

Aoife Crowe,  
Commission for Energy Regulation,  
Plaza House, Belgard Road,  
Tallaght,  
Dublin 24

18<sup>th</sup> September 2009

Your reference SEM-09-073

Dear Aoife,

**ESB PG Response to 'Principles of Dispatch and the Design of the Market Schedule in the Trading & Settlement Code ' Consultation**

ESB Power Generation (ESBPG) welcomes the opportunity to respond to the SEM Committees consultation on “Principles of Dispatch and the Design of the Market Schedule in the Trading & Settlement Code”. As a leading developer and operator of power stations in Ireland it is of extreme importance that the impact of significant quantities of renewable, and in particular wind power, generation on the future of the Single Electricity Market (SEM) and the operation of the integrated Transmission network on the island of Ireland is given serious consideration. ESBPG wish to reiterate it's commitment to the development of wind generation as a significant factor in seeking to reduce carbon emissions and we welcome the proactive approach taken by the Regulatory Authorities in seeking to address the issues the impact such new technologies may have on the market over the next 10 to 15 years.

ESBPG have therefore given careful consideration to the issues raised in the consultation and provide within this response a number of comments with regard to the proposals contained in the document.

**Executive Summary**

The Proposals contained within the consultation document focus on a series of changes, clustered around three key issues:-

- The allocation of inframarginal rents;
- The treatment of access rights for all generation facilities; and
- The treatment of generation plant afforded Priority Dispatch.

While the above forms the crux of the matters considered, the scope of the consultation is much wider and it is clear that the proposals would, if adopted, introduce significant changes to the fundamental design of the SEM. ESBPG do not consider the case has been made for the scale of changes proposed by the consultation document. Implementing such a radical reform of the SEM so soon after its implementation will in ESBPG's view undermine investor confidence and signal increased regulatory risk to the market. This could have significant consequences for the market, not just from a security of supply perspective but also from an economic perspective and could potentially lead to an increase in the cost of energy supplied to customers.

In seeking to propose changes to the Trading and Settlement Code, it is essential that the requirements of the Electricity Regulation Act 1999 (Single Electricity Market) Regulations 2007<sup>1</sup> are adhered to. This Act requires, *inter alia*, that a single system marginal price (SMP) is set for each trading period based on a market schedule that is unconstrained by transmission limitations. In ESBPG's view some of the proposals in the consultation do not comply with this basic legal requirement and must therefore be rejected.

The main aim of the proposals seem to be to facilitate market entry and operation for wind generation, largely at the expense of conventional plant which will still be required to support the system and meet customer demands for energy. This, in ESBPG's view, is not acceptable. Nor is such discrimination consistent with good market design principles as recognised by the Regulatory Authorities during the design of the SEM<sup>2</sup>. Imposing such costs makes it even less likely that there will be new investment in conventional generation technologies other than gas (since SMP is driven by gas prices, conventional plant based on other fuels will be carrying undue risk). Yet such plant is clearly of value and indeed required to provide security of supply and fuel diversity.

ESBPG do accept that where problems exist in the SEM, work should be undertaken to address them and ESBPG welcome the Regulatory Authorities initiatives seeking to address the volatility and unpredictability of the CPM and the Transmission Loss Adjustment Factor mechanism. Similarly, with respect to this consultation, ESBPG accept that the case is made for addressing the increase in constrained running likely to result from the proliferation of wind generation, especially where such generation is permitted access ahead of completion of the necessary reinforcements to the Transmission system. However, in ESBPG's view further work is required to identify options to address this issue and to fully evaluate the impact of such options, so that a more appropriate, long-term solution can be identified.

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<sup>1</sup> S.I. No. 406 of 2007

<sup>2</sup> Proposed High Level Design (AIP-SEM-06-05), 31 March 2005

Finally, ESBPG note that it is difficult to evaluate changes to the dispatch principles without greater clarity in the principles currently employed by the Transmission System Operators (TSOs). ESBPG would therefore propose that work is undertaken to document the policies, practices and tools employed by the TSOs in dispatching the system and that such documentation is made publicly available.

The following sections provide further details of ESBPG's views on these matters.

