price being the short run marginal costs of the plant. The CPM is designed to allow generators recover the fixed costs of a Best New Entrant (BNE) peaking plant. The annual capacity pot is set using the BNE's fixed cost and the capacity requirement. The BNE fixed costs calculation also takes account of any revenues earned from ancillary services, which are designed to compensate for the cost of delivering services to the system other than energy. The role of the market schedule is to allocate infra marginal rents – the difference between the System Marginal Price and the bid price of the plant in question- to incentivise the build of other plant to provide an efficient generation portfolio on the system. Further discussion on the above can be found in Section 3 of the 2009 consultation paper.

Under the SEM High Level Design and the TSC, the market schedule reflects to a degree certain real world constraints, namely a limited set of generator dynamics and, to an extent, transmission capacity and its allocation. This helps to facilitate payment of IMRs to generators that are useful in real time whilst also reflecting access arrangements.

At present, the market rules provide for an inbuilt difference between dispatch outcomes and market schedule outcomes for a number of key drivers including:

- transmission constraints;
- reserves requirements;
- perfect foresight, and
- SO errors.

It is noted that the question of curtailment was examined in the 2009 consultation and characterised therein as referring to the issue of whether or not the relevant generator is included in the market schedule, this in turn determining how generators are compensated under the TSC when dispatched down relative to the market schedule.²⁵ The conclusion reached in that paper was that there is no need for a separate concept or definition of 'curtailment' in the context of compensation issues and that this forms part of the question of what is or isn't included in the market schedule.

This issue was further discussed in the context of increasing wind penetration and the associated changing nature of technical characteristics of plant on the system. The potential for the SOs, when dispatching the system, to have to take account of the need to ensure

²⁵ Provisions of the SEM High Level Design and the TSC in that context regarding constraint payments apply to generators connected to the transmission system and to those connected to the distribution system.

adequate fault level in-feeds to allow the continuing effective operation of transmission protection and the need to maintain adequate levels of system inertia to maintain stability in the presence of system disturbances was stated along with the acknowledgement that further work was required to consider these issues, and their potential to impact on dispatch decisions, further. Should issues emerge with increasing penetration of wind that serve to drive further divergence between dispatch and the market schedule, then options for addressing this include the modelling of those constraints explicitly in the market schedule via the submission of additional TOD by generators and including new requirements in Grid Codes.

2009 Consultation Proposal

In the 2009 consultation paper, the following principle was proposed to underlie the construction of the market schedule:

The RAs should seek to ensure that the construction of the market schedule is such that infra marginal rents are allocated to generating units that are of value to the real-time operation of the system and, where deemed appropriate, the RAs will make the necessary changes.

This does not mean that the RAs would make changes to the market schedule in all circumstances where differences arise between the construction of the market schedule and actual dispatch. Instead the RAs would need to take into account the materiality of any deviation and the costs of any reforms to correct the deviation. Nevertheless, it is intended that the consequences of this proposed approach will be that, when making decisions, the emphasis of investors should be on the fundamental technical requirements and economics of the system and not on the market rules as they are, or are expected to be, at any given time. It is also intended that whilst currently there may be many uncertainties associated with the future impact of large quantities of renewable generation, the adoption of such a policy will provide a degree of certainty to existing and future market participants as to how the SEM arrangements will be managed in light of technical or system limitations that actually materialise. Given the existing uncertainties.... It is not possible to provide a definitive of areas of possible change at this point of time. Nevertheless a number of potential candidates are emerging.²⁶

Proposals relating to the provision of information by the TSOs and TAOs which are pertinent to discussions around 'curtailment' issues are dealt with in Section 5.8 below.

²⁶ Section 4.2.1 in the 2009 consultation paper refers.

Overview of Responses

Differing views were expressed by respondents regarding the need to ensure that the market schedule and dispatch are aligned to an appropriate degree which, inherently, allows for potentially moving from the current High Level Design and/or current market rules regarding the construction of the market schedule where deemed appropriate. Some consider that it is only necessary to consider alignment when the market schedule deviates from the physical dispatch outside of the principles set out in the SEM High Level Design which provides for the market schedule and dispatch to differ for certain reasons. The view was expressed by some that the case for the need for change was not presented in the 2009 consultation paper and so questioned the need for any revisions to the market schedule without evidence to support this move. Similarly it was noted that as the market is attaining the design objectives and has not been demonstrated to be failing, the current construction of the market schedule should be maintained.

It was also stated that the consultation paper, in raising this issue, has served to increase the uncertainty facing industry and that including transmission constraints in the market schedule explicitly would serve to increase risk. It was stated that the current rules provide the correct incentives and do not therefore require revision. The role of other payment streams, notably ancillary services payments, was highlighted in the context of the need to consider this issue holistically when looking at revenue adequacy issues. It was stated that the mismatch between dispatch and the market schedule reflects lack of adequate infrastructure in the main and that this mismatch is an important signal of that lack of infrastructure which serves to incentivise acceleration of the necessary development.

On the question of technical matters emerging as wind penetration increases and the potential to reflect these in the market schedule, a number of respondents commented on the need for increased transparency in relation to the basis for dispatch decisions and system operation policies and practices with this being noted as increasingly important as wind penetration increases. The need for the SOs to provide market participants with information regarding potential technical issues and to provide information on constraints facing generators due to system security issues was raised. Some respondents favoured inclusion of any additional requirements in Grid Codes and some noted the role of ancillary services.²⁷ Regarding the latter, the need to incentivise wind generation to provide such services was highlighted. Some comments received did not support the inclusion in the market schedule of technical characteristics as suggested in the consultation as an option. Reasons for this view included the fact that this would undermine the SEM HLD, that the necessity to do so is not

²⁷ Comments on Grid Code matters are further discussed in Section 5.8.

evident, the need to ensure separating between the roles of the SOs and that of the SEMO and difficulties in practical implementation.

A minority of parties that commented on this issue supported the inclusion of technical characteristics in the market schedule as discussed. Here one party supported this in the context of the need to include in the market schedule and allocate IMRs to plant that is useful in dispatch. Another supported this in principle in the context of the need to capture the benefits of fast reacting flexible peaking plant but then added that they are mindful of the complexities of modelling this in practice and therefore concluded that it cannot be done and other forms of remuneration should be used.

Finally, the question was raised as to the practicality of including relevant technical characteristics in the market schedule and that of whether or not this would result in a strong enough incentive on its own without some form of additional remuneration.

It was stated that, although not proved as necessary at the time the 2009 paper was published, given the degree of change happening in the power system, there is potential for significant differences to arise between physical dispatch and the market schedule and that, in order to provide certainty, the SEM Committee could indicate the issues that are of most concern and consider the level of materiality that would precipitate a change.

SEM Committee Reasoning and Proposed Position

The SEM Committee recognises that there is an inbuilt difference between physical dispatch and the market schedule for a number of reasons under the SEM HLD and current market rules. The SEM Committee is satisfied that this difference has not been of concern to date and the significance of that mismatch and resulting constraint payments is not deemed to be material. Advice from the TSOs would suggest that this is not an immediate prospect and that the divergence should remain manageable for the next couple of years. Similarly it is acknowledged that evidence for the need to make changes to address the mismatch between the market schedule and physical dispatch is necessary and ensures any decisions to make changes meet legal requirements. It is also accepted that any move to make changes to the market schedule in this context must be examined in a holistic fashion and account taken of the combined revenue streams that accrue to generators and associated incentives. It is incumbent on the SEM Committee to not actively increase regulatory risk and to minimise regulatory uncertainty to the extent possible.

However, this does not mean that changes to the SEM, including to the SEM HLD, cannot be contemplated in the face of material changes which would impact negatively on the ability to achieve the SEM

objectives. The market must evolve to ensure continued facilitation of the SEM objectives and to address legal requirements as they arise. This should be done in a managed fashion and when evidence exists that change is necessary. Changes must be proportionate to address the risk to achievement of the SEM objectives and the case for implementation must be favourable from a cost perspective. Any changes proposed post conclusion that change is merited will be subject to appropriate impact assessment.

In the context of the need for changes to the SEM arising from the degree of alignment between the market schedule and dispatch, the SEM Committee is currently developing an assessment framework for assessing the need to make changes and when the need may arise. This will set out parameters for evaluating a level of 'material harm' to end customers arising from such misalignment and the resulting inability to continue to achieve the SEM objectives in the context of the other key incentives in the market. If and when it is thereby determined that action needs to be taken by the SEM Committee, this could result in changes to the market schedule and/or encompass other measures if appropriate, for example, enhancement of ancillary services and/or additional Grid Code requirements.

At this stage the Committee considers that the assessment of material harm to end customers will be measured against the following key objectives:

- protection of end customers, the need to ensure costs are appropriate being noted in this regard;
- security of supply, and
- sustainability and facilitation of renewable targets.

The SEM Committee notes that one of the key metrics that will be employed in the context of the key objectives above is that of the ratio of constraint costs to energy costs.

If changes are determined to be necessary and the preferred changes would represent a change to the SEM HLD, then the process set out by the SEM Committee for assessing such changes in the SEM Strategy Day Information Paper will be followed.

The assessment framework will be published later this year for comment by interested parties.

SEM Committee Proposed Position: Summary

The SEM Committee is progressing an assessment framework which will evaluate the material harm to customers which could potentially arise in the future as a consequence of the degree of alignment between dispatch and the market schedule. This framework will assess material harm to customers against the following key objectives:

- ***protection of end customers, the need to ensure costs are appropriate being noted in this regard;***
- ***security of supply, and***
- ***sustainability and facilitation of renewable targets.***

The assessment framework will be published for consultation by the end of this year.

If and where the need for change is determined, options for change will be appropriately assessed in accordance with the decision making framework set out previously by the SEM Committee.

