



Connection Offer Policy and Process Paper (COPP)

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Table of Contents

1	Introduction and General Principles.....	5
2	Changes in Installed Capacity	6
2.1	Outline.....	6
2.2	Ruleset.....	6
2.3	Process.....	7
3	Mergers and Splitting.....	7
3.1	Mergers	7
3.1.1	Outline.....	7
3.1.2	Proposed Ruleset	7
3.2	MEC Splitting	8
3.2.1	Outline.....	8
3.2.2	Ruleset	8
4	Temporary Connections.....	10
4.1	Outline.....	10
4.2	Ruleset.....	11
4.3	Determining temporary capacity available.....	12
4.4	Eligibility for a temporary connection.....	16
4.5	Process.....	16
4.6	Parties to whom the above ruleset applies	17
5	Combination of Offers	18
5.1	Outline.....	18
6	Hybrid Plant	18
6.1	Outline.....	18
6.2	Criteria for Eligibility.....	18
6.3	Processing a Hybrid Project or a Hybrid Generator	19
6.3.1	Ruleset for a Hybrid Project.....	19
6.4	Process:	20
7	Changes in MEC	20
7.1	Decrease in MEC of Application in Queue	20
7.2	Decrease in MEC within a Gate	20
7.2.1	Ruleset:	21
7.2.2	Process	21
7.3	Decrease in MEC Post Offer Issue (Pre-Capacity Bond).....	21
7.4	Increase in MEC.....	22

7.5	Applications withdrawn pre-offer issuance	22
7.6	Process.....	22
8	Phasing of Connections.....	22
8.1	Outline	22
8.2	Phases identified at application stage	23
8.3	Ruleset.....	23
9	Change of Generation Type	24
9.1	Introduction.....	24
9.2	Prior to Energisation of a Facility:	24
9.2.1	Outline.....	24
9.2.2	Ruleset	25
9.2.3	Process	25
9.3	Post Energisation of a Facility:	26
9.3.1	Outline.....	26
9.3.2	Proposed Ruleset	26
9.3.3	Process	27
10	Reprocessing Subgroups Due to Non-acceptance of Offer or Termination of Connection Agreement.....	28
10.1	Outline	28
10.2	Ruleset.....	28
10.3	Process for Redesigning Connection Methods	30
10.4	Impact on Charges to Remaining Subgroup Members	30
10.4.1	Least Cost Connection Method Offered	31
10.4.2	SO Preferred Connection Method Offered	31
10.4.3	Subgroup requested Connection Method	32
10.5	Re-design to Minimise Stranded Asset Costs.....	32
11	Firm Connections to the Transmission System.....	33
11.1	Outline	33
11.2	Process.....	34
12	Term.....	34
12.1	Term	34
12.2	Extension of Term	35
12.3	Process.....	36
13	Extension of Offer Validity Period	36

13.1	Outline	36
13.2	Ruleset.....	36
13.3	Process.....	36
14	Non-LCCM Planning Related Charging Issues	37
15	Internal Network.....	38
15.1	Outline	38
15.2	Ruleset.....	38
15.3	Process.....	39
16	MEC Capacity Bond	39
16.1	Outline	39
16.2	Ruleset.....	40
16.3	Drawdown and Use-it of Lose-it.....	40
17	Capacity Relocation	41
17.1	Rule Set.....	41
18	Alternative Connection Method	44
18.1	Outline	44
18.2	Ruleset:.....	44
18.3	Process.....	45
19	Change in Application Details	45
19.1	Outline	45
19.2	Ruleset.....	45
19.3	Process.....	46
20	Modifications Requests	46
20.1	Outline	46
20.2	Ruleset.....	46
20.3	Company Modifications	46
20.4	Timing and Associated Conditions	47
20.5	Process.....	50
	Appendix 1 – Glossary of Terms	51
	Appendix 2 - Bonding arrangements	53
	Appendix 3 – Example of Phasing.....	54
	Appendix 4 – Change of Generation Type	55
	Appendix 5 – Examples with regard to capacity relocation	58

1 Introduction and General Principles

The purpose and intention of the paper is to provide applicants seeking to connect with a clear set of guidelines in relation to connection offer policy. The basic aim behind all the policies is to achieve

- A level playing field.
- A fair deal for the UoS customer.
- A flexible approach to an evolving market and customer base.

The information contained in this paper applies for the most part to both System Operators (SOs), i.e. it covers both the Transmission and Distribution Systems. Where policy differences between the SOs exist, these are clearly stated.

The policies outlined in this paper generally apply to all categories of renewable and non-renewable generators unless stated otherwise. This includes generators:

- holding a place in the queue;
- being processed in the current Gate¹, but offer not yet issued;
- with live connection offers; and
- with executed Connection Agreements.

Where the policies do not directly translate to a case in point, the principles established will be interpreted by the SOs. Furthermore, where in any case the SOs believe or suspect that a decision made by a developer in relation to any of the policies set out is being used to gain advantage over, or to the detriment of other generators and/or the UoS customer, the SOs may refer the issue to the Commission for further investigation.

In the event that the applicant is not satisfied with the application of regulated connection policy by the SOs then the applicant has the option of referring the matter to the Commission for Energy Regulation (CER) as a formal dispute as per the Electricity Regulation Act 1999.

EirGrid plc, the Transmission System Operator, will be referred to as “TSO” throughout the document. ESB Networks Ltd., the Distribution System Operator, will be referred to as “DSO” throughout the document. Collectively they will be known as the “SOs” throughout the document. The Use of System customer will be referred to as the “UoS

¹ The Gate system is the current main method of processing connection applications. This should be read as any current or new processing system as approved by the Commission.

Customer” or “End-User”. The glossary in Appendix 1 contains further elaboration of some of the commonly used terms in this paper.

Please note that in the event of any inconsistencies between this paper and any transmission or distribution connection agreement, the connection agreement would take precedence

2 Changes in Installed Capacity

2.1 Outline

On occasion requests are received to process an increase in installed generation capacity associated with a given project. This would typically involve wind generation facilities increasing their installed capacity, namely the number or size of Wind Turbine Generators (WTGs), without applying to increase their Maximum Export Capacity (MEC).

Increasing installed capacity at a facility is likely to increase constraints for other system users and therefore careful consideration is required before processing any such requests.

2.2 Ruleset

Where a request to increase installed capacity is received, such a request shall normally be processed only as part of the normal application queue and in accordance with the processing system e.g. Gates, or non-GPA, that pertains to that type of project.

The SOs appreciate however that in reality it is not always possible for the MEC to exactly equal or be just above the installed generation capacity. This may particularly be the case where a customer has chosen to use assumed data when submitting or having their application processed. Ultimately these customers will have to choose a turbine type and inform the relevant SO of same at least a year prior to connection.

Thus the SOs would seek to balance the potential impact on other projects constraints while allowing some element of flexibility for practical difficulties that customers face.

As per the CER direction on this issue, installed capacity of 105% of the MEC should be allowed. In addition the ‘nearest value’ approach set out below, would then be adopted, rounding up to determine the exact number of turbines required - leading to a further increase in the installed capacity.

An example would be to divide the MEC by rating of the individual turbines chosen and round the answer to the nearest whole number. In a scenario whereby a project may have an offer for an MEC of 20MW, they may decide to use WTGs rated at 2.3MW.

Consequently, the closest that this project could get to the MEC using WTGs rated at 2.3MW is either 20.7MW or 18.4MW. As 20.7MW is closer to the MW applied for, the SOs would propose that the project be allowed install the additional turbine, even if this results in an increased load factor. For the avoidance of doubt, the MEC will remain at 20MW.

The 'nearest value' approach is primarily designed to consider the issues associated with wind turbines but may be applicable to other types of generation. This will be determined by the SOs on a case by case basis.

2.3 Process

As per normal process a full application form including specifics of exact plant to be installed, should be provided the SOs no later than 240 business days before energisation.

3 Mergers and Splitting

3.1 Mergers

3.1.1 Outline

Mergers occur whereby two or more separate projects, with separate MECs and separate connection points to the system, apply to become one project with a combined MEC and a single connection point to the system, with the individual site and/or turbines connected via internal developer network (as described in Section 15).

A merger can be due to one project relocating, such that both projects are adjacent. In addition to the proposed rule set below, such a merger will be subject to the rules on capacity relocation set out in Section 17. Alternatively a merger can lead to an extensive internal network, which is subject to the rules set out in Section 15.

3.1.2 Proposed Ruleset

Where a request is received to merge part or all of a project with another, the request will be allowed subject to the set of rules and processes appropriate to capacity relocation (reference Section 17). In addition the following process will apply:

- i. Mergers shall be treated in the same way as modifications to connection offers i.e.
 - a. in that customers should submit an updated application form from a single legal entity² with all appropriate information including a revised landowner statement where appropriate.