### **General Remarks**

The Government has established targets for increasing the quantity of energy produced from renewable sources in the coming 10 to 15 years as part of its strategy for reducing carbon emissions. Whilst the environmental benefits of this strategy are to be welcomed, the output variability of the likely predominant source of renewable energy (wind) presents new challenges which policy makers and Government need to consider and ESBPG welcomes the proactive approach taken by the Regulatory Authorities in this regard. However in addressing such challenges, policy makers must be mindful of the on-going essential contribution to be made to electricity generation by existing conventional and other controllable power stations. Any changes to the market arrangements should seek to reduce barriers to new generation technologies, rather than provide advantages to such technologies at the expense of conventional and other existing technologies. This basic principle of market design was recognised<sup>3</sup> by the Regulatory Authorities in the development of the SEM, where it was highlighted that an effective wholesale market should "*not unfairly discriminate between participants on grounds other than those of economic and power system efficiency*".

Further, it is also essential that proposals to change the Trading and Settlement Code to address these challenges are consistent with other legislation. The Schedule to the Electricity Regulation Act 1999 (Single Electricity Market) Regulations 2007 conveys requirements on the Trading and Settlement Code to contain rules which provide for:

- (2) a single system marginal price (SMP) that is set for each trading period, based on a market schedule that is unconstrained by transmission limitations;
- (3) all generators trading in the pool to be paid the SMP for electricity generation scheduled in the market schedule; and
- (7) payments for the compensation of a generator where one or more of its generator units are subject to a transmission system constraint.

ESBPG would suggest that some of the proposals contained within the consultation document are inconsistent with one or more of these basic legal requirements – for

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<sup>3</sup> Proposed High Level Design (AIP-SEM-06-05), 31 March 2005

example Option 1 under section 4.5.2 does not seem to comply with the first of these requirements.

### **Risks to Investors Posed by the Proposed Changes**

In ESBPG's view the proposed changes create significant risks to both existing and future investors. These risks are evidenced through:

- The limited analysis which has been undertaken of the potential impact of the changes proposed, coupled with the apparently compressed timescales within which their implementation is being contemplated;
- The breadth of changes proposed to arrangements which are less than 2 years old; and
- By allocating risks to generators which they are unable to either influence or control.

#### Limited Analysis and Compressed Timescales

The consultation provides a series of proposed changes to the SEM arrangements clustered around the key themes of:-

- The allocation of inframarginal rents;
- The treatment of access rights for all generation facilities; and
- The treatment of generation plant afforded Priority Dispatch.

The proposed changes are highly interactive and in some cases contradictory – for example the adoption of "Option 2" in section 4.5.2 (under the *Allocation of Access Rights* section) would seem incompatible with the proposal contained in 4.2.2 for inframarginal rents to be allocated to plant which is of value in real-time (i.e. that plant which runs). Furthermore the proposed changes are wide ranging and, if such changes are actually considered necessary, should be subject to full consideration through a detailed examination of the impacts so as not to undermine the fundamental principles of the market without considering all available options. The complex nature of the changes proposed in the consultation and the significant interactions between the various options means it is difficult to undertake a clear assessment of the potential ramifications should one or more of the proposals be introduced. Much further detail is required in relation to many of the proposed changes to enable a complete understanding. Also, if such changes were necessary, such a thorough review should be taken over a longer period of time than has been allowed for by this consultation, giving due consideration to all of the market mechanisms, their interactions and interdependencies.

The scope of changes proposed in this consultation, the limited evaluation of the implications of the various options presented and the timescales indicated at the Industry Forum for decisions to have to be taken (in time for Gate 3) suggests the possibility of the Regulatory Authorities making fundamental changes to the SEM without having undertaken a comprehensive analysis of the implications. On its own this presents a worrying risk to existing and future investors and one which ESBPG finds unacceptable.

### Breadth of Changes

The proposals contained within the consultation document cover a wide range of issues and if adopted would introduce significant changes to the fundamental design of the SEM. In particular they would fundamentally change the way in which two of the core elements of the SEM are addressed – namely System Marginal Price and constraint payments. Consequently the proposals would significantly change the revenue streams of generators (both existing and future). The fact that such changes are being proposed less than 2 years after the implementation of the market may lead some parties to call into question the validity of the SEM design – after all, if the design were robust why would there need to be such large scale changes? In ESBPG's view such a fundamental re-design is not justified by the arguments presented in the consultation document and consequently ESBPG do not support the proposals.