5.2 Allocation of IMRs behind Constraints

Background/Consultation Paper

Under the SEM HLD generators may connect to the system pre completion of deep reinforcements to the all island system required arising from their arrival, i.e. a shallow connection policy exists. Parties connecting to the system are provided with Firm Access Quantities (FAQs) which are the result of an assessment of the degree to which the system can take the output of generating stations under certain conditions until the deep infrastructure required to accommodate their entire output has been completed. The FAQs are used in the market schedule such that access to the indicative market schedule is limited to the FAQ of a generator unit. In the ex-post market schedule, generator units that are in merit nationally are included in the schedule, with non firm generators dispatched by the SOs above their FAQ being allowed access to the market schedule consistent with that dispatch. Constraint payments are limited to the FAQ of a generator unit. Hence, in principle payments arising under the market schedule/constraint payments serve to remunerate generators that are in merit nationally and reflect FAQs whilst allowing new, cheaper generation access to the

schedule when dispatched. This promotes competition whilst reflecting access arrangements and protects generator units from SO decision making processes to a degree.²⁸

The 2009 consultation paper identified the potential for the market schedule to over allocate inframarginal rents (IMRs) behind an export constraint where generator units that are 'fully firm' and units that are 'non firm' or 'partially firm' are co-located behind that constraint. Where the volume of generation that is in merit nationally behind the constraint and included in the market schedule exceeds what can be accommodated in physical dispatch, over-allocation of IMRs occurs.

Consultation Paper Options

The 2009 consultation paper set out three options that could be adopted in order to address the potential over allocation of IMRs behind export constraints in the context of the overriding principle proposed in that paper regarding the degree of alignment of the market schedule and actual dispatch/allocation of IMRs to generation that is useful in real time and addressed in the Section above (Section 5.1). The options result in the allocation of IMRs only to the extent that the transmission system can accommodate generation behind the export constraint.

The options summarised below all address this over allocation and can be characterised as reflecting access arrangements to varying degrees.

- Option 1: Export constraints are modelled in the market schedule resulting in generators now competing for IMRs behind export constraints rather than on a system wide basis. Here export constraints means constraints arising from lack of infrastructure rather than more transitory drivers such as transmission faults or outages. This option ignores access arrangements.
- Option 2: The market schedule allocates IMRs only to generators having FAQs with new, non-firm generation being constrained on and receiving only their bid price. Partially firm new generation will receive IMRs up to their FAQ and bid prices for non firm output. This option fully respects access arrangements.
- Option 3: The market schedule allocates IMRs first to generation having firm access and, in the event that this allocation leaves spare capacity re an export constraint, in merit generation behind the constraint is included in the market schedule up to the limit of the export constraint. This necessitates a three stage process for calculating the market schedule and would require

²⁸ Please note that under the current TSC, FAQs have no impact on remuneration under the market schedule of generator units that are registered as Variable Price Takers. This has been discussed in previous papers and is further addressed in Section 5.7 below.

further work to determine how it would be implemented in practice. This option seeks to respect access arrangements whilst also providing for new entrants to avail of such access when it is available and they are in merit.

Further discussion on the options, including relevant modelling work, is set out in Section 4.5 of the 2009 consultation paper.

Views were requested in the 2009 consultation paper on how access to the market schedule for plant situated behind export constraints should be limited and on the options described in the paper as summarised above. Respondents were also invited to propose alternative options to those presented.

Overview of Responses

Firstly, some general comments on the issue presented are noted. Some respondents expressed the view that this matter is not currently an issue and that further work is required to assess the issue and to examine all possible options available in a holistic manner. The fact that no option providing for a degree of financial firm access was studied was highlighted by one respondent. Some stated that there was no need to change from the status quo. The importance of providing consistent access to IMRS in a predictable and transparent manner was noted as this is seen as vital to insuring past investments remain profitable and new investments are forthcoming. It was also noted that a lot of generation projects are financed on the basis of 'last on first off' between gates and the proposals put forward do not take account of this and ignore the impact of changing this financing structure on existing and contracted plant. In addition, one respondent stated that financial models for new generation projects are firmly based on the principle that generators are cost neutral to dispatch decisions (excepting in the case of non firm access) and the risk that a generator with a firm connection may be financially exposed to a shortage of transmission has never been open to question in these models. A number of respondents stated that the focus should be on addressing infrastructure requirements rather than changes to the market schedule and emphasised the need for appropriate incentivisation in that regard.

Moving to the options presented, two respondents favoured Option 1. One party favoured it as it stated that it is wrong to prioritise incumbents over new renewable generation on the basis that the incumbents have firm access when the energy market is requiring that renewables replace conventional plant. Another preferred it somewhat over the other two options presented as they are seen as economically disastrous for wind farm development. However the fact that SMP would be set at a higher level for all generation in the schedule was pointed out. Also that respondent expressed the view that a move from the status quo was not required at the time of submission of their

response. A number of arguments were put forward against Option 1. Some parties stated that this option would serve to meet short term objectives but not send appropriate signals to incentivise long term objectives as IMR allocation would incentivise the build of a sub optimal portfolio in the longer term. It was stated that Option 1 cannot be modelled by investors and therefore, as its impact is unknown this would increase regulatory uncertainty and represent a strong disincentive to investment in price-making generation. Option 1 is seen as increasing uncertainty and cost of capital for investors and hence resulting in delays to investment and increased costs to customers in this context. The point was raised that if the concept of firm access is to be removed from the SEM this should only be considered as part of a fully integrated solution which includes tradable transmission rights which would allow for management of the increased risk. Lastly, some parties raised the potential for this option to be inconsistent with the legal framework underlying the SEM which provides for the setting of an SMP based on a market schedule unconstrained by transmission limitations.

The implementation of Option 2 was seen by some as a move that would discourage investment in renewable generation and in new, more efficient technologies with current generators being afforded preference in the market schedule. The option was seen as potentially negatively impacting on Gate 3 in Ireland, renewables targets and serving to increase SMP faced by customers. One respondent noted that this option may prohibit new non firm entrants access to the market schedule even when the transmission system has the physical capability to accept it, resulting in an increased price in the wholesale market. One party that favoured Option 2 supported their position on grounds that it recognises that where transmission constraints are time limited, the risks of non-firm new entry fall on the entity with non-firm or (most likely) partially firm access. This is considered consistent with the principles of the SEM and seen as the simplest and most cost effective approach to adopt. This approach makes the risk of entry pre completion of deep reinforcements clear to new entrants ex-ante. Another stated that this option introduces minimal change to the market rules with the new rule only affecting new entrants that have not already invested. The point noted in the consultation paper that this option would create an incentive to apply for connection offers speculatively or early is dismissed on grounds that this issue could be dealt with by revising the criteria for connection applications in Ireland to include a requirement to be in receipt of planning permission. This is not seen by the respondent as an issue in Northern Ireland where this requirement already exists.

The third option is to allocate infra-marginal rents first to generators having firm access and then allocate spare capacity to non-firm generation which is included in the market schedule also, up to the limit of the export constraint. This option is considered by some respondents as one that would bring additional complexity to the market, especially

in the context of dynamic constraints and is seen as an approach that could only ever serve as a crude and subjective approximation of reality. It is also seen as costly to implement. Others see Option 3 as providing the best balance between the short term and long term and one which would lead to appropriate development consistent with government objectives. It is also seen as providing the best compromise in terms of its treatment of incumbents and new entrants provided that a process for defining finite rights for existing generators is put in place to facilitate trade of transmission access rights once the arrangements are bedded in. A number of parties noted the need to carry out detailed examination of the technical feasibility and costs of implementing this option before taking it forward.

Some respondents presented alternative options for consideration. For example, it was suggested by one party that an option where access is allocated or sold for various time blocks and is transferable between applicants, raising the possibility of an 'access capacity broker'. Another set out an option which seeks to respect the concept of firm financial access via an ex-post calculation outside of the central market systems that evaluates the degree to which firm units have been 'disadvantaged' by non-firm units. Once this is completed, it is proposed that a claw back of IMRs from those non-firm units is transferred to disadvantaged firm units to the degree determined as appropriate by the SEM Committee.

SEM Committee Reasoning and Proposed Position

The SEM Committee notes the comments received regarding the need to respect the SEM HLD. The SEM Committee reiterates the fact that whilst regulatory certainty and consistency is important to facilitate and promote appropriate, cost effective investment, it would be remiss of the Committee not to look at key challenges and forces of change that have the potential to impact on the achievement of the SEM objectives. If and when it is determined that change is required, based on appropriate evidence based holistic analysis, including change to the SEM HLD, then this must be faced. Regarding the view that there are legal impediments to implementation of certain options as set out in the consultation paper, this will be examined further if and when required.

The SEM Committee notes comments received regarding the absence of evidence to support the need to implement changes to the market schedule to deal with the potential to over allocate IMRs behind export constraints. The need to look at this issue holistically and the need to assess options thoroughly are also noted. To this end, the SEM Committee is progressing a framework for assessing the need for change and the timelines for such change (see Section 5.1 above).

The need for change and timing of such change will be considered post completion of the assessment framework. The pursuit of any of the options discussed in relation to the allocation of IMRs behind constraints will only arise if and where the assessment framework requires this specific issue to be addressed. In addition, any measure introduced will be assessed to determine that it is proportionate given the issue in hand. Therefore, the SEM Committee is not setting out a proposed approach to addressing allocation of IMRs behind constraints at this juncture.

However, the SEM Committee wishes to indicate to the market that, in the event that the test of material level of harm to consumers is met in relation to this issue, it is drawn towards Option 1. As stated previously, this is in the context of the need to appropriately assess option(s) under consideration in accordance with the SEM Committee's framework for decision making as published previously and referred to in Section 3.3.3 above.

The SEM Committee finds the arguments supporting Option 1 persuasive and considers that it may be the best approach on balance to address the over allocation of IMRs behind constraints whilst serving to delivery on the SEM objectives. The SEM Committee considers that Option 1 incentivises the timing of new generation entry such that it is coincident with or follows delivery of network. This should serve to reduce the burden of constraint costs arising from lack of infrastructure on consumers whilst ensuring a focus on the requirement to deliver underlying infrastructure arising from pressure from existing generators who are in merit on a system wide basis and from new entrants seeking to maximize revenues under the market schedule, an issue emphasised by most if not all respondents to the 2009 consultation paper. Option 1 also promotes competition and entry of new, more efficient generation by facilitating new entrants to compete behind export constraints in the same manner that they do on a system wide basis at present and earn IMRs to the extent that they can do so. This is in contrast to Option 2 which, in fully respecting firm financial access, affords only bid price to new non firm entrants where they decide to enter the market ahead of infrastructure delivery. As raised by many respondents, Option 1 has impacts on the risks facing generators. Here, existing generators located behind export constraints will see their access to IMRs eroded by more efficient new entrants to a greater extent than under current market rules whilst new entrants themselves are exposed to a greater degree to the risk of further competitive entry behind the constraint. However, the question that arises is whether these risks and the associated impact on cost of capital and required rate of return on investments outweigh the incentives to invest in efficient generation and any net savings arising in this context. Regarding Option 3, the SEM Committee does not see how the practical challenges associated with the implementation of this option can be addressed. The option presented by a respondent as a variation of Option 3 would require further and ongoing regulatory

intervention in the market which may increase regulatory risk and uncertainty and is contrary to how the SEM Committee wishes the market to evolve more generally. The option presented regarding trading of access arrangements would add complexity and would serve to allocate rents to generators rather than result in benefits accruing to customers.