² The new legal entity can be associated with one or both of the existing projects, or be an entirely new party.

- b. The application must include a signed declaration on official company paper that the customers that own the projects seeking to merge are satisfied for the merger to take place and identify the single legal entity to whom the new connection agreement will be issued.
 - c. The offer shall be issued on the assumption that this legal entity will be formed and that all the premises and equipment will be owned by them (confirmation of this to be by way of declaration). This will also be a pre-condition in the connection offer.
 - d. Where a merger is requested and even in the case where an offer has yet to be issued, an appropriate fee will apply to cover any additional costs required to process the merger and will be levied in accordance with the standard practice by the relevant SO.
 - e. The timeline to process the modification shall be advised at the time of application or as per the appropriate modification process.
- ii. The request to merge shall result in a connection agreement being issued to the single contracted legal entity identified for the merged projects at the new connection point.
 - iii. Where the merger has been requested to two existing connection agreements then any existing signed connection agreements for the projects involved in the merge shall be automatically superseded once the new merged connection agreement is accepted by the single legal entity
 - iv. As a general principle, characteristics of existing connection agreements/offers will – where feasible – be transferred to the new CA. An example would be firm access quantities, connection longstop dates, etc.

3.2 MEC Splitting

3.2.1 Outline

Splitting of the MEC occurs where a project, which had applied for a certain level of capacity, subsequently looks for the original MEC to be accommodated over two or more connections.

The SOs are mindful that where splitting is allowed it should not lead to the suboptimal development of the transmission or distribution systems or costs or delays to other system users³.

3.2.2 Ruleset

Policy on project splitting is largely driven by the need to protect the End-User and avoid projects gaining advantage compared with projects who have decided to reduce their MEC, or relocate their projects.⁴

³ Who have connected, have a valid connection offer or are due to receive a connection offer within a defined timeframe.

Where a request is received to split a project into one or more projects from that stated in the application form and on which the project holds its place in the queue, or on which a connection offer was based, the request will be allowed subject to the following rules, where applicable:

- i. The change for the project does not result in a change of the connection node on the meshed transmission system originally chosen by the SOs;⁵
- ii. Where a project has already qualified for processing for connection, the change and resulting connection method does not undermine their eligibility to be processed. Where the change means that they would no longer have qualified as per the original criteria applied, then the project will be re-assessed to determine if is eligible for processing under other criteria;
- iii. Where the potential for stranded assets is increased as a result of allowing the project to split (e.g. where there are now shared assets for which the original project was previously fully liable, a form of security⁶ will be required to be put in place by the project with the relevant system operator to cover the potential cost of the stranded assets;
- iv. The amount of the security to be put in place by each of the resulting projects will be equal to the shared asset cost of each project (including assets shared with other parties.) based on the revised connection method;
- v. Each party must put the security in place on acceptance of the revised offer;
- vi. Should the party so wish the value of this bond could be reduced as stage payments are made. If this option is chosen a new bond, for the reduced amount, would have to be put in place prior to the existing bond being released;
- vii. The bond will be drawn down in the event that the connection agreement is terminated prior to the stranded asset costs being covered by stage payments;
- viii. In relation to requests to split which are also accompanied by specific connection method proposals, the request will only be allowed if the proposed connection method is technically feasible and there are no significant negative transmission or distribution system implications. In the event that the connection method is not feasible, but the request to split is still to be processed, the request will be

⁴ In both such cases developers are liable for any stranded asset costs which occur.

⁵ In the case of projects in the queue a node on the Transmission System may not yet have been assigned. Consequently this rule will be applied based on SO judgement as to the node where the project(s) might be assigned.

⁶ See glossary for acceptable security.

- assessed based on the remaining criteria and the connection method subsequently advised by the SO in the normal manner;
- ix. It is consistent with other regulated policies on matters such as capacity relocation, capacity merging, generation technology, internal networks and connection point changes;
 - x. The split projects shall result in two or more legal contracts and at least two connection points;
 - xi. The information provided with the request to split is complete, clear and unambiguous in respect of the location, nature and company details of the projects resulting from the split;
 - xii. Where a change is requested which could in the SOs view impact on the timing of the completion of the connection method of another member of a subgroup, or subgroups, which have been established as part of the current or previous Gates, the written and unconditional consent of all the members of each subgroup must be provided. Subgroups are deemed to be established on the "Gate Start Date"; and
 - xiii. Splitting will only be allowed up to the pre-construction payment stage.

4 Temporary Connections

4.1 Outline

Temporary connections occur where projects are connected to either the transmission or distribution systems in advance of their permanent shallow connection works (including distribution deep reinforcements) being completed. The ruleset under which temporary connections were facilitated in Gate 2 was as follows:

- (i) Temporary works had to be part of permanent shallow connection method.
- (ii) Temporary offers were issued on a non-firm basis;
- (iii) Sufficient power control mechanisms in place prior to the temporary connection being energised; and
- (iv) Customers were made aware that it was assumed that temporary connections would be constrained first.

For clarity, any parties who received a connection offer in Gate 2, or parties who received a connection offer under the non-GPA process prior to the Gate State Date for Gate 3 (16 December 2008) will be deemed eligible or otherwise for a temporary connection under the Gate 2 rule-set.

In relation to whether temporary connections should be facilitated in Gate 3 there are a number of matters to take into account, namely:

- The additional level of constraint a temporary connection may impose in a particular area;
- The possibility of increased levels of stranded assets across the system which may subsequently impact on the delivery of other infrastructure. This impact can be as a result of line routes or station access being compromised, or indeed a general erosion of community goodwill due to what could be perceived as short-term system planning; and
- Where there is a practical limit to the number of temporary connections that can be given at a node, how temporary capacity is identified and assigned between these applicants.

In the interests of facilitating applicants, the SOs are in favour of allowing temporary connections for Gate 3 where possible, subject to the ruleset outlined below. However it should be noted the facilitation of temporary connections for Gate 3 will, in the majority of cases, increase the level of constraints and curtailment across the system for generators particularly those in the same general area. This is due to the fact that the assumptions used as the basis of constraint and curtailment studies for Gate 3 did not factor in the facilitation of temporary connections. In accordance with the proposed decision on the SEM Principles of Dispatch and Market Scheduling those worst affected would be non-firm applicants that would be further constrained due to the earlier connections being granted to those availing of temporary connections without receiving market payments for that additional constraint.

4.2 Ruleset

- Temporary connections will generally only be offered where there is expected to be a material difference between the leadtime for the permanent and temporary connections⁷;
- Temporary connections will only be progressed based on a permanent connection agreement being already in place;
- The temporary connection gives rise to minimal additional stranded shallow works;
- Prior to offer acceptance the customer must put in place security covering the cost of any shared assets on their permanent connection
- Usual system studies apply e.g. connection is technically feasible;

⁷ E.g. a period of 6 months is unlikely to be considered to be a material difference in the leadtimes between the temporary and permanent connections.

- The temporary connection must be built in accordance with the relevant transmission or distribution design standards;
- The temporary connection does not unduly increase the risk to security of supply for customers in the region;
- Prior to energisation of a temporary connection, the customer must provide security for any remaining connection charges on their permanent connection;
- In the event additional stranded shallow assets are required – over and above those required for the permanent connection - these are to be paid for in full at acceptance of temporary contract;
- The customer will be liable for decommissioning and reinstatement costs associated with any stranded assets;
- The temporary connection can be accommodated in the overall work programme without impacting negatively on other system users;
- Any entitlement of the customer, connecting on a temporary basis, to market “constraint payments” in a range of commonly occurring circumstances will be subject to the outcome of a forthcoming consultation on this and associated matters; and
- The connection agreement for the temporary works will be terminated once the permanent connection is energised and the terms of the temporary agreement have been satisfied or otherwise transferred to the permanent connection agreement.

4.3 Determining temporary capacity available

In instances where the generation quantity that could avail of a temporary connection exceeds the available **local** capacity on the electricity system it is proposed that the SOs will calculate a conceivable amount of generation that can be installed as per the ruleset below.

Ruleset where temporary applicants exceed local capacity:

The Gate 3 wind generation availing of the temporary connection will control their export up to the temporary MEC offered by the SOs which will be calculated to result in a 0% **local** constraint **under normal intact system operating conditions** for the permanent connecting parties on the local network. The System Operators will calculate the available temporary installed capacity⁸ based on allowing an additional 10% local constraint for the temporary connecting parties. For clarity all temporary connecting parties will share this 10% additional local constraint. This approach for temporary connections allows the applicants to increase their capacity factor while minimising the impact on local constraints being experienced by local pre-Gate 3 generation, or Gate 3

⁸ Up to the maximum installed capacity associated with the applicant’s permanent MEC.

projects on permanent connections. For this approach to work the export limit will apply across all projects availing of a temporary connection.

