

Endesa Ireland response to SEM/09/073
Principles of Dispatch and the Design of the
Market Schedule in the Trading and Settlement Code

Endesa Ireland welcomes the opportunity to respond to the consultation on the principles of dispatch and the design of the market schedule in the SEM Trading and Settlement Code. The Regulatory Authorities (RAs) have indicated that this consultation was undertaken to address the changes to the existing rules and procedures that are needed in light of the anticipated wind penetration on the island. The RAs have previously stated that any changes will be limited to those that are necessary and proportionate.

As stated by the RAs, the current market rules remain appropriate and no changes are needed at this moment. The proposals set out in the consultation paper are being considered now, such that they can be implemented quickly in the event that increased wind penetration demands changes to the market rules. The decision as to when these changes may need to be implemented should be taken in consultation with industry.

Endesa Ireland welcomes the RAs initiative to develop solutions to these potential issues in advance. However, Endesa Ireland considers that a range of solutions should be investigated, looking at various levels of wind penetration and the effects on the market, ranging from minimum to more significant changes, appropriate to the conditions presented. The modelling undertaken by the RAs indicated that there may be need to implement changes just prior to 2020, when wind penetration is expected to be high and Grid25 remains to be completed. The RAs consultants indicated that the modelling results were very sensitive to a number of issues including the level of wind penetration and the level of Grid investment that had been completed. It is possible that there will be no need for changes to the current rules – certainly there are no changes required at this time.

Endesa Ireland urges the RAs to develop a proportionate response to the issues that may arise and to implement only those changes that are necessary to address imminent issues. The parameters of necessary and proportionate are key to ensuring regulatory certainty and investor confidence in the SEM.

Endesa Ireland would also welcome proposals for the RAs to address the modelling results showing significant revenue inadequacy for generators in Ireland in 2020. As the RAs continue to push down generator revenue, generator viability is suffering. Figure 17 in the consultation paper shows that a significant number of generators are unable to generate sufficient profit to justify their continued running. Endesa Ireland would welcome the development of regulatory policy to ensure a sustainable income for those generators required to meet renewable targets and security of supply standards. One means to ensure that targets are met and security of supply is maintained is to implement capacity payment auctions - separate auctions can be

designed to incentivise conventional and renewable plant and to provide sufficient income surety for both.

This consultation paper also refers to further consultations that will be conducted by the RAs, including a review of interconnector trading mechanisms, SO incentivisation and rewards for flexibility. The outcome of these consultations could have significant impact on the market. Decisions to be taken on the dispatch and design of the market schedule should be taken in conjunction with decisions on interconnector trades, SO incentivisation and rewards for flexibility. Addressing these issues on a stand-alone basis, rather than as a comprehensive piece of work increases regulatory uncertainty.

Investor confidence would be raised if the RAs published an overview paper and held a workshop setting out their plan for the market – the areas they consider in need of review, the justification for this review and the interactions they may have on other areas of the market and how these changes will support necessary investment, both to meet renewable targets and to ensure security of supply. In each specific consultation, each proposal should also set out why these proposals are considered necessary and proportionate; the interactions of the proposals with areas of the market and how these will be addressed. In particular, Endesa Ireland would welcome the publication of the consultations for SO incentivisation and rewards for flexibility prior to year-end, such that the interactions of these proposals can be understood and assessed in a comprehensive manner.

Following are Endesa Ireland's responses to the proposals contained within the consultation paper:

- 1. 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.*

Endesa Ireland considers that infra-marginal rents should be allocated to those generators that have been deemed to be of value to the real-time operation of the system and have been advised by EirGrid of their firm access to the transmission system. Once firm access is granted, these generators should receive infra-marginal rents. Generators should not be penalised if, at a later date, the transmission system is no longer fully able to accept their output as this is due to lack of transmission investment which is outside the control of the generator.

Firm access is an effective investment signal; it signals appropriate investment locations and provides investors with the surety they require. Investors are unlikely to construct in a congested area where they will not receive firm access to the transmission system as the system operators cannot be assured that the generator will be of use to the system.