SEM Committee Proposed Position Summary

The SEM Committee are progressing an assessment framework in the context of the above and will publish this by the end of this year. If and where the need for change is determined, options for change will be appropriately assessed in accordance with the decision making framework set out previously by the SEM Committee. . In addition, any measure introduced will be assessed to determine that it is proportionate given the issue in hand.

5.3 Principle underlying Dispatch: Least Cost Dispatch

In Section 5.1 above an underlying principle for the construction of the market schedule is discussed and proposed positions outlined in that context. It is also necessary to set out an underlying principle regarding dispatch in the SEM.

Background/Consultation Paper

As set out in Section 5.1, the role and construction of the market schedule were discussed in the 2009 consultation paper where the complementary role of dispatch and remuneration under the market arrangements was recognised. The overall objective of meeting demand for electricity at least cost to consumers on the island (subject to system security and reliability requirements) requires that the portfolio provided by generators (and demand as appropriate) is efficient and that that portfolio is then used efficiently. Least cost dispatch is considered as the method by which the latter, short term requirement is achieved. The former is delivered by sending

appropriate incentives to developers via the remuneration mechanisms in the market.²⁹

Consultation Paper Proposal

The consultation paper noted that least costs dispatch delivers the least cost of production and therefore incentivises delivery of the most efficient portfolio which can then be used by the SOs in the most efficient manner. Indeed, this is the current practice and has been since the start of the SEM and is consistent with obligations on the SOs under their respective licences. In that context, the following proposal was set out in the 2009 consultation paper:

Given that it would represent the most efficient short-term use of available resources, and is consistent with existing dispatch processes, the RAs propose that the TSOs should continue to dispatch the system to minimise production costs of generation, taking into account system security requirements and, as now, disregarding any concept of firmness in the dispatch process.³⁰

Overview of Responses

The majority of respondents who commented on this issue agreed with the principle proposed in the 2009 consultation paper. Some added that there is a need to bring greater transparency to the dispatch processes and decision making. A minority were not in favour of the proposed approach. One party stated that the SEM Committee's proposal would only be favoured if a variation of Option 2 re allocation of IMRs was adopted whereby conventional generators with firm access and renewables with priority dispatch have access to IMRs with non firm generators having no access to them. Alternatively, if the latter is not adopted, dispatch should be on a firm basis whilst respecting priority dispatch for renewables. Another favoured dispatch on a firm rather than a least cost basis where a constraint is binding to ensure that generators with 'firm rights' are not disadvantaged, unless priority dispatch determines otherwise. The view was expressed that where a tie break occurs in dispatch, a firm generator should take precedence over a non firm generator. Two parties stated that dispatch should seek to minimise deviations from the market schedule.

SEM Committee Reasoning and Proposed Position

The SEM Committee concurs with the majority of respondents as it considers that dispatching to minimise the cost of production is the appropriate way to incentivise the delivery of the most efficient portfolio

²⁹ Readers are referred to Section 4.7 of the 2009 consultation paper for further discussion on this issue.

³⁰ Ref: Section 4.7, pgs 42/43, SEM-09-073

of generation. The SEM Committee does not favour an underlying dispatch principle that respects 'firm' as this would not achieve the above and would result in increased costs to customers. Also, this approach assumes that 'firm' relates to a right to dispatch which is not the case. Whilst the concept of 'firm' is physical in nature, its meaning is, and has been since the inception of the SEM, financial in nature under the SEM HLD and the TSC. Regarding the question of tie breaks, this is dealt with in Section 5.10 below. Finally, it is noted that it was never intended that in dispatching the system the TSOs should seek to minimise deviations from the market schedule. The market schedule deviates from the dispatch by design as discussed in Section 5.1.

SEM Committee Proposed Position: Summary

Given that it would represent the most efficient short-term use of available resources, and is consistent with existing dispatch processes, the SEM Committee propose that the Transmission System Operators should continue to dispatch the system to minimise production costs of generation, taking into account system security requirements and, as now, not taking account of firmness in the dispatch process.

5.4 Priority Dispatch

Background/Consultation Paper

The legal background and basis for priority dispatch has been set out in previous papers, including the 2009 consultation paper, with an update provided in Section 3.1. above. Section 4.8 of the consultation paper examined this issue and set out five options for the treatment of qualifying plant. Appendix 1 to that paper set out how qualifying plant are treated in dispatch in the SEM at present. Essentially, the TSOs seek to minimise production costs, subject to respecting system security and the safe operation of the transmission system, whilst facilitating the output of price taking generation. Plant that is entitled to priority dispatch can opt to register as a Price Taker or as a Price Maker. If the latter option is chosen the generator is dispatched based on the price that it bids into the market. The hierarchy used by the TSOs in the context of redispatch decisions arising from management

of transmission constraints is also set out in that Appendix.³¹ In addition to this, it is noted that the SEM Committee has received legal advice on this issue.

At present, in addition to renewable generation that is entitled to priority dispatch under the mandatory requirements set out in the 2009 RES Directive, peat generation and high efficiency CHP generation have been afforded priority dispatch in legislation in Ireland. In these cases, the Irish government has exercised the discretion provided in relevant Directives and moved to provide them with priority dispatch.³²

As Article 16 2.(c) the 2009 RES Directive explicitly provides for priority dispatch ‘..in so far as the secure operation of the national electricity system permits...’ the question arises as to whether or not cost considerations can also be brought to bear.

Consultation Paper Options

Five options for the principle treatment of plant qualifying for priority dispatch were set out in the consultation paper. These ranged from dispatching irrespective of cost to dispatching on a cost basis as follows:

- Option 1: Dispatch irrespective of cost
- Option 2(a): Dispatch purely on economic merit
- Option 2(b): Priority dispatch in tie breaking situations only
- Option 2(c): Dispatch taking subsidies into account
- Option 2(d): Dispatch at some effective price (minus VoLL/other)

Option 1 is characterised as providing ‘absolute’ priority in dispatch in the paper with Options 2(a) to 2(d) characterised as providing ‘qualified’ priority in dispatch. Further detail on these options can be found in Section 4.8.4 of the 2009 consultation paper.

In addition to the above, the consultation paper set out the results of modelling work carried out to assess the impact of using two different prices to inform dispatch decisions relating to wind generation.

Comments were requested on the options as follows:

³¹ Ref: Appendix 1: Market and Operational Treatment of Wind, Non-Firm or Partially Firm Generation, SEM-09-073

³² Directive 2009/28/EC of the European Parliament of 23 April 2009 on the promotion of the use of energy from renewable source and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

Statutory Instrument No. 217 of 2002 Electricity Regulation Act 1999 (Public Service Obligations) Order 2002

Statutory Instrument No. 499 of 2009 European Communities (High Efficiency Combined Heat and Power) Regulations 2009

The Regulatory Authorities welcome comments from interested parties on the options for priority dispatch as presented in this Section 4.8. Specifically the RAs seek comments on:

- The case for affording absolute or qualified priority to plant having priority dispatch;*
- In the event that qualified priority were to apply, the relative merits of the alternatives pose for the purpose of attaching an effective price or other objective measure for use by the SOs when making dispatch decisions taking account of the proportionality principle;*
- Whether a distinction is to be drawn between the priority to be applied when making a decision to place a generating unit in the dispatch schedule as distinct from subsequently dispatching that unit away for form that level of output in real time;*
- The extent to which non-renewable plant (e.g. peat) who are afforded priority dispatch present particular issues which might require that they are treated in an alternative way to renewable generators.*

Overview of Responses

A number of parties stated at the outset that the question of how to address the issue of priority dispatch is primarily a legal one and that the SEM Committee should therefore attain in depth advice on this issue. Publication of such advice was called for. A small number of respondents stated that they are in receipt of their own legal advice on this issue. Some respondents noted the need to carefully consider the treatment of generators qualifying for priority dispatch that opt to register as Price Makers under the TSC.

A few respondents noted the need to allow for appointment of Intermediaries by plant that qualifies for priority dispatch but opts to register as a Price Maker in the market. In the absence of this facility, such plant cannot choose to be Price Makers and seek to manage the risk of being exposed to negative prices. It is considered that concerns regarding market power should not prevent this as these concerns can be dealt with by explicitly excluding those Participants that are the source of concern rather than imposing a blanket ban on all Price Makers. The issue of interaction/compatibility of the market and support scheme operation – specifically the requirement for entering into a PPA under the REFIT scheme – was noted here also.

Moving to the options presented, a number of respondents stated that the correct interpretation of the priority dispatch requirement for renewables is that it affords ‘absolute’ priority. This is seen as consistent with the objective in the Directive of increasing actual output from renewable generation in the context of mandatory targets. The

imposition of additional costs here is not seen as an issue as it reflects the true cost of renewables to the consumer and is, therefore, consistent with the principle of price reflectivity. It was noted that if this interpretation is not afforded, renewable plant with a relatively high marginal cost of production would see no real advantage from the provisions in the 2009 RES Directive as it has to compete with non renewable generation on an economic basis. The fact that priority dispatch is qualified only by technical considerations in the 2009 RES Directive was also seen as supporting this interpretation.

In contrast to the above, the comment was made that Option 1 is equivalent to plant afforded priority dispatch having a bid price of minus infinity and implies that, in addition to a willingness to incur unlimited operating costs to avoid curtailment of such generation, the TSOs should be willing to incur unlimited investment costs to promote this end. Therefore, Option 1 is seen as disproportionate.