The final party qualifying for a temporary connection may install up to the level associated with their permanent MEC even if a much reduced temporary MEC is available. This will not impact on the local constraints but naturally will contribute to wider constraints/curtailment as outlined in the Installed Capacity section of this paper.

It should be noted that, as with permanent connections, generation availing of the temporary connection will be subject to normal constraints and/or curtailment associated with non-firm connections in addition to the local constraints referred to above.

Conditions:

- Temporary connections will be processed like a connection offer modification and will be subject to the SOs carrying out the necessary technical studies to ensure there are no issues with the connection. For the purposes of clarity, these detailed studies could and likely will in some instances reduce the available capacity for temporary connections and in some extreme instances issues may arise which render the temporary connection impossible; and
- Where conventional plant exists on the local network, the impact on this plant as a result of the temporary connection will need to be assessed to ensure the required operational flexibility on the system is not compromised (may reduce the available capacity).

Calculation of the generation quantity that will result in a study based 0% **local** constraint:

- Capacity of limiting circuit considering N-1 contingency;
- + (plus) allowable emergency overload capability;
- + (plus) summer valley load;
- (minus) pre-Gate 3 generation; and
- (minus) Gate 3 applicants on permanent connections (advised by CER that Gate 3 on permanent connections have preferential rights to capacity over Gate 3 on temporary connections).

For the avoidance of doubt the **local** network is defined as:

Transmission

- a) The network between two meshed points on the transmission system where a meshed point is a station with three or more transmission circuits (none of which are tails).
- b) In the case of a tail into a meshed point, the tail itself would be considered the local network.

Distribution

- c) The distribution network through which the power generated must flow in order to reach the local transmission network as defined above.
- d) In the case of distribution network, where normal and standby feeding arrangements are involved, this definition applies to both.

The above calculations will not involve the running of a constraints study and will be based on a desktop calculation followed by a scaling, based on an average wind profile, to calculate the additional installed capacity that will result in the 10% reduction on their energy output as a result of this export limit.

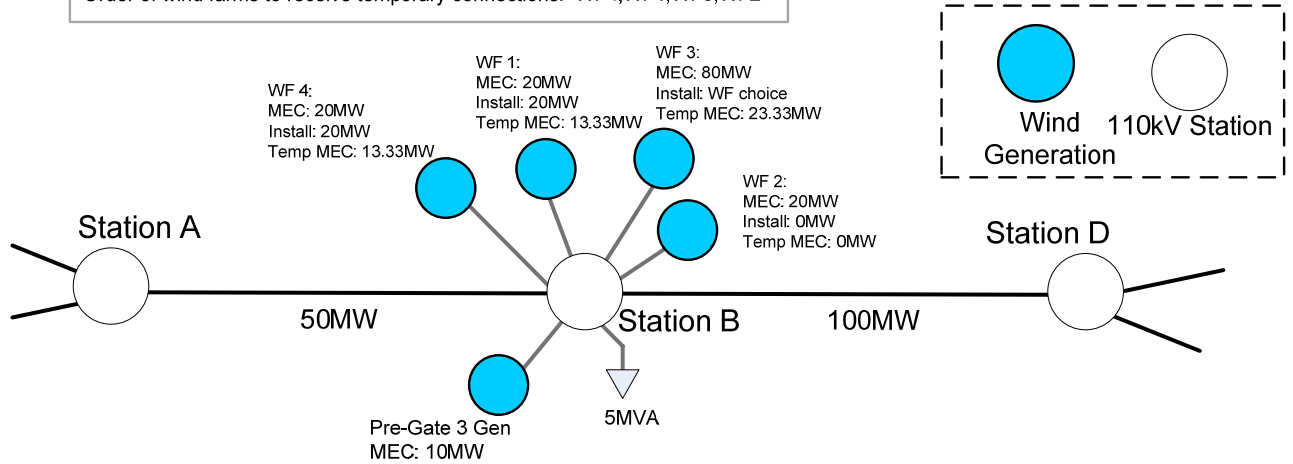
Notes:

- Generators not adhering to the MEC limit will be disconnected.

Worked Example

Sample Case

Capacity of limiting circuit considering N-1 contingency:	=50MW
+ (plus) allowable emergency overload capability:	50+5=55MW
+ (plus) summer valley load:	55+5=60MW
- (minus) pre-Gate 3 wind generation	60-10=50MW
- (minus) Gate 3 applicants on permanent connections:	50-0=50MW
Temporary Export Capacity (TEC) of Group:	50MW
Installed Capacity of Group (for purposes of example only):	75MW
Order of wind farms to receive temporary connections: WF4,WF1,WF3,WF2	



Please note that all installed capacities referred to in this example may be changed subject to the ruleset on increasing an applicant’s installed capacity.

Based on above example, allowing 10% local constraint for the temporary connecting subgroup, the figures are as follows:

- Temporary Export Capacity of Group: 50MW. This temporary capacity, to be assigned as follows:
 - WF4 13.33MW
 - WF1 13.33MW
 - WF3 23.33MW

- Probable Installed Capacity of Group is 75MW. This is assumed to be broken down as follows:
 - WF4 20MW
 - WF1 20MW
 - WF3 35MW

If the 10% local constraint for the temporary connecting subgroup above was not to be applied the figures would be:

- Temporary Export Capacity of Group is 50MW (no change). This temporary capacity, however, to be assigned as follows:
 - WF4 20MW
 - WF1 20MW
 - WF3 10MW

- Probable Installed Capacity of Group is 50MW. This is assumed to be broken down as follows:
 - WF4 20MW
 - WF1 20MW
 - WF3 10MW

Therefore in this example there would be approximately 25MW less temporary installed capacity.

The example shows that this approach for temporary connections allows the applicants to increase their capacity factor while minimising the impact on local constraints being experienced by local pre-Gate 3 generation and Gate 3 permanent connections. For this approach to work the export limit giving effect to the 10% energy output will apply across all projects availing of a temporary connection.

4.4 Eligibility for a temporary connection

As per CER direction, where the demand for a temporary connection exceeds available capacity, the allocation of any temporary capacity shall be as per the criteria set out below:

- A window for submitting applications for temporary connections will be open for a period of 3 months, commencing no earlier than the 50th business day after the issue of the last connection offer to the relevant group. For clarity the issuance of the final constraint report will not be considered as required for the purposes of the temporary connections.
- A temporary connection application can only be submitted once a generator has executed the permanent connection offer.
- The temporary connection application must be accompanied by full and valid planning permission for the project up to the capacity being applied for in the temporary connection application.
- Temporary capacity will be allocated on a first come first serve basis, based on date order of application received for the temporary connection. Where more than one application for temporary access is received on the same day priority will be assigned according to the original "initial application received"⁹ date.
- The temporary connection offer once issued will be valid for a period of 1 month.
- Financial security covering that generator's portion of the shared asset costs associated with their permanent connection will be required upon accepting a temporary connection offer.
- Where temporary connection offers are not accepted within this timeframe, the capacity will then be allocated to the next applicant in the queue for temporary connection (i.e. being the next applicant based on date order of temporary connection application accompanied by full planning permission).

The only exception with respect to the ruleset regarding application for temporary connection will be projects which are defined as being in the public interest. Should such a project apply the SO's will refer to CER for a decision as to whether to prioritise a project for connection where it believes it is in the public interest.

4.5 Process

Once determined to be eligible for a temporary connection as per the CER criteria set out above the request will be processed as set out below:

⁹ as defined in CER/09/169 i.e. date at which the application was received regardless of whether all necessary information was provided)

1. Where any applicants in a particular local area have expressed an interest in a temporary connection the System Operators shall write to all generators in that local area, that are at that point potentially eligible, to notify them that a temporary connection may be available and to confirm the start date for the relevant temporary connection window.
2. The notification will set out the specific requirements to enter the window however as per the sections above the requirements shall be at least:
 - valid planning
 - an executed connection offer
 - a reduced criteria generation application form (NC5A for distribution applicants), (along with any preferred connection method)
 - application fee¹⁰
3. A window will not open until at least 20 business days after the last notification to the potentially eligible generators has issued. Once a window has been closed and the eligible applicants have been identified the applicants shall be processed in accordance with the standard modifications ruleset subject to the changes as set out above.
4. In the event that a temporary offer is not accepted the System Operators will contact the next applicant(s) who was/were potentially eligible and once the applicant(s) confirms that it wishes to proceed and has paid the appropriate fee then the System Operators will process the next applicant(s).

4.6 Parties to whom the above ruleset applies

Any parties who received a connection offer in Gate 3 or are due to receive a connection offer in Gate 3, or parties who received a connection offer under the non-GPA process after the Gate Start Date for Gate 3¹¹, or are due to receive a connection offer under the non-GPA process prior to the Gate State Date for Gate 4 will be assessed for eligibility for a temporary connection under the Gate 3 rule-set stated above.

