

## **IWEA Response to the Consultation on Connection Offer Policy Principles**

**4<sup>th</sup> February 2011**

IWEA welcomes the opportunity to comment on the Consultation on the Connection Offer Policy Principles Paper (COPP). IWEA has a number of concerns with the consultation and these are outlined in the following sections.

### **Changes in installed capacity**

IWEA is very concerned about the propose rule to round the allowable installed capacity to the whole number of turbines that is nearest to the MEC. One of the concerns in the paper is the impact on constraint numbers if more capacity is installed, however IWEA notes that the impact on constraints would be minimal considering the large number of varying input assumptions. There are a number of reasons that some projects install more than the MEC, as outlined in the following points:

- This allows for turbine downtime for maintenance and losses. In larger wind farms where there are 25 – 30 turbines, there is likely to always be one down for maintenance. From an economic point of view it makes sense to install a capacity that allows for this.
- The economics of a particular project will dictate the level above the MEC which is viable, with too much capacity leading to increased capital costs which would not be sustainable.
- Developers are required to pay for shallow connections to cater for the entire MEC of a project, so they should be able to make use of this full capacity.
- IWEA would like to note that the current rule-set discriminates against larger projects as they can only over-install by a lower percentage than a smaller project.
- It should be noted that while a reasonable number of projects to date have installed capacity exceeding their MEC the average is very low and approximately equivalent to the internal losses of a wind farm. In relation to operational projects, 50% of transmission connected projects have over-installed by an average of 2% and 27% of distribution connected projects have over-installed by an average of 1.8%.

It is also important to note that from the overall system perspective the overall total MEC is greater than the total installed capacity.

On this basis there is no evidence of material harm on other system users based on the current connected windfarms.

- Limiting the installed capacity permitted goes counter to the objective of reaching renewable energy targets by unnecessarily restricting the amount of electricity generation from renewable sources.

- IWEA also notes that by allowing an installed capacity greater than the MEC, wind farms will be able to provide reserve on the system without being expected to reduce their export below their MEC at times when this is achievable.
- There may be limitations resulting from the planning process where projects must have the number of turbines in their planning permission. As turbine selection is usually later in the process, there needs to be flexibility in projects being able to install a capacity above their MEC.
- It should also be noted that there are cases where thermal generators have ratings above their MEC.

### **Merging**

IWEA supports the position that projects should be allowed to merge subject to relocation rules. IWEA has concerns that where a project with a later date of application merges with an earlier project, no advantage should be gained by this and it should have no affect on any decisions that are made on date order basis. IWEA would also like clarification as to whether a new legal entity does needs to be formed where projects are merged, or if one of the existing legal entities can be used. As part of merging it would be reasonable for developers to optimize their connection method, i.e. combining two MV connections into a 38kV connection.

### **Splitting**

IWEA supports the proposed rules for the splitting of capacity.

Some consideration is required to cases where an extension to an existing project or second phase of a particular project wishes to request a separate connection agreement.

For example in a case where a Gate 3 project is an extension to a Gate 1 or 2 connected project a separate connection offer may be requested due to legal and financial constraints. The extension or second phase will likely be funded separately and backed by a different support scheme which can lead to difficulties with both the existing financiers and the new. In this case a split of the connection agreement could be requested.

This would provide 2 separate connection agreements for a project with a single connection point. A 110kV Gate 1 connected project can thus offer savings on plant such as grid transformer and 110kV traffo bay when connecting a Gate 3 extension.

This additional flexibility should be added as it can lead to significant savings on connection equipment where legal and financial constraints require separate connection agreements.

### **Temporary Connections**

IWEA welcomes the proposals to allow temporary connection as this allows the early connection of projects, contributing towards a higher penetration of renewables on the system.

There are approximately 6 nodes in Gate 3 where temporary connection may be requested by windfarms. These nodes have a total capacity of 1058 MW. There is likely to be approximately 350 to 450 MW of wind generation that could be connected with temporary connections. This is a substantial capacity of generation and could result in an earlier investment of approximately €600-750M in Ireland.