A few respondents favoured option 2(a) supporting this on the basis that they provide for the application of economic merit and therefore a least cost solution to customers whilst allowing qualifying plant to announce their own preferences with respect to their costs of dispatch rather than having an administrative value applied to them. Option 2(b) was supported as being similar to Option 2(a) but afforded priority in tie breaking situations. Both of these options were considered as having the potential to impose obstacles to the development of wind farms, thus reducing the likelihood of achieving targets.

Option 2(c) was seen by some as posing challenges as it would result in differing outcomes for renewable plant in Ireland and Northern Ireland by virtue of the fact that government subsidies in each jurisdiction differ. It was pointed out that implementation of this option would place fully commercial renewable generators at a significant disadvantage to those in receipt of government supports. The potential impact on PSOs was also highlighted. The practical challenges associated with monitoring the bidding strategy of hundreds of MW of renewable generation was noted in this context. One respondent supports this option *if* 'qualified' priority is opted for as it would respect the CO2 abatement reasons for putting wind high in the merit order for all but a few qualified circumstances.

Option 2(d) was seen as easy to implement whilst potentially resulting in a very similar outcome to absolute priority but serving to reduce costs associated with priority dispatch. The view was expressed that further modelling is required to set the 'effective price' such that it avoids excessive episodes of high cost for the system but avoids as far as possible curtailment or non dispatch of wind generation.

The question of what plant qualifies for priority dispatch was addressed by some respondents. Opposing views were presented regarding peat generation in Ireland. Qualification was evident to one party on legal

grounds. Another stated that it is not clear how according priority dispatch to peat is consistent with the basis on which it has been included in the PSO as the use of peat will serve to reduce this finite, indigenous fuel source, arguably reducing security of supply. One party does not see the justification for priority dispatch for peat which it sees as ROI government policy and hence, if required, should be treated as a constraint with costs borne by ROI consumers only. One party stated that priority dispatch should be afforded to CHP which would serve to maximize the benefits it brings as required by various policy directions. Comments regarding hybrid plant will be addressed in Section 5.5.

Finally, some respondents expressed the view that for technical and wider regulatory reasons certain plant should be treated as 'must run' in dispatch. This argument was made in relation to a waste-to-energy plant for example.

SEM Committee Reasoning and Proposed Position

The SEM Committee agrees that the question of how to treat plant qualifying for priority dispatch in the SEM is primarily a matter of legal interpretation. To this end, the SEM Committee confirms that it has received legal advice on this matter and has taken account of this advice in reaching the proposed decisions set out in this paper. The SEM Committee will not be publishing the advice received as is normal practice in relation to such matters. The SEM Committee notes that neither government has yet commenced transposition of the 2009 RES Directive and the SEM Committee is mindful that transposition may impact on how priority dispatch is provided for in the SEM in future. The Regulatory Authorities, under the auspices of the SEM Committee, will continue to keep the governments in Ireland and Northern Ireland abreast of the progression of this issue in the context of this consultation.

Notwithstanding the above, the SEM Committee notes its legal obligations under SEM governing legislation and the need to operate in that context in reaching decisions on SEM matters.

Regarding who qualifies for priority dispatch, the SEM Committee considers that, as above, this is primarily a legal matter. The SEM Committee will take due account of legislation in either Ireland or Northern Ireland in relation to this matter.

Having considered both the legal advice received and responses submitted, the SEM Committee considers that priority dispatch is by definition limited in the first instance by requirements to maintain the secure operation of the system. Cost considerations are not explicitly provided for in the 2009 RES Directive. Indeed the SEM Committee considers that it is inherent in the priority dispatch requirements that, given their ultimate objective to facilitate increased output from

renewable generating stations in the context of mandatory renewables targets, dispatch of such generation is a de facto exception to the principle of economic precedence generally applied in the context of the internal market in energy. The SEM Committee notes that in the SEM priority dispatch is facilitated through the option for qualifying generators to register as Price Takers.

The SEM Committee notes concerns from respondents that such an interpretation could be read as requiring unlimited spend in order to facilitate dispatch of renewables. Notwithstanding the above, the SEM Committee does see some role for cost consideration to be borne in mind, at least in very exceptional situations. For example, in exceptional circumstances applying priority dispatch without any consideration of costs, either in financial terms or in terms of environmental impacts, might not make sense. Similarly, Option 2 (d) above is reasonable and, in principle, would have no impact on the percentage of demand being met by renewable generation. The SEM Committee considers that such exceptional situations must not be on such a scale, however, as to threaten the progressive realisation of the mandatory 2020 renewables targets.

Given the above, the SEM Committee does not favour Options 2(a) to 2(c). In addition, the SEM Committee concurs with respondents who noted the difficulty posed by the latter in the context of differing support schemes and also commercial renewable projects.

The SEM Committee is drawn to Option 1 coupled with the application of an outer boundary regarding costs that is designed to protect the consumer for additional costs once achievement of targets is not at risk by the application of that cost boundary.

Given the information available to the SEM Committee at time of writing regarding the average constraints facing renewable generators in 2020 and the average curtailment in 2020 as per the FoRS, the SEM Committee will monitor the situation regarding achievement of targets on an ongoing basis and will include a cost parameter if and when it is considered that this is necessary and appropriate.

The SEM Committee further considers that it is necessary to give priority to renewable generators who are afforded priority dispatch under *mandatory* EU requirements over plant afforded priority dispatch by the exercise of *discretion* by a Member State in the context of EU provisions that provide for this to be done. In the SEM, at time of writing, this means that renewable generation is prioritised in dispatch ahead of peat and high efficiency CHP generation.

As above, in the SEM priority dispatch is facilitated by affording qualifying generators the option to register as Price Takers. The remainder of this section and the SEM Committee's proposed position

should be read in that context. Where the SOs must choose between plant afforded priority dispatch, at the outset the mandatory/discretionary split must be respected as above. The SOs practice of dispatching down plant qualifying for priority dispatch was set out in Appendix 1 of the 2009 consultation paper. The SEM Committee considers that this approach, revised to reflect the passing of legislation in Ireland regarding priority dispatch for high efficiency CHP, is pragmatic and reflects a reasonable balance between relevant objectives that the SOs have to consider under licence. Given the requirement to prioritise those parties with mandatory priority over those with discretionary the following hierarchy of re dispatch is proposed under normal circumstances, in increasing level of priority:

1. re dispatch price making generation;
2. re dispatch price taking generation:
 - a. Peat
 - b. HE CHP
 - c. Hydro
 - d. Wind, and within the category of wind generators
 - i. Variable Price Takers
 - ii. Autonomous

The SEM Committee notes the particular issue of threat to public health and safety that would arise in flood situations if hydro electric stations were operated in certain manner. The SEM Committee considers that were constraining of hydro electric stations/a change in running regime of such stations during a flood situation has a strong potential to impact negatively on public safety this must be factored into account by the SOs in their dispatch processes and decisions. Here, priority consideration must be given to public safety concerns and the above hierarchy adjusted to appropriately address these concerns. It is important that clear and transparent processes are in place to ensure that the above hierarchy is only revised when this is necessary and appropriate. The SEM Committee requests that the SOs consider this matter and advise of their proposed approach to the treatment of hydro electric stations in flood situations.

The SEM Committee notes the points raised regarding the inability of parties registered as Price Makers to appoint Intermediaries under the TSC. The SEM Committee notes that the issue of criteria for eligibility to appoint an Intermediary has been consulted upon in the past and the SEM Committee has noted the question of market power in reaching decisions on this issue to date.³³ However, the SEM Committee notes the potential issue created by the interaction between the SEM and

³³ Criteria for Approval of Intermediary Applications under the Trading and Settlement Code, Decision Paper, 28th February 2007, AIP/SEM/07/029 *and* Revisions to the Criteria for Approval of Intermediary Applications under the Trading and Settlement Code, Decision Paper, 10th December 2007, SEM/07/11

government support schemes, notably the REFIT. The SEM Committee recognises that there is a need to consider this further in order to ensure that the administrative procedures in the market are not frustrating the ability of generators to engage with the market and/or with government support schemes. However, the SEM Committee still has concerns regarding market power issues. The SEM Committee requests further comment from parties on how this issue can be best resolved.

The SEMC Committee position will be kept under review in light of forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.

Finally, the SEM Committee considers that the question of 'must run' in dispatch is primarily a technical matter and is best addressed in the context of Grid Code requirements.

SEM Committee Proposed Position and Request for Comment:
Summary

- ***The principle of priority dispatch is limited by requirements relating to the maintenance of the reliability and safety of the grid and the secure operation of the national electricity system. Cost considerations can only be brought to bear once this can be done in a manner that does not threaten the delivery of renewables targets. Where the latter is shown, the SEM Committee will progress the introduction of a cost parameter that ensures appropriate costs are incurred in dispatch and faced by customers. The SEM Committee will monitor this issue and revert to industry where necessary on this point.***
- ***It is necessary to give priority to renewable generators who are afforded priority dispatch under mandatory EU requirements over plant afforded priority dispatch by the exercise of discretion by a Member State in the context of EU provisions and this will be reflected in dispatch decisions and processes of the TSOs.***
- ***The hierarchy set out above will be employed by the TSOs in dispatch decision making and processes.***
- ***Notwithstanding the previous bullet point, where a threat to public safety exists due to a flooding situation, consideration will be given by the TSOs in dispatch decisions and processes to the need to dispatch hydro electric stations in the SEM in a manner that minimises this threat to the appropriate degree. The SEM Committee requests that the SOs consider this matter and bring forward proposals relating to this issue.***

- ***The SEMC Committee position as set out in the above bullet points will be kept under review in light of forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.***
- ***In the context of Article 16 of Directive 2009/28/EC the TSOs shall report on a quarterly basis to the Regulatory Authorities on incidences of curtailing of renewable generation in order to guarantee the security of the electricity system and security of energy supply indicating corrective measures employed to prevent inappropriate curtailments.***
- ***Interested parties are invited to submit comment regarding the question raised above in relation to the ability of Price Making generator units to appoint Intermediaries in the SEM.***
- ***The SEM Committee considers that the question of ‘must run’ in dispatch is primarily a technical matter and is therefore best addressed in the context of relevant Grid Code requirements.***

5.5 Hybrid Plant and Priority Dispatch

Background

The question of how ‘hybrid’ plant would be treated in the context of priority dispatch requirements was raised in Section 4.9 of the 2009 consultation paper. Hybrid generating units were described therein as units which have a proportion of their output which is classed as renewable. This is in the context of the potential for units to co-fire renewable and non renewable fuel sources.