This is not to say that the SEM is without problems. For example the year on year volatility and unpredictability of both the CPM and the Transmission Loss Adjustment Factors mechanism pose significant concerns to investors and ESBPG welcome the Regulatory Authorities initiatives to address these specific concerns. However any such work should be confined to seeking to resolve the identified issues, rather than unnecessarily widening the scope of matters considered. Furthermore any proposed solutions to the identified issues should not conflict with legal and EU agreed obligations conveyed upon existing generation plant.

Proposing wide reaching changes of the nature contained in the consultation document can only serve to create greater uncertainty in the future of the trading arrangements. The Regulatory Authorities noted the importance of stability and predictability in the trading arrangements to promoting investor confidence during the design of the SEM and established a specific Evaluation Criteria<sup>4</sup> to reflect that importance. In ESBPG's view the breadth of changes proposed is not consistent with this criteria. Furthermore in ESBPG's view if these proposals were to be implemented, they would do little to improve the prospects for future investment in generation on the island of Ireland and would likely

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<sup>4</sup> Proposed High Level Design (AIP-SEM-06-05), 31 March 2005 – Evaluation Criteria (section 6.1); Stability.

result in increasing prices to end customers as investors seek to cover the increasing risks and uncertainty in the market arrangements.

In short, proposing wide reaching changes without sufficient justification can only further damage investor confidence, confidence which has already been severely damaged by the global economic downturn.

### Allocation of Risks

A number of the changes proposed would place an unacceptable and unmanageable risk on generators in the identification and allocation of the costs of constraints. This is a risk that is largely outside the control and influence of the generators and which is extremely difficult to quantify or model in the absence of clarity around transmission capacity, wind penetration levels and locations, conventional plant entry and system operations etc. In addition, incorporating further technical data within the derivation of market prices, such as requirements for system inertia as is suggested in some of the proposals, would make modelling almost impossible. Investing in conventional plant in an environment with such uncertainty in revenue streams would be extremely difficult, and more costly, potentially raising the cost of electricity to end consumers, given that such conventional plant will still be required to cover for the variability of wind generation.

This ultimate increase in costs to end-customers on the island if investors in conventional plant are deterred by insufficient returns has not been considered in the consultation. In effect, the current circumstances whereby the recession has resulted in reduced demand giving rise to greater plant margins than might otherwise have been expected, coupled with the current high levels of conventional plant capacity, are effectively assumed to continue into the future. There is no recognition that generators will exit the market and that new investors, who will require debt funding from banks, will not be able to make the economics of investment in generation in Ireland pass the economic hurdles and risk criteria required.

The document acknowledges that work is being progressed separately by the Regulatory Authorities on the identification of incentives for Transmission asset owners and operators. Given that the cost of constraints should be a significant factor in determining investment in the Transmission network, the allocation of such costs cannot be considered in isolation (as in this consultation). ESBPG would request that the Regulatory Authorities bring forward proposals for incentives to be applied to the TSOs and the Transmission Owners (TOs) before considering changes to the allocation of constraint costs to generators.

What is clear is that the general tenor of the proposals is to seek to facilitate market entry and operation for wind generation, largely at the expense of conventional plant

which will still be required to support the system and meet customer demands for energy. While ESBPG welcome and are fully committed to future targets for wind penetration, it does not believe it is reasonable for changes to be implemented to the market specifically designed to reflect the particular requirements of wind generation, especially when the resulting impacts and costs will then be borne by conventional generation which is already having to bear considerable costs to meet stringent environmental limitations imposed upon it. Such costs will further deter investment in conventional power plant, leading to a future sub-optimal plant mix which the consultation document purports to be seeking to avoid.

### **Risks to Supply Security**

As well as increasing costs to end-customers as described above, the investment climate created by the proposed SEM re-design presented in the consultation will undoubtedly create an increased, and quite likely unacceptable, security of supply risk. Even at the moment, security of supply seems to be poorly-considered, with the prognosis being for an island seen as being powered by wind, backed up by gas-fired plant (the gas for which flows west across most of Europe, through the UK, finally emerging at the end of the pipeline chain in Ireland).