The system operators should be incentivised to ensure that generators that have been granted firm access and are of value to real-time operation of the system remain able to export their energy, such that they remain of value to the real-time operation of the system.

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

Endesa Ireland considers that the RAs should work toward greater separation of SO and MO roles, with the ultimate separation of SEMO from the SOs, which is necessary for a fully competitive market. One of the roles of the Market Operator is to produce a market schedule representing the most economic generator profile to meet demand. The system operators then take this and revise it to ensure a technically feasible solution.

The difference between these two schedules are important signals for investors, system operators and Regulatory Authorities, indicating needed investment, good locations for generator investment and whether an appropriate investment balance is being met.

Endesa Ireland considers that the RA proposal for the future market scheduling taking fault levels and system inertia into account would link the roles of the System Operator and Market Operator, rather than moving toward separation of these roles. While the market schedule currently includes technical information on each generation unit, this information is to ensure the units can respond to the market schedule. It is not to ensure system security. The inclusion of factors such as inertia is necessary for the security of the transmission system, not for the individual generators. Endesa Ireland considers that the market schedule should not take this into account.

If there is a need to enforce additional rules on generators to ensure that the market schedule is a feasible schedule, the rules should be included in the Grid Code, not the Trading and Settlement Code, as this is the responsibility of the System Operators not the Market Operators.

Should additional requirements be included in the Grid Code, corresponding ancillary service payments must also be allowed. Alternatively, they could be

optional ancillary services that are provided by more flexible plant. The consultation paper states that the “proposals in this paper also cater for the remuneration of flexible plant”. However, the RAs have not yet published a consultation paper on the mechanism that will be implemented to reward flexible plant and the system operators have not published their requirements for flexible plant.

In order to incentivise construction of plant that will be able to provide these services, the RAs must make public what types of flexible services will be required and the means by which it will be remunerated. **Endesa Ireland requests that the RAs publish these proposals prior to year-end.**

Endesa Ireland agrees that the TSOs and asset owners should continue to make available information relating to technical limitations on the quantity of certain types of plant that can be accommodated on the system and proposals for how these issues can be resolved, which should be submitted for public consultation.

3. In relation to the Grid Code;

- 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*

Endesa Ireland agrees that Generators should be bound by the Grid Code and the obligations placed upon the generator in the Grid Code should be enforced. However, the obligations that are contained within the Code must be reviewed to ensure they are achievable. Obligations with which generators are unable to comply should be removed from the Grid Code.

The consultation paper recognises that generators may be unable to comply with some obligations as they “may be constrained by the ability of the generator manufacturers” to meet this standards. In our initial discussion with manufacturers, Endesa Ireland has found that the current technology on the market is not able to fully meet the operating reserve requirements and some of the reactive power requirements included in the Grid Code in the full range of operation of the power plant. These requirements should be reviewed at the Grid Code Review Panel meetings and modifications to the Code developed, where required.

Furthermore, EirGrid’s proposed Secondary Fuel Tests should not include a requirement for online changeover capability. This is a dangerous process which is only covered under warranty in emergency situations by some manufacturers, not at all by others. The switchover process (in both test and emergency

situations) should allow time for the generator to shut down and restart using the secondary fuel. When switching back to the primary fuel, the generator will need to shut down and blow off the boilers before restarting.

Endesa Ireland agrees that the Grid Code should be updated in line with technological developments, however, generators that were commissioned prior to the availability of this technology should not be expected to comply with new standards if it is uneconomic to do so.

- 4. The RAs would welcome views on how access to the market schedule for plant situated behind export constraints should be limited, on the options described in Section 4.5. Alternative options are also welcomed*

Under the current market rules, conventional generators that locate behind an export constraint are limited in the market schedule, as they can only be scheduled up to their firm access quantities. These quantities, the amount of a generator's export that can be accommodated by the transmission system, are determined by the SOs. Any changes to constraint levels after firm access has been granted is outside of the control of a generator and a generator should not be penalised for this.