Consultation Paper Proposal

Given the link between the proposed approach to the implementation of the wider question of priority dispatch (see Section 5.3 above), the following options were set out in the consultation paper:

- If Option 2.(a) were adopted, priority dispatch plant would be dispatched purely on an economic basis in line with all other plant;
- If Option 2.(b) were adopted, in tie break situations, with all other factors being equal, plant with the highest proportion of renewable output would be dispatched first;

- If Option 2. (c) were adopted, hybrid plant would be permitted to reflect its proportionate renewable subsidies in its bid prices and would then be dispatched on a merit order basis reflecting the appropriate level of subsidy.

It was also stated that the treatment of hybrid plant would be more complex if Option 1 regarding the treatment of priority dispatch were adopted.

The following was proposed in the consultation paper:

The RAs propose that the rule applying to hybrid plant should depend upon which of the options for treatment of priority dispatch plant are eventually chosen. The RAs welcome views on how the principles of priority dispatch should be extended to hybrid plant as part of the response to this consultation.

Overview of Responses

A number of respondents who commented on this issue raised the need for clarity around the definition of 'hybrid' plant in the context of priority dispatch. One party commented that the definition employed should be such that the situation whereby a non renewable plant that substitutes a small proportion of its input fuel with renewable fuel(s) to obtain priority dispatch status is avoided. This was supported by another respondent who favoured a de minimis threshold percentage for affording priority dispatch to ensure a genuine commitment to provision of renewable electricity and to avoid incurring administrative and operational burdens to provide priority for plant which generate insignificant levels of renewable electricity. The view was expressed by one respondent that if 'qualified priority dispatch is opted for then it would be appropriate to take account of the renewable proportion of a hybrid plant but that they are likely to want to register as Price Makers due to the fact that they may have significant variable costs.

One respondent expressed the view that the Directive provides for priority dispatch for a plant which has a renewable fraction in its primary energy supply in proportion to the renewable percentage of the primary energy consumed by the plant. Here, a de minimis level for qualification is suggested as a matter for further consideration and that a different qualification threshold in this regard may be appropriate for different technology types facing differing technical, logistical or security of resource supply constraints. A threshold of 10% is suggested for co-firing peat with biomass at Bord na Mona's generating stations at Edenderry. This level of threshold was proposed more generally by another respondent. The option of taking account of minimum stable generation to allow consumption of a relatively steady stream of renewable fuel when setting a threshold for qualification was also suggested.

One respondent expressed the view that given that there is an inherent difficulty in measuring the output from a renewable source at any moment, consideration of hybrid plant can only be effectively managed by treating the unit as either priority dispatch or not in the dispatch and scheduling process and that no useable concept of partial priority dispatch can exist.

SEM Committee Reasoning and Proposed Position

At the outset the SEM Committee wishes to clarify the use of the term 'hybrid' in the context of priority dispatch as requested by a number of respondents. The 2009 consultation paper defined hybrid generating units as those units which have a proportion of their output which is classed as renewable.

Here, a plant uses both renewable and non renewable fuel sources and one that uses peat and another non renewable fuel source is covered by the definition whereas a plant that qualifies fully for priority dispatch due to the application of a combination of legal provisions is not.

A peat plant in Ireland that co-fires with biomass is a case in point. Here, the plant fully qualifies as both peat and biomass as covered under a combination of legal provisions. In this case and similar cases should they arise, it is proposed that the plant in question qualifies for priority dispatch and that its place in the hierarchy set out in Section 5.4 above is determined by the basis in law for the qualification for priority dispatch for the majority (i.e. 51%) fuel type used per annum. Hence for peat that co-fires with biomass if it burns 51% peat or above per annum, then the basis for qualification is legislation enacted in Ireland at the discretion of the government and hence, such plant is afforded priority on that basis and will be re-dispatched before plant qualifying on the basis of the mandatory provisions regarding renewables in the 2009 RES Directive.

The SEM Committee supports the views that any definition/application of 'hybrid' here should not serve to result in generators using minimal amounts of renewable fuel to secure priority dispatch status. There may be merit in providing for a qualification threshold for priority dispatch where a high proportion of renewable fuel is used such that parties committed to using renewable fuel sources attract the benefit of priority dispatch and where a meaningful contribution to renewables targets is made. In addition, the practical, implementation issues raised by respondents would merit consideration. However, in examining the question of hybrid plant as defined and qualification for priority dispatch, the SEM Committee considers that, ultimately, the overriding question is one of the legal basis. From its enquiries the SEM Committee concludes that there is legal uncertainty over the status of hybrid plant for priority dispatch purposes and how such plant should be treated in

this regard. This may become clearer when the 2009 RES Directive is transposed into law. Therefore, the SEM Committee proposes to keep this issue under review.

SEM Committee Proposed Position Summary

In the context of governing legislation, the SEM Committee considers that there is no legal basis for the provision of priority dispatch for hybrid plant as defined. The SEM Committee will monitor this issue in the context of forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.

5.6 Deemed Firm Access

Background

The issue of deemed firm access was raised in responses to the 2008 discussion paper in the context of discussion in that document regarding compensation for non-firm constraints and in light of the queue for connection to the grid in Ireland.

Deemed firm access was further discussed in the 2009 consultation paper. It was defined therein as a process whereby FAQ or MEC is allocated in advance of the actual completion of necessary deep reinforcements. The question of introducing deemed firm access as defined was examined in the context of the issue of over allocation of IMRs behind constraints. The paper stated that the introduction of deemed firm access as defined would serve to incentivise investment in generation ahead of the capability of the transmission system to support it, leading to an over allocation of infra marginal rents to plant behind export constraints and an under allocation to those plant on the other side of the constraint needed to meet demand. This has knock on effects for decisions regarding type of new entry and would shift the balance towards low capital high operating cost plant, ultimately increasing cost in the longer term.

Consultation Paper Proposal

The proposal set out in the consultation paper is as follows:

'The RAs propose that 'deemed firm access' whereby FAQ or MEC is allocated in advance of the completion of necessary transmission system infrastructure reinforcements should not be introduced to the SEM'.

Overview of Responses

A number of respondents supported the proposal that deemed firm should not be introduced. However, one such respondent noted that whilst the market distortion that deemed firm as defined would cause is undesirable, some method of incentivising the transmission system operator to deliver firm grid connections on time is necessary. Another stated that, whilst the SEM Committee proposal is supported, the absence of deemed firm should not allow the System Operators to abdicate their responsibilities in providing necessary reinforcements in a reasonable timescale.

Others submitted support for deemed firm as defined and did not support the SEM Committee proposal. It was noted that project financing is dependent on a firm access date, the achievement of which is not something that the generator can control and that deemed firm removes this uncontrollable risk for generators. It was also stated that whilst it can be argued that where the TSO encounters unforeseen delays customers are left to bear the resultant constraint costs, it can also be argued that if deemed firm dates are not introduced generators will not build new plant until the transmission infrastructure is in place and that delay would have attendant lost opportunity costs for electricity customers.

One party, in supporting the concept, noted that deemed firm should be introduced for a 'reasonable' date to allow more efficient project management by developers and network companies and to assist them in prioritising works that have the most significant economic impact. This was supported by another insofar as 'fully deemed firm access' where a unit is deemed firm at a point in time irrespective of likely transmission build was seen as potentially representing an inappropriate shifting of the level of risk but a level of compensation is considered appropriate in certain circumstances. One respondent stated that undue delays should result in a level of compensation being paid from the SOs to the affected generator with the balance of the risk carried by both parties agreed at the time of the connection offer.

A number of respondents noted the need to incentivise timely delivery of network and noted the potential role that deemed firm would have in that regard. One party noted that incentives on SOs to deliver firm access should reflect the degree of control the SOs have in Ireland and Northern Ireland in this context.

SEM Committee Reasoning and Proposed Position

The SEM Committee recognises the imperative to deliver the underlying infrastructure to support the SEM in a timely and efficient manner. Appropriate incentivisation is acknowledged as necessary in that context. *In Ireland, this matter is being progressed in the context of the consultation on TSO and TAO transmission revenue for the period 2011 to 2015.*³⁴ Incentivisation options will be considered by the NIAUR in the forthcoming price control for NIE T&D for the period 2012 onwards.³⁵ Incentivisation schemes will be designed on a jurisdictional basis and will, therefore, take account of different arrangements that exist regarding provision of infrastructure in Ireland and Northern Ireland. The SEM Committee does not consider the introduction of deemed firm as defined in the 2009 consultation paper as necessary for appropriate incentivisation of network delivery.

The SEM Committee notes that the consultation paper characterised the issue of deemed firm in the context of provision of financial firmness under the TSC. The SEM Committee remains of the view that the introduction of deemed firm as set out in the consultation paper is not appropriate as it would serve to incentivise investment in generation ahead of the capability of the transmission system to support it, leading to an over allocation of infra marginal rents to plant behind export constraints and an under allocation to those plant on the other side of the constraint needed to meet demand. This has knock on effects for decisions regarding type of new entry and would shift the balance towards low capital high operating cost plant, ultimately increasing cost in the longer term. The SEM Committee, therefore, considers that that allocation of FAQ or MEC in advance of actual completion of necessary deep reinforcements is inappropriate given the potential costs it may impose on customers in the long term.

The SEM Committee notes that the key issue emerging from the responses to the consultation paper is one of risk management for developers where there is undue delay regarding provision of infrastructure and associated compensation. Where parties have concerns regarding the terms and conditions being offered to them under connection agreements by licensed monopolies these concerns should be raised with the relevant Regulatory Authorities in that context.

³⁴ Consultation on TSO and TAO Transmission Revenue for 2011-2015 Consultation Paper, July 5th 2010, CER/10/102, Section 6.3

³⁵ Strategy Paper on Northern Ireland Electricity plc Transmission and Distribution Fifth Price Control (RP5), July 2010, Section 6.4

SEM Committee Proposed Position: Summary

The SEM Committee proposes that 'deemed firm access' whereby FAQ or MEC is allocated in advance of the completion of necessary transmission system infrastructure reinforcements should not be introduced to the SEM.