¹⁰ Any parties unsuccessful following the first assessment will be refunded the fee, less a processing payment of €1000. In the exceptional case where an applicant is deemed eligible in the first instance, but following detailed studies their connection cannot be accommodated, the application fee will not be refundable

¹¹ 16 December 2008

5 Combination of Offers

5.1 Outline

During Gate 3 applicants who submitted multiple combinations of one application were facilitated by the SOs issuing multiple offers. This facilitation was with a view to ensuring that such a practice accommodated the individual customer circumstances but did not in any way disadvantage the End-User. However following the consultation, the SOs consider that:

1. There is little demand for such an option going forward
2. The security required to ensure that the End-User was protected is considerable

With the progression of group processing and charging rules it is considered not to be appropriate to offer this option any longer especially as the option of 'phasing' projects exists. As a consequence, this option will not be facilitated in future Gates.

In relation to those parties in Gate 3 who were offered this option, as per CER direction, this option will be facilitated without the need for additional bonds at offer acceptance.

6 Hybrid Plant

6.1 Outline

This section sets out the treatment of generation applications which have two or more different types of technology within the project's site whereby the different types of generator are connecting via the project's internal network to a single connection point on the distribution or transmission systems. In setting out this section, the SOs are conscious that this is a fledgling policy area and one that could evolve considerably in the coming years. To date the SOs have had limited practical experience in terms of dealing with Hybrid applications.

Solely for the purposes of this paper, however, the SOs consider:

- *A Hybrid Project* to be any project that has multiple generators which utilise multiple primary energy sources or technology types in generating power.
- *A Hybrid Generator* is a single generator which utilises multiple primary energy sources or technology types in generating power.

These are effectively working definitions and are subject to European and Irish legislative direction in the area.

6.2 Criteria for Eligibility

In Summer 2009, CER published a decision paper (CER/09/099) on the Treatment of small, renewable and low Carbon Generators outside the Group Processing Approach.

This allowed for certain projects to receive a connection offer, albeit on the basis of non-firm access to the Transmission System, without waiting to be included in the next Gate under the Group Processing Approach.

A Hybrid Project or a Hybrid Generator will generally be considered eligible to be treated outside a Gate (based on technology type) only where both technologies are eligible. Otherwise a Hybrid Project or a Hybrid Generator will be processed as part of the next gate or other processing system as directed by the CER at that time¹².

A subset of this issue to be considered is how to actually assess a Hybrid Project or a Hybrid Generator, including where one technology is renewable and the other is conventional. While at present there is one queue for conventional and renewable, there were two distinct sets of criteria for assessing eligibility for Gate 3. Any criteria for determining eligibility for future Gates must consider the treatment of hybrids.

6.3 Processing a Hybrid Project or a Hybrid Generator

In designing and analysing the network required for any given project to connect, the engineering and technical analysis is premised upon a given generator with a given export capability and technology. Similar assumptions are made regarding all other generators currently connected to, or contracted to, the transmission system (and indirectly to the transmission system through the distribution system). From this the SOs can deduce a set of possible scenarios or likely running regime for the plant which enables the SOs to plan the network efficiently. It will also dictate how certain plant types, be they renewable or conventional, are treated in the single market. For the avoidance of doubt installing capacity above MEC shall be assessed by the SOs on a case by case basis for Hybrid Projects.

6.3.1 Ruleset for a Hybrid Project

- Hybrids shall be subject to the basic principal of central dispatch under the Grid Code and must be disaggregated by technology/fuel type;
- Hybrids will be treated as one single application and the MEC supplied for the overall project shall be used for any load flow, short circuit, voltage and dynamic analysis;
- The combined load factor of the plant shall be taken into consideration for constraints and curtailment studies and any optimised planning studies;

¹² Obviously a hybrid project or generator may qualify based on other criteria for eligibility.

- The application fee for a hybrid shall be based on the MEC and whether shallow works are required per normal generation application fee rules. An additional fee, based on additional work undertaken, to be advised by the relevant SO, to account for the complexity of dealing with such applications shall be levied by the SOs on a case by case basis;
- Capacity bonds will be on the basis of the projects MEC rather than installed capacity;
- Where a project applies to add another generation technology after the initial application is received it shall be considered in line with the Change in Generation Type provisions in Section 9 and/or Change in Installed Capacity provisions in Section 2 above; and
- Additional equipment for Hybrid Projects and Hybrid Generators such as disturbance recorders may also be required due to the nature of the technologies proposed. These requirements shall be confirmed at the time of connection offer.

The above ruleset shall also be considered for a Hybrid Generator but as the operation of the plant could be quite different other considerations or changes to the above rules may be necessary.

6.4 Process:

Applicants shall apply for connection of a Hybrid Project or a Hybrid Generator in the same way as normal capacity applications or modifications to existing offers/agreements.

7 Changes in MEC

7.1 Decrease in MEC of Application in Queue

Prior to inclusion in a Gate (or other regulated application processing system) and studies commencing, a project can reduce their MEC without losing their place in the queue; however there will be no refund of application fees already paid.

7.2 Decrease in MEC within a Gate

As a general rule, once a project has been included in a Gate, reductions in MECs will not be allowed, unless by specific CER direction. The purpose of this provision is to:

- Encourage customers to be realistic when applying for an MEC.
- Prevent the need to re-study network connections prior to offer issuance.

- Prevent a situation where other projects are disadvantaged (for example by increasing their cost share of shared assets).

However, in certain circumstances it may be prudent to allow a reduction in MEC that would be beneficial to a project(s) without having a negative impact on other projects, or other System Users. This scenario can generally occur where a project does not share connection assets with other projects. However in some cases a subgroup can benefit from the reduction, and are also agreeable to the change. It is generally expected that reductions in MEC will have a positive effect on scheduled FAQs and constraints for other projects within a Gate. Therefore the rules under which a reduction in MEC may be allowed are as follows.

7.2.1 Ruleset:

- The reduction in MEC can be accommodated without negatively impacting on costs for other parties;
- The reduction in MEC can be accommodated by the SOs without negatively impacting on the delivery date of connection offers within a Gate;
- A capacity payment of €5,000 per MW will apply where a request to reduce is received post studies commencing for a Gate. No fee would apply if a change was made pre-inclusion in a Gate;
- A processing fee will be charged to reflect the additional work undertaken by the SOs; and
- Both the processing fee and the capacity payment to be made prior to the processing of the reduction in MEC.

7.2.2 Process

In order to avoid any delays to studies, which may result in an application to reduce MEC pre-offer issue being rejected, any request to reduce the MEC should be accompanied by a payment equal to €5000 per MW. Should the reduction not be allowable pre-offer issuance this payment will be refunded.

7.3 Decrease in MEC Post Offer Issue (Pre-Capacity Bond)

As per CER 09/138, the CER allowed all renewable generators (with an MEC>5MW) and all generators that are connecting to the distribution system (with an MEC>5MW) the opportunity to reduce their MEC (for the purposes of the capacity bond) by any amount, post offer acceptance and up to the start of construction. A charge of €10,000 per MW would be levied upon these projects who may wish to reduce their MEC up to the start of construction.

For clarity, as a result of a modification request to reduce the MEC, it may be possible to facilitate a change to dedicated connection works and a reduced cost as a result.

However the party reducing their MEC will still be liable for any shared costs based on their original MEC.

7.4 Increase in MEC

Should a project wish to increase its MEC, they will be treated as new applications per the process appropriate to the application type.

- The appropriate application fee will apply to the incremental increase in MEC.
- The increase in MEC may be issued in form or amendment to contract or new contract depending on the particular circumstance. They will typically be treated as an amendment where possible in order to reduce documentation for all parties.

7.5 Applications withdrawn pre-offer issuance

If a member of a subgroup withdraws from the subgroup (i.e. reduces their MEC to zero) prior to offers being issued for that sub-group, studies will be undertaken based on the revised subgroup and costs will be distributed on the basis of the new configuration of the subgroup. Please note that – in the event that connection method studies have already been undertaken at the time the sub-group member withdraws – this is very likely to result in delays in offer issuance to the remaining members of the sub-group and probably other members of the Gate due to a cascading effect. To avoid excessive delays in offer issuance Transmission deep re-enforcements will not be revised in the first instance to take account of the project withdrawal, unless the withdrawal from a Gate is so material that a complete restudy is necessary. In the normal course, Transmission Deep Reinforcements will be revised in the optimisation phase of the Gate, post offer acceptance.

7.6 Process

Projects shall apply for a change in MEC in the same way as normal capacity applications or modifications to existing offers/agreements as per the standard practice.