The RAs have stated that the current 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. There has been no evidence provided that would suggest that a change to the current practice is necessary.

The proposal in the consultation paper seems to eliminate the concept of firm access and suggests that allowing generators with non-firm access to be included in the market schedule sends a good investment signal. Endesa Ireland considers that this signal would only be beneficial to price-taking generators – it would be a negative signal for conventional plant as any investment decision will be based upon projected income and will require a sufficient level of income certainty for the investor. The elimination of firm capacity rights would significantly reduce an investor's ability to predict future market schedules and project income. This would increase the risk profile of the project, increasing the cost of capital and making it more difficult to obtain project finance.

The proposals for fundamental changes in the technical requirements and economics of the market introduce significant regulatory uncertainty at a time when Endesa Ireland is at a critical point in our investment process – such uncertainty makes it very difficult to make an informed investment decision. Furthermore, the RAs are suggesting that these changes are required to support the integration of wind. The analysis presented in the consultation paper has not shown that these proposals will increase the systems' ability to accommodate wind generation, rather they seem designed to attribute risk to the generators that rightly lies with the TSOs.

The consultation paper talks about the need to provide appropriate investment signals. Endesa Ireland considers that the firm access date provided in a connection agreement is such an investment signal. This date, combined with the current rules for scheduling and dispatch provide appropriate signals for investment in economic plant in locations that can be accommodated by the network.

The consultation paper states that when making an investment decision, investors should place emphasis on the fundamental technical requirements and economics of the system. This is exactly what Endesa Ireland did when deciding to purchase some of ESB's old plant, with the intention of replacing the units with more efficient generators. However, we now find the RAs considering changing the technical requirements and economics of the system significantly. The RAs are proposing fundamental changes to the market rules which would eliminate the concept of firm capacity, which has been in existence since the initial market opening in Ireland, and are re-introducing the concept of a constrained market schedule, which was considered unacceptable during the design phase of the SEM.

Generators that have responded to the current market signals will be significantly disadvantaged if this option is implemented as it would change a fundamental component of the market design, potentially making projects that had previously been deemed as worthwhile uneconomic. Such a regulatory change in the market would send a strong negative signal to future investors.

Option 1 may incentivise investment in price-taking generation, however, price-making generation will not have the certainty it requires to take an investment decision. The impact of implementation of this option is unknown, as generators are not able to model this situation. This would result in significant regulatory uncertainty and would be strong disincentive to investment in price-making generation, which could result in a lack of predictable price-making generation to ensure security of supply.

Endesa Ireland does not support Option 1. The consultation paper does not provide sufficient justification for limiting access to the market schedule for plant situated behind export constraints that have been granted firm access to the transmission system. Endesa Ireland does not consider that such a change to the existing market rules is necessary to integrate a larger number of wind generators.

The unconstrained market schedule is a key element of the SEM design. Endesa Ireland does not consider that a change to this element of the SEM design is necessary, nor is it a proportionate response to the challenge of integrating wind in the market schedule.

The implementation of Option 1 would require a change in law, as SI 406 of 2007, Electricity Regulation Act 1999 (Single Electricity Market) Regulations

2007, states that the SEM Trading and Settlement Code shall include rules that provide for (inter alia):

“a single system marginal price (SMP) that is set for each trading period, based on a market schedule that is unconstrained by transmission limitations; the method of determination of SMP shall be set out in the Single Electricity Market Trading and Settlement Code;”

Endesa Ireland would expect that a proposal for a change in legislation should include a justification of the need for such a change, a Regulatory Impact Analysis of the proposal and a cost-benefit analysis of the change in the market design.