5.7 Treatment of Variable Price Takers in the Market Schedule

Background/Consultation Paper

It was acknowledged in the 2008 wind discussion paper that the rules set out in the TSC result in any generator registered as a Variable Price Taker (VPT) being treated in the market schedule as if it is fully firm. This differs from the treatment of Price Makers as here access to the market schedule is limited to the greater of Dispatch Quantity or FAQ with constrained down payments only accruing to the extent of the FAQ of the Price Making generator unit. The latter is consistent with the SEM HLD. In that context, the following statement from the 2008 discussion paper is noted:

'...The RAs intend to amend the Trading and Settlement Code to reflect this policy decision [the SEM High Level Design] as soon as practical and to ensure that Price Taker generators will only receive constraint payments to the extent that they are constrained down below the level of their firm access'.³⁶

Following from the discussion paper, the treatment of Variable Price Takers was addressed further in the 2009 consultation paper in the context of the above and of other matters raised in that paper. The following was proposed:

'If any of the options in Section 4.5 for allocating infra-marginal rents behind export constraints is adopted then that option should apply also to Variable Price Takers. If none of these options is adopted and the existing arrangements for allocating infra-marginal rents behind export constraints retained, then Variable Price Takers should be limited in the market schedule to the maximum of actual output and FAQ (or MEC when infrastructure works are complete and the VPT becomes fully firm).'

³⁶ Section 4.3.1, Wind Generation in the SEM: Policy for Large-Scale, Intermittent Non-Diverse Generation Discussion Paper, 11th February 2008, SEM-08/002

Overview of Responses

The majority of submissions on this issue supported the move to revise the rules for the treatment of Price Takers such that they reflect the SEM HLD and are treated similarly to Price Taking generation as regards the application of 'firm' under the TSC.

SEM Committee Reasoning and Proposed Position

The SEM Committee notes the need for revised rules to reflect the SEM HLD and to align the treatment of VPTs with that of Price Makers in the context of the above. Revised rules to reflect the SEM HLD and to align the treatment of VPTs with that of Price Makers in the context of the above will now be progressed.

SEM Committee Proposed Position Summary

Revised rules to reflect the SEM HLD and to align the treatment of VPTs with that of Price Makers by limiting their access to the market schedule to the maximum of actual output and FAQ (or MEC when infrastructure works are complete and the VPT becomes fully firm) will now be progressed.

5.8 Grid Code Matters and Information on Technical issues

Background/Consultation Paper

Section 4.2.4 of the 2008 discussion paper raised the issues of Grid Code requirements and compliance for both wind and conventional generators. Comments were sought in relation to the potential merits of reviewing the current requirements on conventional generation under the Grid Codes with a view to extending those in light of increasing wind penetration and the question was asked as to what specific attributes could be examined in that context.

Subsequently these issues have been noted again in the 2009 consultation paper in the context of the potential change in the typical technical characteristics of generation given the advent of large quantities of wind generation on the island system.³⁷ The question was raised as to whether, in dispatching generation plant, the SOs will have to increasingly take account of the need to ensure adequate fault level in-feeds to allow the continuing effective operation of transmission protection and the need to maintain adequate levels of system inertia to maintain stability in the presence of system disturbances. The specific issues mentioned were noted following discussions with the SOs but pre completion of analysis to substantiate the future importance of the two issues mentioned. It was noted that these issues are not currently modelled in the market schedule and that if they do become of increased import, may lead to further divergence between dispatch and the market schedule. The option of including relevant technical characteristics in the TOD used in the formation of the market schedule under the TSC as set out in the 2009 consultation paper is discussed in Section 5.1 above. The alternative is to require the provision of relevant characteristics under the Grid Codes which would be reflected in turn in the market schedule.

The 2009 consultation paper also emphasised the need to ensure compliance with Grid Code requirements and the fact that non adherence – either via derogation or non compliance – means that under certain circumstances non adhering plant will be displacing other generation in both actual dispatch and in the market schedule.

Consultation Paper Proposal

The relevant proposals set out in the 2009 consultation paper are as follows:

The TSOs and asset owners should continue to make available information relating to:

- (a) their understanding of what changes to the scheduling and dispatch of generation are being contemplated in light of the increasing level of renewable generation on the system, including where there may be technical limitations on the quantity of certain types of plant that can be accommodated on the system; and*
- (b) their view of how technical issues (for example system inertia, fault levels etc.) will be resolved.*

In relation to the Grid Code:

³⁷Ref: Section 4.4.

- (a) the current initiative from the TSOs to place additional emphasis on enforcing existing Grid Code obligations on incumbent and new generating units should continue; and*
- (b) the TSOs should also keep the Grid Code under review in order to ensure that future generation portfolios continue to support the satisfactory operation of the system.*

Overview of Responses

Respondents were in favour of increased transparency regarding dispatch processes and drivers of decisions in that regard, including those relating to constraining of generation now and in the future. Regarding the latter, one respondent stated that operation policies, practices and tools of the SOs as the level of intermittent generation increases need to be developed in conjunction with market participants and in that context, a working group be set up to establish the optimal solutions that should be adopted to increase wind penetration in the grid. Another respondent noted the need for the TSOs to outline methods for dealing with technical issues that result in constraints on renewable dispatch as is required under the RES Directive.³⁸ It was stated in one submission that the views on how to manage future system requirements should not be prescribed by the TSO and should be raised for discussion by market participants at meetings of the Grid Code panels and/or TSC Modification Panel meetings.

The need to harmonise the Grid Codes on the island was noted in a number of submissions. Enforcing two different Grid Codes on the island could result in generators in one jurisdiction having an unfair competitive advantage. EirGrid Group stated in its submission that it supports the proposal regarding Grid Codes and noted that it maintains, through its system operator licenses in Northern Ireland and Ireland the Joint Grid Code Review Panel under which common governance issues on an all island basis can be discussed and agreed. Also, EirGrid Group stated that work was ongoing (at time of writing) regarding any future harmonisation of procedures on an all island basis including issues relating to incentives charges, the role approval role of the Regulatory Authorities noted.

Enforcement of Grid Codes was broadly supported by respondents. Compliance with the Codes is seen by one respondent as something that should be a mandatory requirement to participate in the market and should continue to be policed outside the market by the Regulatory Authorities in the context of generator licence conditions. One party, whilst supportive of enforcement of compliance with the Grid Codes, noted the need to seek a balance between the particulars of non-compliance and associated penalties with minor infractions that don't threaten system operations not attracting the same remedial or punitive actions as more serious compliance issues.

³⁸ Ref: Article 16 2.(c)

The requirement to keep the Grid Codes under review was also broadly supported. A number of respondents noted the need to consider the differing impacts on existing and new generation of new provisions added to the Grid Codes. The view that generators that were commissioned prior to the availability of updated technology should not be expected to comply with new standards if it is uneconomic to do so was expressed. One party noted that should additional requirements be included in Grid Codes, corresponding ancillary service payments must be allowed or, alternatively, optional ancillary services could be provided by more flexible plant. It was also submitted that the obligations currently contained within the Codes must be reviewed to ensure they are achievable and those that are not should be removed.

SEM Committee Reasoning and Proposed Position

The SEM Committee supports transparency in relation to decision making regarding TSO dispatch processes and decisions. Indeed, the decisions proposed in this paper seek to increase transparency in this regard by setting out underlying principles in relation to dispatch in the SEM.

In the context of the above, it has come to the attention of the SEM Committee that special protection schemes are sometimes employed in Northern Ireland. The SEM Committee considers that this practice merits further consideration in the context of the need to treat generation in a comparable fashion under the SEM HLD and rules arising thereunder regarding the various remuneration schemes in the SEM, notably the CPM in this instance.

The SEM Committee welcomes the publication of the findings of the Facilitation of Renewables Studies and the completion of analysis in Ireland regarding the ongoing ability of the network to support new generation in the context of Grid 25. It is noted that work is anticipated in Northern Ireland to assess requirements for network upgrades. In these cases the work was, and will be, progressed in an open and consultative manner. In addition, the role of industry participants in relation to the evolution of the Grid Codes and the TSC is secured via the operation of the Grid Code Review Panels and the Trading and Settlement Code Modifications Committee. These groups serve to ensure that industry participants' views on potential amendments to the Codes are discussed and considered.

The final report on the findings and conclusions of the Facilitation of Renewables Studies set out recommendations regarding the operational policy for system operation with high wind. The SEM Committee will write to the SOs requesting that they advise it of the actions that they consider necessary – in order of priority – to mitigate the limiting factors on penetration of wind generation whilst maintaining

a safe, secure power system on the island of Ireland. The SEM Committee envisages further interaction with the SOs and with industry on the above, with consultation forming part of that interaction as appropriate.

The need for an increased emphasis on compliance monitoring and enforcement of Grid Codes is recognised by the SEM Committee. This requirement is further endorsed in the findings of the Facilitation of Renewables Studies. The SEM Committee welcomes the increasing focus on these areas by the SOs, notably in Ireland, and notes the complementary role that GPIs developed under the Harmonised Ancillary Services (HAS) work stream have to play.

Regarding harmonisation of Grid Codes, it was noted in the information note to service providers regarding harmonised all island ancillary services rates and other system charges published by the SEM Committee in June 2010³⁹ that possible further reviews of the Grid Codes or parts thereof may be required and that further harmonisation may be forthcoming in the context of emerging European requirements for harmonisation of standards and codes and in the context of increasing wind penetration on the island of Ireland.

The Grid Codes must evolve to the necessary degree with technological developments and the changing portfolio of generation on the island. In addition, whilst it is recognised that the Irish system may have specific requirements given its size and ambitious renewables targets, requirements must be technically achievable. It is noted that it is open to industry participants and the SOs to propose amendments to the Grid Codes via the Grid Code Review Panels. Additional information now available to the Regulatory Authorities, industry and the TSOs arising from the Facilitation of Renewables Studies provides a better understanding of technical characteristics that will become increasingly important in coming years. The question of flexibility requirements was excluded from the scope of this study and is currently being examined by the TSOs.⁴⁰ Combining the findings with those of the Facilitation of Renewables Studies will be useful in determining necessary and appropriate Grid Code requirements for various technologies and the need for any new ancillary services. This will feed into advice to the SEM Committee from the TSOs regarding future system needs as above and future ancillary services and associated rates and charges.