8 Phasing of Connections

8.1 Outline

On occasion customers may wish to defer connection of part of their capacity, developing the project over a number of phases as opposed to one. The SOs consider that, in the context of some cases where there are relatively long lead times to achieve firm access, such requests are reasonable. There should be no negative impact on other customers awaiting offers provided all phases are complete prior to the phased project achieving firm access.

8.2 Phases identified at application stage

Phases can be identified pre- or post offer issuance, but in any event the request to phase a project must be advised of no later than the second stage payment, the timing of which shall be as per the payment schedule in a customer's connection agreement. Regardless of the phasing proposed, the connection method design, associated charges and timing of the connection method would be as per the final MEC. In other words the SOs will charge for, and commence work on the assets required for, the final connection method, and no phases can be energised until the final connection method is in place¹³.

However the 'Use-it or Lose it' provision of CER/09/138 (set out in Section 16 on capacity bonds) and the capacity bonds required would be based on the phases and the timing proposed of each phase.

In relation to when the capacity bonds should be put in place the following is proposed:

Phase One: The capacity bond for phase one will be based on the MEC for phase one, and will be required as per the timing set out in Section 16. In the event that 95% of the MEC of phase one is not achieved within 12 months of energisation, the MEC for phase one (and the total MEC) will be reduced.

Phase Two and subsequent phases: Capacity bond for subsequent phases to be equal to the incremental MEC being allowed and to be put in place the earlier of:

- 3 months before increase in MEC allowed.
- Prior to release of the capacity bond for the previous phase.

Once shallow works¹⁴ are complete and firm access is available for a given project, then the capacity bond drawdown for all phases and associated 'use-it or lose-it policy' as per CER/09/138 will apply within one year of both firm access being available and shallow works being complete. This is in order to avoid the hoarding of Transmission capacity which is what the capacity bond is designed to prevent.

8.3 Ruleset

- Capacity bonds to be put in place linked to the respective phases.
- Capacity bond drawdown provisions as set out in CER/09/138 and 'use it or lose it' provisions apply per phase, i.e. the MEC apportioned to a particular phase must be reached 12 months after energisation or a proportion of the capacity bond will be drawn down and the MEC of that particular phase re-set to the value consistent with capacity tests carried out by the SOs.

¹³ Except in the context of a temporary connection.

¹⁴ Including distribution deep reinforcements

- All phases to be connected once full firm access is available and shallow works are complete.
- Time between each phase to be no greater than 3 years (for the purposes of draw down of capacity bond and Use-it or lose it).
- The final connection method for the project must be built in full before phase one of the project is energised.

Some examples of how the capacity bond and use-it or lose it policy might apply are set out in Appendix 3.

9 Change of Generation Type

9.1 Introduction

On occasion requests may be submitted to replace the generation type on which an original application/offer was based, or supplement a facility with generation plant of a different technology, for example conventional with onsite wind, without increasing the original MEC in accordance with the Hybrid ruleset.

Allowing for a different type of generation is effectively changing the export profile of a generation facility. The technical characteristics and running regime associated with a certain plant type will drive certain assumptions regarding its operation and maintenance over the term of its connection agreement. A variation to the assumed regime will alter those assumptions and create a new set of parameters that must be technically, commercially and legally catered for in accordance with national and regulatory policy and objectives.

In designing and analysing the network required for any given project to connect, the engineering and technical analysis is premised upon a given generator with a given export capability and a given technology. Similar assumptions are made regarding all other generators currently connected to, or contracted to, the transmission system (and indirectly to the system through the distribution system). From this the SOs can deduce a set of possible scenarios or likely running regime for the plant which enables the SOs to plan the network efficiently.

For the purposes of this topic, the SOs have essentially split the consideration into (i) a change in type prior to energisation and (ii) a change in generation type after a facility has been energised. For reference, Appendix 4 includes a matrix indicating the changes in technology type which may be acceptable, and also some worked examples

9.2 Prior to Energisation of a Facility:

9.2.1 Outline

Prior to the energisation of a generation facility, the following ruleset will apply:

9.2.2 Ruleset

1. Changes in generation technology will generally only be processed as per a new application and be subject to the processing rules that pertain to a new application appropriate to the change in generation technology sought.

2. In certain circumstances, however, it may be possible to accommodate a change where there are not considered to be any undue adverse impacts on either system, or on other users. The conditions which may allow such a change are assessed according to the following ruleset. Where an customer may wish to change to a more efficient or different type of generating technology, for which the SOs have not studied and which the network has not been designed to accommodate, the SOs take into consideration a range of factors. These factors (set out below) being, in combination, a reasonable basis for assessment of the ability of the network to accommodate any such generation type change while also considering some of the wider policy type issues designed to promote fairness and non-discrimination:

- Where there is no appreciable anticipated increase in load factor from the old plant to the new plant, taking account of all other generation connected or contracted, which is expected to lead to significant or material additional network requirements being identified (reflecting size, running regime but also generation technology and its effect on network stability);
- Where other non firm generation connected or contracted to the system is not materially adversely affected in that the level (and in particular value) of anticipated constraints and curtailment would not rise significantly;
- Where there is a change from being renewable to non-renewable or vice versa the party has gained no material advantage over other similar applications based on the original application; and
- Where there is any change in priority dispatch status the party has gained no material advantage over other similar applications based on the original application.

9.2.3 Process

Changes in generation technology shall be applied for in the same way as any modification in that a new application form must be completed and provided along with any supporting documentation and fees required¹⁵. The SOs shall then consider, in accordance with the guidelines set out above, whether it should be processed at that time as a modification or should form part of the application queue. If it is appropriate

¹⁵ A €1000 non-refundable deposit may be required to consider whether this change can be processed as a modification..

to process as a modification then the applicant will be liable for a modification fee. The SOs will endeavour to indicate whether the application is potentially an acceptable change in generation type within 20 business days. The application will then be further assessed in accordance with the standard modification process and its acceptability for change will be confirmed during this process. If not deemed an acceptable change, the customer shall decide whether to pay the balance of the initial application fee of €7,000 and join the application queue.

If no payment is received within 20 business days the application shall be considered to be withdrawn.

If the balance of the application fee is received within 20 business days the applicant shall be deemed to have entered the queue on the date of the original application and €1000 deposit, rather than the date of payment of the initial application fee.

9.3 Post Energisation of a Facility:

9.3.1 Outline

In relation to rights where an existing and energised project may wish to transfer its access rights to a different type of generating technology for which the SOs have not studied and which the network has not been designed to accommodate, the SOs¹⁶ propose the rule set out below. These rules being, in combination, a reasonable basis for assessment of the ability of the network to accommodate any such generation type change:

9.3.2 Proposed Ruleset

- The rights attributable would not in any case exceed the MW capacity currently contracted to the site/ unit;
- That rights would be transferable such that, given all other generation connected or contracted, no significant or material additional network requirements would be expected to be identified (reflecting size, running regime but also generation technology and its effect on network stability);
- That rights would be transferable such that other non firm generation connected or contracted to the system would not be adversely affected in that the level (and in particular value) of anticipated constraints or curtailment would not rise significantly; and
- The SO would be given 2 years notice as to when a transfer of rights is scheduled by a customer to take place. A failure to do so would consequently result in delays in facilitating the transfer of rights or may mean that the network has changed to such a degree that a transfer is no longer feasible, or that the rights have been offered to another project.

9.3.3 Process

Where a project applies to change their generation type post energisation, a formal modification request under the connection agreement must be received by the SOs indicating in detail the nature of generation change requested and proposed timeframe by completing an application form. The SOs will endeavour to respond to as to whether the application is deemed an acceptable generation change within 30 business days.

10 Reprocessing Subgroups Due to Non-acceptance of Offer or Termination of Connection Agreement

10.1 Outline

This section sets out the rules and process to apply in the event an applicant drops out of a pre-defined subgroup due to non-acceptance of an offer or termination of a connection agreement. Under these circumstances, the connection method for that subgroup will be reviewed. Currently, if stranded assets are created by a project dropping out of a subgroup on this basis, the resultant increase in costs are not charged to the remainder of the subgroup¹⁷. Instead the Use of System (UoS) customer will cover the outstanding balance¹⁸. In order to minimise the potential costs to the UoS customer the SOs must review the connection method to endeavour to re-design it such that the remaining subgroup can be connected at a lower cost to the UoS Customer. In addition should the impact on the UoS customer, due to this rule, prove to be excessive, the SOs will advise the CER and it may be appropriate to revisit this basic charging principle.

The SOs are mindful that redesigns should be carried out to reduce the potential costs to the UoS customer, while not leading to suboptimal development of the transmission or distribution systems or unduly delaying the connection of the remaining members of the subgroup.