The consultation paper raises concerns that generators behind an export constraint may choose to be price makers rather than price takers or may construct their offers to maximise constraint payments. This issue was addressed in the High Level Design paper (AIP-SEM-42-05). In this paper, the RAs stated that “plants in such a situation shall be subject to close scrutiny and monitoring. They may also be subject to regulation of their bids where appropriate.” Since the high-level design, a market monitor has been established to review generator offers to ensure they comply with the Bidding Code of Practice. There has been no justification presented in the consultation paper for the need to change the market rules due to these concerns. The RAs have already determined that bids may be regulated for generators behind a constraint. Endesa Ireland considers that this is sufficient to ensure generators do not exert market power behind a constraint and do not consider that any changes to the market rules are required to address this issue.

Endesa Ireland supports Option 2. Option 2 introduces minimal changes to the market rules with the inclusion of a new rule that only affects new entrants. Endesa Ireland considers that this is appropriate as it is to be signal for investment decisions, not for generators that have already invested.

Infra-marginal rents are only paid to generators having FAQs. Currently, price-making generators can only be scheduled in the market up to their FAQ. Outside of this, they may be constrained on by the System Operators at their offer price. Price-taking generation is not limited in its ability to receive IMR for their FAQ – receive for actual output. Proposed decision – generators with non-firm connection offers will receive offers for firm connection – should resolve issue for existing generators.

The consultation rightly raises the issue that Option 2 creates an incentive on potential generators to apply for connection offers early or speculatively. Endesa Ireland considers that CER should revise the criteria for connection applications and include a receipt of planning permission, which will eliminate speculative applications. This is the process in place in Northern Ireland, where there is no queue for connection applications.

In respect of the proposal to facilitate access right trading, Endesa Ireland would support the development of this proposal.

Option 3, which the RAs state is a variant of Option 2, would allow additional non-firm generation to be scheduled in the event of additional capacity at a particular node. While scheduling of this capacity would displace a more expensive generator with firm capacity, Endesa Ireland recognises that this may be necessary in order to meet Ireland's 2020 targets. As such, Endesa Ireland does not strongly oppose the implementation of this option, but considers that this proposal will be complex to implement and would require significant (costly) changes to the market scheduling software and to market participant systems. In addition, capacity payments would need to be increased to compensate conventional plant that is required for security of supply if their market incomes are decreased due to the implementation of this option.

Prior to implementing such an option, Endesa Ireland would like to ensure that a thorough cost-benefit analysis has been undertaken, which would include the most cost-effective means of implementing this option. Most importantly, this option should not be implemented until it is determined, through consultation with industry, that it is necessary due to the high penetration of wind generation.

5. *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.*

The Connection Agreements should include a date by when the deep works will be completed in order for a generator to have fully firm access to the transmission system. System operators must be incentivised to meet these dates. In the event that deep works are not completed by the scheduled completion date, these generators should be granted deemed firm access.

Project financing is dependent upon a firm access date. The achievement of this date is outside the scope of a generator. The system operators should ensure that the dates provided for in the connection agreements are met. The RAs should implement an incentive scheme for the system operators to ensure that deep works are completed to schedule.

6. *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.*

The consultation paper states that “The principle of minimising the cost of production irrespective of any access rights is currently reflected in the way in which generators are dispatched in the SEM by the TSOs today”.

Endesa Ireland agrees that the role of the System Operators should not change and they should continue to dispatch plant as per the market schedule unless there are technical limitations requiring alternative solutions.

7. *The Regulatory Authorities welcome comments from interested parties on the options for priority dispatch, as presented in Section 4.8.*

Endesa Ireland supports Option 2b, whereby plant is dispatched purely on economic merit; in tie-break situations, generators that have been afforded priority dispatch would be chosen to run over non priority dispatch generation. In the event of a tie-break situation the existing tie-break rules in the Code should apply, this includes the provision for Price Maker Generation with priority dispatch to be given precedence. Generators that may be entitled to priority dispatch that have chosen to act as Price Makers should not be able to set the market price, unless they have submitted the marginal offer.