³⁹ Harmonised All-island Ancillary Services Rates and Other System Charges: Information Note to Service Providers, 29 June 2010, SEM-10-042

⁴⁰ System flexibility is defined here as the ability to respond reliably to rapid, large fluctuations in supply and/or demand to maintain balance.

SEM Committee Proposed Position Summary

The TSOs and asset owners should continue to make available information relating to:

(c) their understanding of what change to the scheduling and dispatch of generation are being contemplated in light of the increasing level of renewable generation on the system, including where there may be technical limitations on the quantity of certain types of plant that can be accommodated on the system; and

(d) their view of how technical issues (for example system inertia, fault levels etc.) will be resolved.

In relation to the Grid Code:

(c) the current initiative from the TSOs to place additional emphasis on enforcing existing Grid Code obligations on incumbent and new generating units should continue; and

(d) the TSOs should also keep the Grid Code under review in order to ensure that future generation portfolios continue to support the satisfactory operation of the system.

The policy in Northern Ireland of employing special protection schemes will be examined further in the context of the SEM HLD and associated rules regarding remuneration of generation.

5.9 Tie Breaks

Background/Consultation Paper

The question of the need for tie breaking rules in dispatch for Price Taking generator units was first raised in the 2008 discussion paper and was discussed further in the 2009 consultation paper where a proposal was proffered.⁴¹

⁴¹ Ref: Section 4.13, SEM-09-073

Consultation Paper Proposals

The question arises as to the basis for decision making by the SOs when there is a requirement to dispatch down plant and the plant available is seen as equal by the SOs, i.e. no deciding indicator, including a bid price differential, exists to support such a decision. This was noted specifically in the case of VPTs. The interaction with the proposals regarding treatment of priority dispatch plant is noted.

The proposal set out in the 2009 consultation paper is as follows:

The RAs propose that where tie-break rules are required, de-loading should be instructed on a pro-rata basis in a manner determined by the TSOs.

Overview of Responses

A number of respondents agreed with the proposal as they saw it as reasonable, simple and equitable. Some qualified their agreement with the need to consider certain matters before resorting to a pro rata approach. The need to take account of priority dispatch, safety issues and 'firm' in advance of moving to a pro rata approach were the key matters noted in responses. In relation to priority dispatch, some respondents noted legal requirements in that regard and the need to consider these at the outset. A number of respondents stated that tie breaking rules must respect firm/non firm access, one party further qualifying this with the need to respect first come, first served within firm generation. It was noted in submissions that there is a need to recognise the financial framework assumed in the connection offer process given that constraint reports issued by the TSOs are relied on by investors and financial institutions assume that earlier projects will have priority over later ones in the event of a shortage of transmission during non-firm operation.

SEM Committee Reasoning and Proposed Position

The SEM Committee considers that the most pragmatic and equitable approach is that set out in the 2009 consultation paper. In addition, this approach is consistent with the proposals set out in 5.11 below regarding the quantity of generation paid PFLOOR.

This is in the context of the proposed approach regarding interpretation of priority dispatch and the approach to determining the order of dispatching down within the group of plant that qualify for such priority (see Section 5.4 above). Proposals here must be read in that context and provide guidance to the SOs once the principles set out in Section

5.4 have been exhausted. The SEM Committee agrees with responses that call for the taking account of safety issues. It is noted that the principles proposed in relation to the order of dispatching down priority dispatch plant public safety is considered in the context of the increased flood risk associated with dispatching hydro electric generation stations in a certain fashion. Again, the proposed approach set out here regarding tie breaks assumes that those principles have already been applied.

Regarding the views expressed by certain respondents that in tie breaks firm generation should be given precedence in dispatch over non firm generation and that within firm generation dispatching down should take account of date order, the SEM Committee has been advised by the SOs that it is not possible to implement this fully given the potential number of non-firm connectees.

However, the SEM Committee notes comments regarding the potential for this approach to impact negatively on the ability of renewable generators to finance their activities which would, in turn, impact on the delivery of renewable projects and ultimately threaten the progressive realisation of renewables targets. The objective of the SEM pertaining to sustainability merits mention here.

The SEM Committee considers that the following need to be taken account of when examining this issue:

- a pro rata approach is considered to be fair and is also one which can be implemented;
- in the context of wind generation ,a pro rata approach to the need to dispatch down wind generation for technical reasons associated with increasing volumes of wind generation (so called curtailment) seems fairest where all generators contribute to this issue, irrespective of the timing or order of processing of connection/entry onto the system;
- the SEM Committee has been advised by the TSOs that implementation of a dispatch process that dispatches generation down on the basis of ‘firm’ – as a representation of the timing of application and processing for connection – is not fully possible given the feedback loop between dispatch and the market schedule and, as such, and, therefore, it is not possible to accurately respect the processes for connection to the grid employed in the SEM. The degree to which this could be achieved is not clear;
- an order of dispatching down for Price Taking generation in the case of a tie break would represent re-distribution of monies between such parties rather than the incurrance of additional costs by consumers. Indeed, post the correction of the treatment of VPTs under the TSC as set out in Section 5.7, it is considered that an approach that sought to respect the processes for the

- processing of connections to the network would serve to reduce related constraint costs relative to a pro rata approach;
- an alternative approach to pro rata for renewable generation that sought to respect the procedures for the processing of connections to the network may serve to assist projects that applied relatively early in financing their projects, hence promoting sustainability and positively impacting on renewables targets. However, such an approach would result in relatively more turning down of generation that applied to connect later, with consequences for the ability to finance such projects;
 - an approach that seeks to respect procedures for the processing of applications for connection may be seen as better supporting the objective of regulatory consistency;
 - the costs and timelines associated with an alternative approach are not known.

SEM Committee Proposed Position and Request for Comment:
Summary

The SEM Committee proposes that, ceteris paribus, where tie-break rules are required post application of the proposed principles set out in Section 5.3 above regarding treatment of plant qualifying for priority dispatch, de-loading should be instructed on a pro-rata basis in a manner determined by the TSOs.

The SEM Committee requests comments from interested parties regarding the treatment of renewable generators in tie break situations in dispatch (post application of the order of re-dispatch set out in Section 5.4) given the matters set out above regarding this issue.

5.10 Determination of SMP when Demand is met by Price Takers

Background/Consultation Paper

Currently the TSC provides that PFLOOR is set on an annual basis by the Regulatory Authorities and at time of writing, was set at minus \$100/MWh as has been the case since the start of the SEM in

November 2007. PFLOOR is used to set SMP when an Excessive Generation Event (EGE) occurs whereby the quantity of Price Takers exceeds the demand they are required to meet. It also acts as a limit on the minimum value of SMP in circumstances when SMP would otherwise fall below this level.⁴² The value of minus \$100MW/h was set following consideration of responses to the original consultation paper on this issue and maintained following annual consultation regarding market parameter values as required under the TSC.⁴³ The SMP has not been set at PFLOOR to date in the SEM. Variable Price Takers can register as Variable Price Makers and bid economically as allowed by the Bidding Code of Practice (BCoP) to avoid being exposed to PFLOOR, consequences for dispatch and Intermediary rules noted.

Consultation Paper Proposals

The 2009 consultation paper examined the issue of the setting of PFLOOR if and when either Option 2(a) or 2(c) as set out in Section 4.8 of that paper in relation to priority dispatch whereby dispatch was determined on the basis of economic merit or taking account of subsidies were adopted. In that context, the following was proposed:

The RAs propose that if Option 2(a) or 2(c) in Section 4.8 is adopted, SMP should be set using the effective bid prices of the marginal Variable Price-Taking generation, rather than at PFLOOR, in the event that the quantity of price-taking generation exceeds demand and reflecting any external subsidies received by the plant (i.e. it should reflect the price used in the dispatch of the plant by the TSOs). PFLOOR would still be used as a lower limit to SMP.

Overview of Responses

A number of respondents support the proposals, some qualifying their support in the context of their overall response to the 2009 consultation paper. This was in regard to respondents' views regarding the treatment of priority dispatch plant in dispatch in the main. One party stated that they support the proposal but generators should be allowed to change registration from Price Making to Price Taking, and appoint an Intermediary, as this would add value to the proposal. Another stated that there are a lot of different generator types in the Price Taking bundle so it is difficult to set one price and suggested the highest bid price of those VPTs that are run be used and that the option of using the relevant prices associated with Option 2(a) for the treatment of priority dispatch plant should not be used as they could be lower than PFLOOR.

⁴² Please note that readers are directed to the TSC for the full methodology for the calculation of Schedule Demand.

⁴³ The Value of Lost Load, the Market Price Cap and the Market Price Floor : A Response and Decision Paper, 18th September 2007, AIP-SEM-07-484

A few respondents suggested that decremental prices be used to determine SMP in EGEs whilst one proposed the bid price of the marginal unit be used.

A number of respondents highlighted the need to provide for short term trades between the SEM and BETTA to allow for export of additional generation at times of excess. One stated that given that all renewables are entitled to dispatch and transmission, regardless of national demand, adequate grid on and offshore, and storage if necessary, will have to be provided promptly to avoid so called EGEs.

SEM Committee Reasoning and Proposed Position

Firstly, the SEM Committee is not proposing to adopt either Option 2(a) or Option 2(c) regarding the treatment in dispatch of generating unit that qualify for priority dispatch (see Section 5.3 above). The proposed approach to priority dispatch in the context of dispatch decisions is aligned to Option 2(d) as set out in the 2009 consultation paper. In that context, it is not proposed to move from the status quo whereby a decremental price of zero is assumed in the market schedule.

Regarding the question of Price Making generation, this issue is examined in Section 5.4 above.

Regarding comments on the need to provide for short term trades between the SEM and BETTA to allow for additional generation at times of excess, it is noted that interconnector trading matters are being progressed under the work stream examining SEM regional integration issues.⁴⁴

The SEM Committee considers that in the event of an Excessive Generation Event the market price should send an efficient signal that there is an excess of generation and/or low demand, allowing for customers to benefit from negative signals. In the context of the proposals on priority dispatch, the SEM Committee proposes to keep the current PFLOOR in place. It is noted that, at time of writing PFLOOR has not yet been hit in the SEM. PFLOOR will continue to be consulted upon annually by the Regulatory Authorities and account will be taken of the frequency with which PFLOOR is hit and the bidding of market participants in that context. Finally, it is noted that parties are free to become Price Makers and bid negatively in the SEM.