IWEA support temporary distribution connections. This assumes the windfarm will be using the same capacity on the transmission system for both temporary and permanent connections so they are unlikely to impact on the constraints for other projects. Where there are a number of generators requesting distribution temporary access there may have to be a rule-set for allocating the available capacity between the generators. It is probably reasonable to apply similar rules as will apply for transmission temporary connections.

In the consultation paper the system operators do highlight that allowing temporary connections could negatively impact on the level of constraints for other windfarm projects in the area. In Gate 2 this issue was addressed by generators requiring a temporary connections accepting that they would be constrained before generators with permanent connections. IWEA believe as a principle that temporary connected generation should not increase the constraints for other generation. Due to the fact that there is only likely to be limited uptake on temporary connection offers in Gate 3, IWEA believes that it would be possible to identify these projects on a case by case basis to ensure that they are constrained down before projects with permanent connection.

EirGrid appear to suggest that it is not possible to allocate constraint to temporary connections first. It is appreciated that allocating constraints in general across generators is complex and more difficult as the capacity of non-firm generation and therefore level of constraint increases.

Temporary connections are generally connections into the local transmission 110 kV network. The shallow connection asset driving the temporary connection is almost always a connection to a stronger part of the network, for example a 220 kV substation. It should be possible in most cases to identify the binding constraints on the 110 kV network between the transmission node where the generator is temporary connected and the permanent connection node on the stronger part of the network. Special dispatch rules could be developed to allocate any overloading of these circuits to the temporary connected generation first. These special rules could even be automated into the system control. Any constraint on the network beyond the permanent connection node should continue to be shared on a pro-rata basis, subject to pro-rata being the decision from the Dispatch consultation. It should also be remembered that these special dispatch rules will only be temporary as the remaining shallow connection asset will eventually be constructed. These rules would only apply to approximately 5-10% of the total 110 kV network.

Example:

Figure 1 provides an example of the application of temporary connections. The Gate 3 projects at node 1 have a shallow connection method including a new 220 kV line from node 1 to node 4. Until this shallow asset is complete some of the Gate 3 generation at node 1 would like to request with temporary

connections into the 110 kV network. If all of the Gate 3 generation at node 1 connected, 400 MW, then the constraints due to the limitation of the local 110 kV network would be substantial. If constraints are allocated on a pro-rata basis then constraints would also increase for the pre-Gate 3 generation connected at nodes 1, 2 & 5. If temporary connections were permitted on the basis of temporary connection being constrained first then potentially a rule-set could be developed whereby if there are overloads on circuits A-E the temporary generators would be constrained first. Any overloads on circuits beyond nodes 3 & 4 could continue to be managed on a pro-rata basis.