There is no economic incentive for fuel diversity or for any plant that provides a specific reduction in the security of supply risk. With SMP driven in the main by gas prices, conventional plant based on a fuel other than gas is seen as carrying undue risk and is almost certainly unfinanceable. Yet such plant is clearly of value and indeed required to provide security of supply and fuel diversity. The current paper, which increases the uncertainty of investment in, and debt funding for, all conventional plant, makes it even less likely that there will be new investment in conventional generation technologies other than gas.

### **Constrained Running**

Where the consultation document does provide a case for change to be made is in relation to the rewards provided to plant which is constrained on to meet demand. The current market design assumes plant will receive a contribution to its fixed costs from both the CPM and through inframarginal rents. This is fundamental to the design of the SEM and underpins the adoption of the bidding principles as a basic plank of the market power mitigation strategy. The expected increasing quantity of cheap wind generation in the coming years will displace more expensive conventional plant from the market schedule, removing the inframarginal rents currently afforded to it. Where such conventional plant is then required to run to address constraints it will only earn its bid

price which, in accordance with the bidding principles, will limit its revenue for such running to cover its short run marginal costs, leaving its fixed costs to be covered by the CPM. However, the design of the CPM as a fixed revenue mechanism priced on the basis of the fixed costs of a best new entrant peaking plant will mean that such plant fails to recover its fixed costs, providing it with a clear exit signal.

The above situation will be exacerbated by the proliferation of wind generation set to be given access to the Transmission system ahead of the completion of the deep reinforcements necessary to accommodate their power flows, giving rise to an increase in the number of constraints on the system and, consequently, an increase in the amount of constrained running.

While ESBPG acknowledge that this issue is recognised within the consultation document and that the document contains proposals which seek to address this situation, ESBPG do not believe sufficient analysis has been conducted on the potential impact of the proposed changes – either to the generators or to customers. For example one of the options proposed in the consultation (illustrated in Box 2 in section 4.5.2) would switch the exit signal from an expensive generator to a cheaper generator by virtue of its location in relation to the constraint. Assuming the generator responded to the exit signal it would no longer be available to meet customer demand once the constraint was removed, as even these "long-term" constraints will likely be temporary and will be removed once the necessary deep reinforcement of the Transmission system is completed. As such, shifting exit signals in the way proposed could have significant implications for the future plant mix once the constraint is alleviated and hence careful consideration and understanding of the impact of the proposals is required.

The document notes that respondents to previous consultations commented on the need for improved incentives for flexibility in order to mitigate the future high proportion of intermittent generation. This requirement was also noted by Eirgrid in Grid 25. The document further notes that this could be delivered through the changes to the CPM and/or the future ancillary services arrangements. ESBPG would wish to see the next steps of this work focus on addressing the constraint payment problem in a holistic manner accounting for the impacts on fuel diversity and security of supply, perhaps incorporating the use of system support contracts, and would request the Regulatory Authorities to bring forward worked up options with examples to illustrate their impact both in the short and long-term for consideration by the industry.

### **Dispatch Principles**

In considering Dispatch Principles the consultation identifies that the objective of dispatch should be to minimise the cost of production to meet customer demand. While

this is a sensible and efficient aim, no further details are provided as to how the TSOs currently seek to meet this objective. At the Industry Forum on 28 August 2009, a dispatch merit order was verbally outlined which saw wind taking priority over hydro, then peat and then conventional plant. While this explanation was helpful (though specific reasons for the ordering were not provided) ESBPG would wish to see the merit order articulated in writing with an explanation of the principles applied by the TSOs in determining such a merit order.

Since the dispatch of power stations has a fundamental impact on their revenue streams and operations, ESBPG consider that a written statement explaining clearly the principles, policies, practices and tools employed by the TSOs for the construction of the merit order and for establishing constraints (and how these impact dispatch) is essential in order to understand the current position, and a necessary precursor to considering any changes which may be required to the dispatch processes to reflect future plant mixes and requirements. ESBPG recognise the work undertaken by the TSOs in running workshops on the scheduling and dispatch processes and welcome the improvement in transparency these workshops have provided, however the lack of the existence of a public document describing the construction of the merit order and the basis on which decisions are taken in operational timeframes, for example in tie-break situations, represents a gap in market information. ESBPG would suggest the development and publication of such documentation should form a key part of the next step in this work.

Should you wish to discuss any of the views contained in this response, please do not hesitate to contact me.

Yours sincerely,

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