Options 2c proposes dispatching plant, taking into account subsidies. Endesa Ireland considers that Option 2c provides a double benefit to renewable generators that receive subsidies and places fully commercial renewable generators at a significant disadvantage. In addition, it causes disparities between Irish and Northern Irish renewable generation as the subsidies provided in each jurisdiction differ. Furthermore, such a proposal would result in a significant increase in PSO costs in Ireland, such that the overall effect would not benefit consumers. Endesa Ireland does not support Option 2c.

Option 2d suggests including an arbitrary price for priority dispatch offers, such that the price would be sufficiently low to ensure these generators would be dispatched. Endesa Ireland considers that this issue has already been addressed in the decision to allow generators to act as Price Takers, whereby their effective offer price is €0 (although this price is not arbitrary as it is their SRMC). Endesa Ireland would not support selecting a negative arbitrary price as this would also increase PSO costs in Ireland, providing no net benefit.

8. *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.*

Endesa Ireland considers that hybrid plant should not receive priority dispatch unless it utilises a fuel mix containing at least 10% renewable fuels. Endesa has

experience with such plant and considers a 10% threshold to be achievable and appropriate.

As with our preferred interpretation of priority dispatch, Endesa Ireland considers that Hybrid Plant should be dispatched according to economic merit. In a tie-break situation, hybrid plant should be given priority over conventional generation. SEMO should investigate the possibility of having a third category within their market engine. If the cost for implementing a third category is minimal, Endesa Ireland suggests that there should be three priority levels: 1) renewable / peat plant; 2) hybrid plant; 3) all others. However, if the implementation of this hierarchy is uneconomic, Endesa Ireland considers that hybrid plant should be given the same status as renewable plant.

9. *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 being 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.*

Endesa Ireland considers that all generators should be treated equally in the market schedule. If any of the options in section 4.5 are adopted, the option should also apply to VPTs. If none of these options is adopted, VPTs should be limited to the maximum of their DQ and FAQ.

10. *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.*

One of the strong features of the SEM is that it is non-discriminatory in its treatment of renewable and conventional generation. The rules have been drafted to be sufficiently flexible to apply to all generation technologies. Endesa Ireland considers that PFLOOR should apply equally to all generators in an Excessive Generation Event. Special conditions should not exist for price-taking generation. Endesa Ireland considers that the definition of PFLOOR should be changed. Rather than a set value as determined by the RAs, PFLOOR should be calculated as the bid price of the marginal unit.

11. *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.

Endesa Ireland agrees with the proposal that the quantity of generation paid PFLOOR due to an excessive generation event should not exceed System Demand. However, Endesa Ireland considers that the wording in the Code should be changed such that the TSC remains non-discriminatory. While it is unlikely that an Excessive Generation Event will be applicable to Price-Making generation, the rules associated with the quantity of generation paid PFLOOR should be technology neutral.

In addition, the RAs should seek input from SEMO in implementing the lowest-cost, non-discriminatory solution to revising MSQs such that they equal System Demand. Random selection may be less costly to implement than pro-rating.

12. 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.

It is not clear from the consultation paper whether this proposal would be solely applicable to the System Operators in the event that their dispatch schedule requires changes from the market schedule due to technical reasons or if this would also be a change to the Trading and Settlement Code.

In the first instance, the System Operators, when dispatching, must seek the most economic solution. The consultation paper does not state whether de-loading on a pro-rata basis is less costly for the system than de-loading on a random basis or if implementing such rules will provide different results (sometimes economic, sometimes not) depending on the particular dispatch schedule.

In the absence of any clear justification for de-loading on a pro-rata basis, Endesa Ireland considers that the tie-break rules employed by the System Operators should be consistent with rules set out in the Trading and Settlement Code for determining the market schedule, which are employed by SEMO. The Code requires that random selection is used to determine the unit that will be chosen to run in the event of a tie-break situation. This method was chosen as it is considered to be non-discriminatory, treating all generators equally.

In the event that this proposal is also applicable to the rules in the Code, Endesa Ireland considers that there has been no justification making such changes and would strongly oppose changing the Trading and Settlement Code without such justification.