As a general principle and unless otherwise stated in the Connection Agreement, where reprocessing the subgroup results in a revised connection method or revised costs, connection offers will be re-issued to the subgroup and works will not commence until these revised offers have been accepted, rejected or lapsed. Where not all subgroup members accept their revised offer, then the original connection method will be provided, but the per MW share to the subgroup will be adjusted to reflect the new cost share¹⁹.

10.2 Ruleset

Prior to Offer Issuance

If a member of a subgroup withdraws from the subgroup prior to offers being issued for that sub-group, studies will be undertaken based on the revised subgroup and costs will be distributed on the basis of the new configuration of the subgroup. Please note that – in the event that connection method studies have already been undertaken at the time the sub-group member withdraws – this is very likely to result in delays in offer issuance

¹⁷ Under the assumption that the subgroup opted for the LCTA connection method. For further detail refer to sections 2.4-2.7.

¹⁸ Where a party relocates from a sub-group as a result of a modification, that party are still liable for the cost share of assets as per their MEC.

¹⁹ Due to reduced End-User contribution.

to the remaining members of the sub-group and probably other members of the Gate due to a cascading effect. To avoid excessive delays in offer issuance Transmission deep reinforcements will not be revised in the first instance to take account of the project withdrawal, unless the withdrawal from a Gate is so material that a complete restudy is necessary. In the normal course, Transmission deep reinforcements will be revised in the optimisation phase of the Gate, post offer acceptance.

The remaining members of the subgroup can, however, elect not to have the subgroup connection method reassessed and their offers delayed, in the event that they are willing to pay for the potential stranded asset costs resulting from the project withdrawal. The specific stranded asset costs cannot be calculated at this time if the offer schedule is to remain on track, and as such the offers will issue based on the original connection method, but with an increased per MW share.

Prior to Offer Execution (Post offer issue but prior to execution)

If a member of a subgroup withdraws from the subgroup prior to offer execution, a re-design of the connection method will take place whereby:

- The existing connection method is no longer optimal.
- The remainder of the subgroup will not be expected to cover the financial shortfall, i.e. the UoS customer would pay the difference²⁰.

The remaining members of the subgroup can however elect not to have the subgroup connection method reassessed in the event that they are willing to pay for the potential stranded asset costs.

Post Offer Execution

If a member of a subgroup withdraws or is removed from the subgroup, post offer execution, a re-design of the connection method will take place whereby:

- The existing connection method is no longer optimal.
- The connection method has not advanced to such a stage that redesigning the connection method is no longer practical e.g. materials have been procured and construction has advanced to such a stage that no appreciable cost saving would be made by the redesign for the use of system customer.
- The remainder of the subgroup will not be expected to cover the financial shortfall, i.e. the UoS customer would pay the difference.

Please note that in order to avoid excessive costs to the End-User, projects within a subgroup may not be in a position to progress – where this involves commitment to shared assets – independently of the remainder of the sub-group, as to do so may

²⁰ See sections 10.4 for more detail.

remove the option of redesigning the subgroup. However this will be assessed on a case by case basis with a view to avoiding such delays if possible.

The remaining members of the subgroup can however elect not to have the subgroup connection method reassessed in the event that they are willing to pay for the potential stranded asset costs.

10.3 Process for Redesigning Connection Methods

The process for considering the redesign of a connection method will commence once it is confirmed that a member of a subgroup is not proceeding and the subgroup does not wish to proceed with the original connection and carry the additional costs. This confirmation shall occur upon one of the following:

- A member of a subgroup's connection offer has not been executed and the relevant offer validity period has expired;
- Connection agreement has been terminated;
- Otherwise formally agreed by that member and the system operator with which that member is contracting that the project is not proceeding; or
- All other subgroup members have either accepted or rejected/terminated their connection agreement, or their offer has lapsed.

The SOs shall endeavour to process any potential redesigns within 90 business days of it being confirmed that the subgroup member is not proceeding, and all other subgroup members have indicated that they are proceeding. However customers should be aware that this may be an iterative process, where, for example, a subsequent project drops out at a later stage (e.g. 2nd stage payment) and a further redesign is necessary. This anticipated lead-time (of 90 business days) is contingent on the scale of the modifications requested at any given point in time and any Gate that may be underway at that point in time. The SOs shall however endeavour to incorporate an allowance for reprocessing subgroups due to non-acceptance or termination in its planning for modifications post Gate 3 and during subsequent Gates.

10.4 Impact on Charges to Remaining Subgroup Members

The impact on charges to the subgroup will vary depending on whether the connection method proposed is the Least Cost Connection Method (LCCM)²¹, SO preferred method, or customer requested connection method. However, where the subgroup opt for a revised LCCM (regardless of the original connection method) as a general principle the charge to the remaining members of the subgroup will be the lessor of

1. The charge which would have applied – based on the original subgroup share – had they been issued an offer based on the LCCM for the original subgroup.

²¹ See glossary for meaning of term.

2. Their share of the LCCM for the new subgroup, based on the MW of the new subgroup.

Any under-recovery will be borne by the End-User in the normal manner.

10.4.1 Least Cost Connection Method Offered

In the event that the LCCM was offered and, following reprocessing of the group, the LCCM for the remaining group is unchanged, then the cost to the remaining subgroup will remain unchanged, and the shortfall in cost will be to the account of the End-User.

In the event that a re-study identifies a new LCCM for the remaining subgroup, the SOs will in general modify the offer to reflect the new Connection Method. In the event that the new Connection Method results in a lower per MW share for the remaining subgroup members, the charge to the subgroup members will be reduced where the reduction in cost to the customer exceeds the cost of modifying the offer, as calculated by the SO on a case-by-case basis. The reduction in charge, where applicable, will be provided to the customer net of the administrative cost of modifying the offer.

For the avoidance of doubt, where the subgroup wish to proceed with the original connection method, the individual members allocated cost may increase, although the sub group may still be entitled to a contribution from the End-User.²²

10.4.2 SO Preferred Connection Method Offered

In the event that a SO preferred connection method was offered and following reprocessing of the subgroup, the SO considers that this connection method should remain unchanged (or a revised SO preferred connection method should apply), then the cost to the remaining subgroup will remain unchanged, and the shortfall in cost will be to the account of the End-User.

In the event that a re-study identifies a new LCCM for the remaining subgroup, and the SOs consider that the SO preferred is no longer appropriate, the SOs will in general modify the offer to reflect the new Connection Method. In the event that the new Connection Method results in a lower per MW share for the remaining subgroup members, the charge to the subgroup members will be reduced where the reduction in cost to the customer exceeds the cost of modifying the offer, as calculated by the SO on a case-by-case basis. The reduction in charge, where applicable, will be provided to the customer net of the administrative cost of modifying the offer.

²² Contribution to be equal to the amount the End-User would pay towards a new LCCM.

For the avoidance of doubt, where the subgroup wish to proceed with the original connection method, the individual members allocated cost may increase, although the sub group may still be entitled to a contribution¹⁵.

10.4.3 Subgroup requested Connection Method

As per revised processes for gate 3, a subgroup now have the option of agreeing a customer requested connection method, which is greater in cost that the LCCM, in advance of offer issuance.

In the event that a customer preferred connection method was offered and not all subgroup members accept, the connection will be re-processed in the usual manner as set out in 10.3 above and the SO will identify the cost to be borne by the UoS customer.

In the event that the subgroup opt to continue with the customer preferred connection method, the End-User will underwrite the cost of the defaulting subgroup member only to the extent of the cost which would have been borne had the original or revised LCCM (or revised SO preferred connection method) been built.²³ In the event that the subgroup opt to revert to the new LCCM (as now set out by the SO) their charge will be revised such that the subgroup will be liable for the lesser of:

3. The charge which would have applied – based on the original subgroup share – had they been issued an offer based on the LCCM for the original subgroup.
4. Their share of the LCCM for the new subgroup, based on the MW of the new subgroup.

Any under-recovery will be borne by the End-User in the normal manner.

10.5 Re-design to Minimise Stranded Asset Costs

Where a customer requests a modification that leads to stranded assets, re-processing to minimise stranded asset costs will be undertaken in the event that a modification request is received within twenty (20) business days of offer acceptance of the entire subgroup, and will follow the process as set out in Section 10.3 above.

In the event that stranded asset costs result from a later request, a redesign will not occur unless the subgroup as a whole agree. In the absence of a redesign, the modifying customer will be fully liable for their original amount of shared costs. In addition please

²³ In such an instance, new Connection Agreements, with revised costs will be issued. In the first instance and to avoid delays to the project progressing, the costs will be based on the total cost of the customer Requested Connection Method divided amongst the subgroup, with the End-User contribution advised when studies have been completed.

note that in the event that a redesign is driven by the need to minimise stranded assets, the cost of processing this redesign will be to the account of the modifying customer.