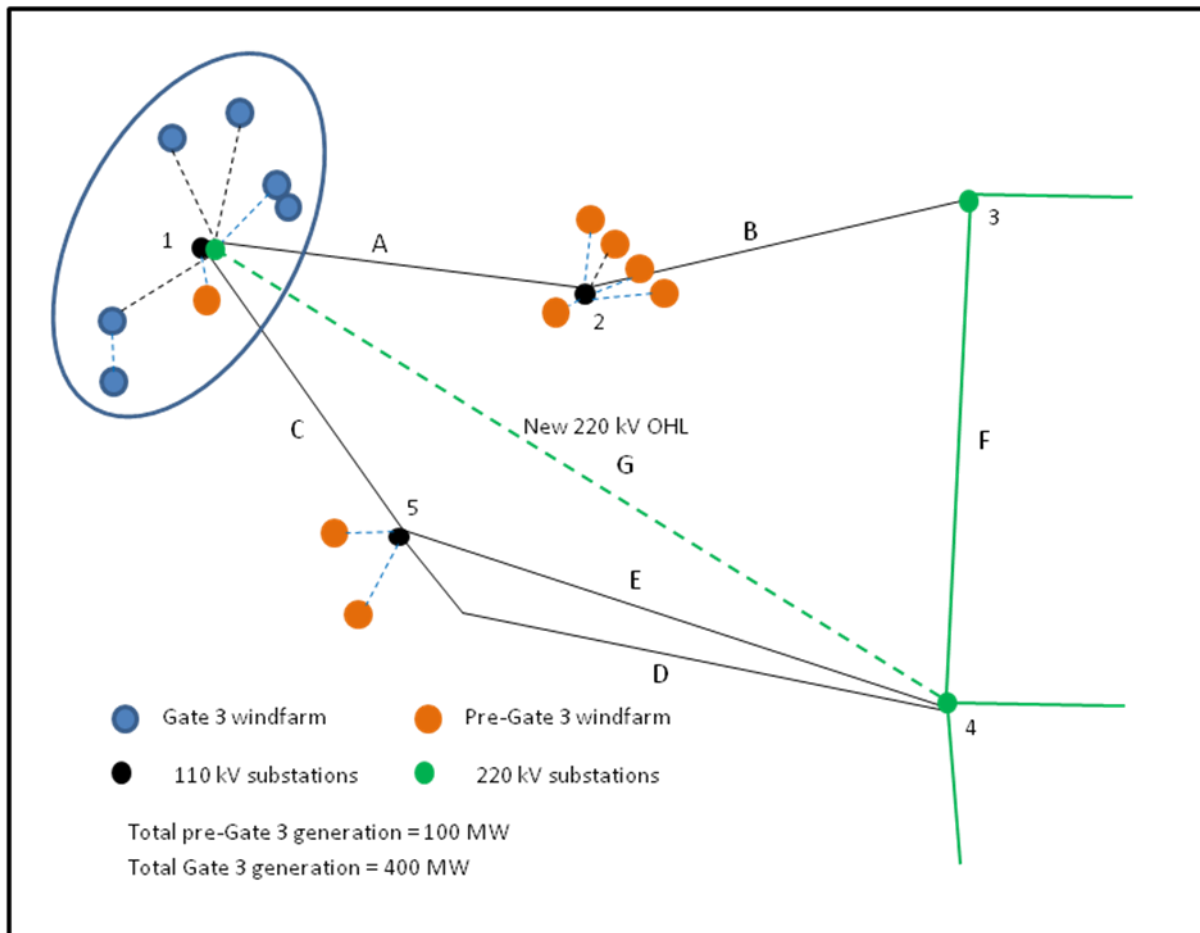


Figure 1: Example of temporary connections

IWEA believes that there is a level of constraint that would be acceptable to developers and that this could be used to identify the capacity that could be offered for temporary connections, e.g. 5%. Based on this level, EirGrid could calculate the capacity available. Flexibility should be allowed for a Gate 3 subgroup to unanimously agree the acceptable level of constraint. This capacity can also be increased on a regular basis with improved line uprating, the introduction of SPS schemes, dynamic line rating etc.

The duration period of constraints should also be factored into the methodology i.e. a project maybe able to sustain a higher level of constraint for a short period of time or a lower level of constraint over a longer period of time.

On the issue of how temporary connections are allocated it is proposed that projects interested in temporary connections should apply for it. Offers would be issued on a date order basis (i.e. the original application date) with a limited time for take-up of the offer. If the offer is not taken up that project is then moved to the end of the queue.

IWEA proposes that a bond would need to be put in place to ensure that the first project that receives an offer for temporary connections does not accept it to prevent other projects from taking it up. The level of the bond would have to be significant to prevent hoarding, however it should not be so big as to make accepting a temporary connection unfeasible.

There is concern that a project that has a temporary connection may be able to cause delays in the case of subgroups coming to a unanimous decision on the permanent connection assets as they are already connected and have no urgency to progress the group. This would need to be resolved.

IWEA would like to note that for temporary connections each project will have unique circumstances. While we welcome a general set of principals in relation to this matter, we believe that specific rules could be taken on a case by case basis and based on whether or not there is a negative impact on others.

### **Combination of offers**

IWEA is concerned at the proposal outlined in this section since it changes the rules around existing applications. While it may be suitable as a proposal for future gates, IWEA believes that it is too late in the Gate 3 process to introduce this and that developers would have to have had sight of this rule earlier in the Gate 3 process. It should also be noted that in cases where there are multiple projects, multiple application fees have been paid by the developers and therefore they should be entitled to be treated as separate applications.