⁴⁴ SEM Regional Integration: Consultation Paper Responses and SEM Committee Decision, 3rd March 2010, SEM-10-011

SEM Committee Proposed Position: Summary

The SEMC proposes not to adopt either Option 2(a) or 2(c) as presented in Section 4.8 of the 2009 consultation paper. Rather the position set out in Section 5.3 of this paper is proposed. In that context, PFLOOR will continue to be set annually by the Regulatory Authorities following consultation with industry and to be employed in Excessive Generation Events and as a lower limit to SMP.

5.11 Demand Target and Excess Generation Events

Background/Consultation Paper

The question as to which generation units are charged PFLOOR in an Excess Generation Event (EGE) was examined in Section 4.12 of the consultation paper. At present, Variable Price Taking generating units are charged on the maximum of their availability and actual output and, hence, PFLOOR is charged to more generation units than there is demand. This results in generation units effectively being penalised for being available at times of an EGE. The consultation paper set out a proposal to address this issue (see below).

Consultation Paper Proposals

The following was proposed in the 2009 consultation paper:

The RAs propose that the quantity of generation charged PFLOOR (or paid at the revised SMP set out in proposal 4.11) in the event of an Excessive Generation Event arising from an excess of Price Taking Generation should not exceed System Demand. The MSQs of Price Taking Generation should, in such circumstances, be pro-rated down so that the total quantity is equal to System Demand.

Overview of Responses

The majority of respondents who commented on this issue support the need to modify the TSC to ensure that outcomes as set out in the consultation paper do not arise and there is broad support for the RAs proposed approach to this matter. One party qualified this with the view that pro rating should be done in a manner that respects firm versus non-firm access and first-come-first-served within firm access. Another sought clarity regarding the intention of the RAs proposal and asked if it was to limit charges to actual, metered generation or to availability. One

party stated that rules that apply in EGEs should be technology neutral. Another raised the point that the least cost method should be employed to revise MSQs such that they equal System Demand.

SEM Committee Reasoning and Proposed Position

The SEM Committee considers that it is necessary to address the fact that VPTs can be penalised for being available in EGEs under the current TSC and notes that this is supported in principle by the majority who responded on this issue. Firstly, the SEM Committee clarifies that the proposal relates to MSQ as stated and not to any other measure and that the use of MSQ in this context is consistent with the use of this metric in positive price situations. Regarding the comment on the application of firm/non firm in this context, the proposed pro rata approach is consistent with the proposed approach to dispatching down of Price Taking generation in tie breaks and is considered fair and appropriate.

SEM Committee Proposed Position: Summary

The SEM Committee proposes that the quantity of generation charged PFLOOR in the event of an Excessive Generation Event arising from an excess of Price Taking Generation should not exceed System Demand. The MSQs of Price Taking Generation should, in such circumstances, be pro-rated down so that the total quantity is equal to System Demand.

6. Summary of Proposed Positions and Request for Comment

1. Principle Underlying Construction of the Market Schedule

The SEM Committee is progressing an assessment framework which will evaluate the material harm to customers which could potentially arise in the future as a consequence of the degree of alignment between dispatch and the market schedule. This framework will assess material harm to customers against the following key objectives:

- protection of end customers, the need to ensure costs are appropriate being noted in this regard;***
- security of supply, and***
- sustainability and facilitation of renewable targets.***

The assessment framework will be published for consultation by the end of this year.

If and where the need for change is determined, options for change will be appropriately assessed in accordance with the decision making framework set out previously by the SEM Committee.

2. Allocation of IMRs behind Constraints

The SEM Committee are progressing an assessment framework in the context of the above and will publish this by the end of this year. If and where the need for change is determined, options for change will be appropriately assessed in accordance with the decision making framework set out previously by the SEM Committee. In addition, any measure introduced will be assessed to determine that it is proportionate given the issue in hand.

3. Principle underlying Dispatch: Least Cost Dispatch

Given that it would represent the most efficient short-term use of available resources, and is consistent with existing dispatch processes, the SEM Committee propose that the Transmission System Operators should continue to dispatch the system to minimise production costs of generation, taking into account system security requirements and, as now, not taking account of firmness in the dispatch process.

4. Priority Dispatch

- ***The principle of priority dispatch is limited by requirements relating to the maintenance of the reliability and safety of the grid and the secure operation of the national electricity system. Cost considerations can only be brought to bear once this can be done in a manner that does not threaten the delivery of renewables targets. Where the latter is shown, the SEM Committee will progress the introduction of a cost parameter that ensures appropriate costs are incurred in dispatch and faced by customers. The SEM Committee will monitor this issue and revert to industry where necessary on this point.***
- ***It is necessary to give priority to renewable generators who are afforded priority dispatch under mandatory EU requirements over plant afforded priority dispatch by the exercise of discretion by a Member State in the context of EU provisions and this will be reflected in dispatch decisions and processes of the TSOs.***
- ***The hierarchy set out above will be employed by the TSOs in dispatch decision making and processes.***
- ***Notwithstanding the previous bullet point, where a threat to public safety exists due to a flooding situation, consideration will be given by the TSOs in dispatch decisions and processes to the need to dispatch hydro electric stations in the SEM in a manner that minimises this threat to the appropriate degree. The SEM Committee requests that the SOs consider this matter and bring forward proposals relating to this issue.***
- ***The SEMC Committee position as set out in the above bullet points will be kept under review in light of forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.***
- ***In the context of Article 16 of Directive 2009/28/EC the TSOs shall report on a quarterly basis to the Regulatory Authorities on***

incidences of curtailing of renewable generation in order to guarantee the security of the electricity system and security of energy supply indicating corrective measures employed to prevent inappropriate curtailments.

- ***Interested parties are invited to submit comment regarding the question raised above in relation to the ability of Price Making generator units to appoint Intermediaries in the SEM.***
- ***The SEM Committee considers that the question of 'must run' in dispatch is primarily a technical matter and is best addressed in the context of Grid Code requirements.***

5. Hybrid Plant and Priority Dispatch

In the context of governing legislation, the SEM Committee considers that there is no legal basis for the provision of priority dispatch for hybrid plant as defined, The SEM Committee will monitor this issue in the context of forthcoming transposition of Directive 2009/28/EC into domestic law by the authorities in both jurisdictions.

6. Deemed Firm

The SEM Committee proposes that 'deemed firm access' whereby FAQ or MEC is allocated in advance of the completion of necessary transmission system infrastructure reinforcements should not be introduced to the SEM.

7. Treatment of Variable Price Takers in the Market Schedule

Revised rules to reflect the SEM HLD and to align the treatment of VPTs with that of Price Makers by limiting their access to the market schedule to the maximum of actual output and FAQ (or MEC when infrastructure works are complete and the VPT becomes fully firm) will now be progressed.

8. Grid Code Matters and Information on Technical Issues

The TSOs and asset owners should continue to make available information relating to:

- (e) their understanding of what change to the scheduling and dispatch of generation are being contemplated in light of the increasing level of renewable generation on the system,***

including where there may be technical limitations on the quantity of certain types of plant that can be accommodated on the system; and

- (f) their view of how technical issues (for example system inertia, fault levels etc.) will be resolved.*

In relation to the Grid Code:

- (e) the current initiative from the TSOs to place additional emphasis on enforcing existing Grid Code obligations on incumbent and new generating units should continue; and*
- (f) the TSOs should also keep the Grid Code under review in order to ensure that future generation portfolios continue to support the satisfactory operation of the system.*

The policy in Northern Ireland of employing special protection schemes will be examined further in the context of the SEM HLD and associated rules regarding remuneration of generation.

9. Tie Breaks

The SEM Committee proposes that, ceteris paribus, where tie-break rules are required post application of the proposed principles set out in Section 5.3 above regarding treatment of plant qualifying for priority dispatch, de-loading should be instructed on a pro rata basis in a manner determined by the TSOs.

The SEM Committee requests comments from interested parties regarding the treatment of renewable generators in tie break situations in dispatch (post application of the order of re-dispatch set out in Section 5.4) given the matters set out above regarding this issue.

10. Determination of SMP when Demand is met by Price Takers

The SEMC proposes not to adopt either Option 2(a) or 2(c) as presented in Section 4.8 of the 2009 consultation paper. Rather the position set out in Section 5.3 of this paper is proposed. In that context, PFLOOR will continue to be set annually by the Regulatory Authorities following consultation with industry and to be employed in Excessive Generation Events and as a lower limit to SMP.

11.Demand Target and EEGs

The SEM Committee proposes that the quantity of generation charged PFLOOR in the event of an Excessive Generation Event arising from an excess of Price Taking Generation should not exceed System Demand. The MSQs of Price Taking Generation should, in such circumstances, be pro-rated down so that the total quantity is equal to System Demand.

7. Next Steps

Interested parties are invited to submit comments on the proposed decisions set out in this paper. Comments should be submitted, preferably in electronic format, by 1700hrs on Friday, October 29th 2010 to the following:

James McSherry
Commission for Energy Regulation
The Exchange
Belgard Square North
Tallaght
Dublin 24
jmcsberry@cer.ie

Andrew McCorriston
Northern Ireland Authority for Utility Regulation
Queens House
14 Queens Street
Belfast
BT1 6ER
Andrew.McCorriston@uregni.gov.uk

All comments received will be published on the All Island Project website unless marked confidential.

The SEM Committee will hold an industry forum during the consultation period. Parties who wish to register for this forum should contact Kathyann Purcell at the Commission for Energy Regulation on 00353 1 4000800 or by e-mail at kpurcell@cer.ie by Wednesday, September 8th.

The SEM Committee is currently progressing the development of a framework to assess the threshold where 'material harm' to electricity consumers is such that the SEM key objectives are threatened and that, therefore, changes to the SEM need to be progressed. This framework will be published by the SEM Committee later this year for consultation. If and when it is considered that change is required to the SEM in that context, this will be progressed and further consultations on specific changes will follow as appropriate. Any such changes will be proportionate and subject to the appropriate assessment in accordance with the SEM decision making framework published previously and referred to in Section 3.3.3 of this document.