Where a redesign is driven both by a customer dropping out of the sub-group and a need to minimize stranded asset costs, and reduction in costs will in the first instance be to the benefit of the End-User.

11 Firm Connections to the Transmission System

11.1 Outline

Generation customers are issued with offers for connection, either directly to the transmission system, or via the distribution system, on the basis of firm access to the Transmission System. This means that infrastructure is put in place whereby the TSO can dispatch generation under a range of credible scenarios and the load can be adequately served. In recent years the TSO has facilitated firm/non-firm connections on the basis that connections could be made to the transmission system before all the required infrastructure was in place, but would be constrained when necessary. Whether a customer requests a firm or a firm/non-firm connection could have a material impact on the expected connection date for that customer's project.

An explanation of what is meant by a firm or a firm/non-firm offer are outlined below:

Firm Offer

A firm offer is as an offer that only allows a project to connect and subsequently export onto the system once its associated deep reinforcement works have been completed in full. Some customers choose this option where they wish to wait for the deep works to be completed which may improve their access to market payments. The rules relating to the Single Electricity Market (SEM) including scheduling and dispatch, constraint and curtailment, etc are available at www.sem-o.com.

Firm/Non-Firm Offer

A non-firm offer allows a project to connect and subsequently export onto the system once its associated shallow works, distribution deep reinforcements, short circuit works and other necessary works, including control systems have been completed in full²⁴, but before the load flow transmission deep reinforcements are completed. Prior to Transmission deep works being complete, the project will be considered non-firm in the SEM. The project will have firm access once their associated Transmission deep reinforcement works²⁵ have been completed in full. The rules relating to the Single

²⁴ Further information is available on CER web-site ref [cer/05/106](#); [cer/05/107](#)

²⁵ Please note that while Transmission deep works are identified at the time of offer issuance these works can change due to other system developments.

Electricity Market (SEM) including scheduling and dispatch, constraint and curtailment, etc are available at www.sem-o.com.

Further information in relation to the above can be found in CER/01/72 'Firm and Non Firm Access to the Transmission System A Direction by the CER for Electricity Regulation'.

11.2 Process

In accordance with the above the SOs shall only offer firm or firm/non-firm offers for connection to the Transmission System. Unless otherwise directed, the SOs will issue non-firm offers, which in turn, will become firm once the Transmission Deep Reinforcements associated with the connection have been completed in full. Customers will be required to decide whether their connection is to proceed on a firm or non-firm basis either prior to offer issuance or at offer acceptance. In the absence of a customer decision, the SOs will assume that the connection will be on the basis of firm access to the Transmission System.

12 Term

12.1 Term

The existing distribution connection agreement has a twenty year term (from the date of connection of the project) with a one year rolling extension in the absence of termination provisions being exercised by either party to the contract. This extension is, however, subject to the conditions set out below.

Also subject to the conditions as set out below, an automatic roll-over facility has been introduced for transmission connection agreements, whereby the term will roll over after the end of the standard 20 year term as set out in the connection agreement until either party to the contract serves notice of termination on the other of no less than two (2) years.

12.2 Extension of Term

Charges

In the event that the term of the Connection Agreement is to be extended beyond the term originally contemplated then the SOs shall reassess the connection and consider whether additional charges should be imposed based on the extended term. The recalculation of all charges shall be in accordance with the relevant General Conditions.

Additional costs which may be incurred by the relevant SO and which may be appropriate to pass through to the project may include the following.

- Additional works driven by changes in standards.
- Additional works driven by the need to connect additional generators into the area under the Group Processing Approach.
- Any costs associated with extension of leasehold title.

Costs which are covered by annual charges, be they Operation and Maintenance Charges or UoS charges, include:

- costs of fault repair.
- costs of scheduled replacement.

Subject to there being no change to the existing conditions for connection it is intended to calculate the above charges on the same basis that current charges are calculated, i.e., calculated over a 20 year period.

Access Rights

In the interests of making best use of existing assets, a connected project would have first refusal on the capacity for which it is contracted. For planning purposes and unless otherwise instructed the SOs will assume the connected project will, by default, avail of the automatic roll-over facility at the end of its 20 year term. This will form the basis for the various studies carried out by the SOs, based on existing plant and characteristics. Should a project not wish to continue to avail of its MEC beyond the 20 year term of its contract based on its existing plant and characteristics, the intention to terminate the connection agreement should be submitted in accordance with the terms of the contract, or prior to finalising the list of applicants for the next Gate, whichever is earlier. This notice period is important in order to allow the SOs to ensure its studies and assumptions for the system are as accurate as possible. Any capacity not contracted shall be made available to other applicants.

12.3 Process

At the end of the 20 year distribution or transmission term, the connection agreement will automatically roll-over annually unless either party chooses to invoke the termination clause of the respective agreement. Should an applicant not wish to continue to operate its assigned access quantity at end of the 20 year term of its contract based on its existing plant and characteristics, it must serve a notice of termination on the relevant SO or notify the relevant SO that the term should be shorter.

13 Extension of Offer Validity Period

13.1 Outline

The validity period for connection offers is as set out in the connection offer issued.

13.2 Ruleset

A request to extend the offer validity period must demonstrate a reasonable case for consideration, where individual circumstances that would warrant an extension period were somewhat exceptional. The ruleset under which an extension would be granted, would be as follows:

- The request does not delay the start of a Gate or other process for assessing new capacity applications as directed by the CER;
- Does not delay the commencement of works for other parties; and
- The request for an extension must be made a minimum of 5 business days prior to the expiry date of the offer.

13.3 Process

A request for an extension of an offer validity period will be processed following a submission in writing, outlining in detail the rationale for the extension.

The SOs will endeavour to return a decision to the applicant as to whether an extension will be granted within a five (5) business day period. In some cases, however, a longer time period will be required to assess the likely impact on other parties. In any event the offer will not lapse until at least 5 business days after a decision has been returned.

The length of extension granted will be at the discretion of the SOs, however, will typically not exceed thirty five (35) consecutive business days.

14 Non-LCCM Planning Related Charging Issues

The Group Processing Approach enables the SOs to process a pre-defined number of connection offers concurrently, rather than having to treat each application on an individual independent basis, as had been the case before Group Processing was introduced. The SOs jointly specify the connection method which is to be employed.

By default, the SOs will determine an LCCM when looking at an individual or subgroup connection.

The SOs may specify a connection method different from the LCCM as being a more appropriate connection method for an individual or sub-group. This proposed connection will take into account, amongst other things, wider system development, the costs of associated transmission system deep reinforcements, the possibility of future connections at a subsequent date and an overall prudent medium term approach to system planning. Such a connection method is referred to as the SOs Preferred Connection Method.

To the extent the SOs Preferred Connection Method is more expensive than the LCCM then the additional cost will be recovered through from the UoS customer, rather than from the connecting parties, subject to usual regulatory scrutiny.

A customer or subgroup may also request a connection method different from the LCCM or SO Preferred Connection method. Assuming the proposed method is technically acceptable, and is not contrary to the longer term prudent development of the transmission or distribution systems the SOs will proceed on this basis.

To the extent the Customer Preferred Connection Method is more expensive than the LCCM, then the customer or subgroup will be liable for the additional cost, as per section 2.4 of the SOs Charging and Rebating Principles Paper 2010 (CER 10/085).

Where the SO Preferred Connection Method is being pursued, the SOs policy, in the interest of minimising costs to the End-User, is to use overhead line where possible. In the event that the SO is unsuccessful in obtaining planning permission for overhead line the SOs would seek first to remedy the matter that caused the rejection to the original planning request and in certain circumstances may consider a change to the connection method and the submission of an alternative overhead line planning application. However, in the event the SOs are ultimately unsuccessful with a revised planning submission, it may be deemed necessary to pursue an underground cable option.

The primary factor in deeming it necessary to pursue underground cable would be the specific environmental factors that are unique to a particular connection method and

specifically the Environmental Impact Assessment (EIA) that is required for the vast majority of overhead line projects.

In certain circumstances, as set out in Section 2.4 of the Joint Charging Paper, the subgroup will be eligible for a contribution from the End-User towards cabling the SO preferred connection method.

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. However, at a minimum where a build is being undertaken on a contestable basis it must be demonstrated that reasonable efforts were made to address issues raised in a failed planning application, by way of a planning re-submission, in relation to overhead line. The SO will consider the decision on planning permission, and may elect for a change to the connection method and request the submission of a planning application for an alternative overhead line solution.

15 Internal Network

15.1 Outline

An internal network is the electrical network that a customer builds, owns and operates within the boundaries of a project. There are some cases where this internal network can be quite extensive and can potentially interfere with more optimal wider electrical system development. Requests leading to lengthy internal networks or changes to the connection point, inclusive of mergers, would be allowed only if the proposal is technically feasible and there are no significant negative system, planning or environmental implications associated with the proposed connection method and associated internal network.