### **Hybrid Plant**

IWEA agrees in principle with the argument that all technologies in a hybrid connection would have to be eligible to be treated outside a gate. However there may be some cases that should be considered on a case by case basis, such as those instances where wind generation is used in combination with storage or interconnectors.

### **Decrease in MEC**

IWEA is concerned that it is very late in the process to introduce these costs for decreasing the MEC of a project. When the decisions were being made on these projects developers were not aware of what the cost of reducing their MEC would be. These costs should not be applied retrospectively.

### **Phasing**

IWEA welcomes the option to build projects in phases, however we consider a timeline of 12 months from the firm access date to be too short and suggest that 3 years would be a more suitable timeline. Extensions beyond 3 years should be allowed on a case by case basis if the CER is satisfied that the developer is not hoarding capacity.

It should also be noted that some of the phasing is influenced by the FAQ dates, and projects should not be expected to complete in advance of their FAQ irrespective of when the first connection took place.

If temporary connections are introduced there may be the need to construct in phases as sufficient temporary capacity may not be available. In this circumstance the timeline between phases should not be limited to 3 years or firm access. The timeline should allow for the construction of the permanent connection method.

### **Change in Generation Type**

IWEA would like to note that there may be some instances where there could be benefits associated with supplementing a facility with a generation plant of a different technology, for example in cases of storage or interconnection on wind energy facilities. In some of these cases the load factor may increase, but the outcome could be beneficial in the increased energy from renewables. IWEA supports that shallow connections could be shared so long as the generation applications go through the appropriate application processes.

### **Non-LCCM Planning Related Charging Issues**

IWEA acknowledges that given the complexity and site specific factors associated with the planning process it is not possible to provide a comprehensive rule-set for when the use of cable is to be considered as the least cost solution and consequently a contribution may be appropriate from the UoS. However IWEA feels that it is unreasonable that a developer should be forced to pay anything other than LCCM charge just because the SO's have run into planning difficulties with their preferred method and so have to use cable instead of overhead line. It is unfair to assume that the original LCCM method would also have had to be cabled, particularly if the LCCM connection is shorter and travelling in a different direction compared with the SO's preferred connection method.

Also as the SO's preferred connection method usually requires greater infrastructure compared with the LCCM, by consequence, the additional time associated with the SO's preferred connection method over and above the LCCM needs to be considered.

The SO's need to formally set out their reasoning if they are going with a connection method other than the LCCM.

Consideration is required as to the timing of decisions to change from an LCCM to either a SO preferred method or to an underground solution. A definitive program to pursue a particular connection should be followed and a decision to change to underground cable for example should occur promptly so as to avoid delaying a project indefinitely during an overhead line approval process.

**Term**

IWEA proposes increasing the term of the connection agreement from 20 to 25 years from the date of energisation to align the connection contract to the typical lifespan of a wind farm project.

Where a major modification such as the extension of a project, where additional generators are added, the term should be extended by 25 years from the date of the energisation of this extension.

**Capacity Relocation**

We welcome the CER proposal on generator relocation and would add that flexibility should be available to generators seeking to change connection node. The processes outlined in this paper of merging, splitting of projects, drop out of applicants etc. will lead to reprocessing and redesign of group and individual connections. This redesign or optimization should not only consider the connection node where a project is currently assigned but also the neighboring nodes

Some applicants for example may be geographically close yet assigned to different connection nodes. In the case of a merge of these applicants savings in connection assets could occur if they share a connection point to the most economically advantageous node for both projects.

A principal could be adopted that where a move such as this does not have negative implications to the system or to other projects, it could be allowed. Such flexibility can in some cases lead to an increased take up of offers and allow continual optimisation of connection assets as projects develop further.

**Conclusion**

IWEA welcomes this consultation and has outlined some concerns in relation to the specific areas of the consultation document. Due to the large number of recent on ongoing consultations in the area of connections, IWEA request that all decisions be compiled into a policy book to ensure ease of access to the most recent decisions.