The primary issue for consideration is whether the existence of internal network impacts in any way on the ability of the SOs to develop the electricity system in an economic and efficient fashion, or impacts on the SOs ability to connect future customers.

The SOs will consider the extent to which the proposed internal network traverses areas where (i) demand customers or other generators already exist and (ii) are likely to emerge in the future.

15.2 Ruleset

- The proposed connection is in line with the general principles of the Group Processing Approach.

- Where the proposed network results from a change in connection method, and the change impacts on shared assets the alternative connection must at a minimum be agreed by the group sharing those assets. Any stranded asset cost incurred would be to the account of the project requesting the change.
- The proposed connection is consistent with the long term development of the system.
- Similarly, a proposed internal network, or connection point change would not be granted should it be seen to be adversely impacting upon the ability of the SOs to obtain necessary planning consents for other system developments in either the short or medium term and in particular:
 - The proposed internal network is not adversely affecting scarce station, or line routing capacity for potential future system development to the benefit of all customers.
 - The proposed internal network is not likely to lead to higher charges for potential future connecting customers.
 - The proposed internal network is not likely to increase costs for the End User.
 - The revised connection does not result in a change of the designated connection point on the meshed transmission system originally chosen by the SOs.
- If the requested connection point is not considered appropriate by either or both of the SOs, the relevant SO will determine an appropriate connection point in accordance with the criteria outlined above. The customer will be advised of this and given the opportunity to agree the exact details of the new proposed connection point.

15.3 Process

Applicants shall apply for a change to their connection point in the same way as normal capacity applications or modifications to existing offers/agreements as per the standard practice.

16 MEC Capacity Bond

16.1 Outline

As per CER 09/138, the MEC Capacity Bond is designed to prevent the hoarding of transmission capacity and also, in the event that a capacity bond is drawn down, contribute towards the cost of transmission deep reinforcements which may have commenced. The requirements with regard to this bond are as set out in CER 09\138.

Conventional Plant and Capacity Bonds

As per the Transmission Connection Agreement Review Consultation (CER/10/232), it is the intention to extend the capacity bond provisions, detailed in CER 09/138, to conventional generators, subject to final CER approval.

16.2 Ruleset

- The capacity bond is required to be posted by both distribution and transmission connected developers.
- Capacity bonds will not be required for projects with an MEC of less than or equal to 5MW or as directed by CER.
- For all generators connecting to the Distribution System, and for renewable generators connecting to the Transmission System²⁶, the capacity bond to be posted is as follows:
 - The earlier date of two years post planning permission date, or at the payment, prior to commissioning and energisation, for Distribution connected applicants.
 - The earlier date of two years post Consents Issue Date (CID) or no less than one month prior to energisation for transmission connected applicants.
 - Please note that any delay in providing the capacity bond will result in a delay in energisation.
 - The value of the capacity bond to be based on €25,000/MW of MEC²⁷.

At present, for conventional generators and interconnectors connecting to the Transmission System, a capacity bond is to be posted at offer acceptance stage²³. The value of the bond to be €10,000/MW of MEC²⁸. For interconnectors, the capacity bond will be calculated based on export rather than import capacity.

However the TSO proposes to align the capacity bonding arrangements for conventional plant to those outlined for renewables as per the arrangements detailed in CER 09/138.

16.3 Drawdown and Use-it or Lose-it

The process for drawing down on the capacity bond is as set out in detail in CER decision paper CER\09\138. However the basic principles are as follows:

- In the event that 95% of MEC is not achieved by 1 year post energisation, a portion of the capacity bond will be drawn down, and the MEC reset to the maximum output of the generator over the course of that year.

²⁶ This may change based on outcome of Transmission Connection Agreement Review Consultation (CER/10/232),

²⁷ Where the MEC has been reduced pre-construction, and a payment of €10,000/MW made, the capacity bond will be based on the lower MEC

²⁸ Bonding arrangements for conventional and renewable may yet align.

- In the event that an MEC reduction request is processed after the capacity bond has been put in place, a portion of the bond will be drawn down.
- A party can request a return of the bond prior to 12 months post –energisation. In the event that an Operational Certificate has issued and a minimum of 95% of the MEC has been achieved at the time of the request, the bond can then be returned.
- In the event that an Operational certificate has not been issued within 4 years of energisation:
 - The full capacity bond will be drawn down²⁹
 - The connection agreement will be terminated.

17 Capacity Relocation

Capacity relocation is where an applicant requests a change to the location details (the 'Change) - specifically the location of the generation facility - supplied on the application on which their offer was based or which is being processed or which is holding a place in the connection queue. This section complements section 3 – on merging and splitting – and section 15 on internal network.

As a general rule, where work has progressed relating to the construction of assets to connect a generator any request to relocate will be at SO discretion, but subject to the rules and conditions which follow, as appropriate. Should the relocation be allowed then any costs incurred on the project to date, and which are no longer of use when connecting to the new location, will be to the account of the customer requesting the relocation in the usual manner.

17.1 Rule Set

Where an applicant requests to relocate part or all of their project from that stated in the application form and on which they hold their place in the queue, or on which a connection offer was based, the request will be allowed subject to the following rules (where applicable). Please also refer to the examples in Appendix 5:

- i. The Change does not result in a re-designation of the meshed (looped) node³⁰ on the transmission system into which either the generation facility connects directly (examples 1 and 4) or (if connected via tail-feed) into which the tail-fed circuit (example 3 and 5) connects, except as set out in rule ix);³¹

²⁹ Partial drawdown of the bond each year up to the 4 year mark.

³⁰ For the purposes of this rule-set, a meshed (or looped) node is considered to be a transmission station which has two or more circuits connecting that station to other parts of the transmission system.

³¹ In the case of projects in the queue, a node on the Transmission System may not yet have been assigned. Consequently this rule will be applied based on SO judgement.

- ii. The change and resulting connection method does not undermine their eligibility for processing³². This condition does not apply to applications in the queue (“Queued Application”) awaiting processing e.g. those who have not been selected for processing in a Gate. Where the change means that they would no longer have qualified as per the original criteria applied, then the project will be re-assessed to determine if is eligible for processing under other criteria;
- iii. In relation to capacity relocation requests which are also accompanied by specific connection method proposals, the relocation will only be allowed if the proposed connection method is technically feasible and there are no significant negative transmission or distribution system implications. In the event that the connection method is not feasible, but the applicant still wishes to proceed with the relocation, the request will be assessed based on the remaining criteria and a feasible connection method will be advised by the System Operator in the normal manner;
- iv. Where the proposed new location³³ coincides with the location of a Queued Application, or contracted project, then neither project will be progressed until such time as the developers have resolved the issue with the landowner(s) involved. Alternatively, evidence can be provided by both parties advising that the facilities can be developed side by side³⁴ and that the specific turbine locations for both sites are different even if the site boundary is now the same;
- v. In accordance and consistent with the Commission’s Direction on Gate 3 and related matters (CER/08/260) applications for relocation must provide confirmation in writing (and witnessed by a solicitor) of the acquisition of any necessary landowner consent(s) to access the land where it proposes to relocate the project specified in the application for relocation;
- vi. The information provided by the applicant(s) is complete, clear and unambiguous;
- vii. It is consistent with the long term development of the system including, but not limited to:

³² i.e. if based on the new location they would not have been eligible for a Gate, then a request to relocate will mean or have meant disqualification from that Gate. An example would be where a project qualified for a Gate on the basis of being an extension and the relocation meant it would no longer be treated as an extension.

³³ Geographical location of the generator

³⁴ Evidence to consist of site layout maps overlaid on an 1:50000 Ordnance Survey map or a similar appropriate scale showing before and after as a minimum. It should also show if the Change is replacing any existing connection application.

1. Not adversely impacting upon the ability of the System Operators to obtain necessary planning consents for other system developments in either the short or medium term.
 2. Not adversely affecting scarce station, or line routing capacity for potential future system development to the benefit of all customers.
 3. Not likely to increase costs for the End User.
- viii. Where a Change is requested which could in the System Operators view impact on the timing of the completion of the connection method of another member of a subgroup, or subgroups, which have been established as part of the current or previous Gates, the written and unconditional consent³⁵ of all the members of each subgroup must be provided. Subgroups are deemed to be established on the date upon which a final direction to commence a Gate is issued by the Commission or some other date as specified by the Commission (the “**Gate Start Date**”):
- ix. The reason for the requested capacity relocation is outlined in detail along with relevant and appropriate evidence to support the applicant’s position that a capacity relocation is needed;
- x. The generation type originally specified in the application form shall remain consistent. A process for changing the generation type shall be consulted upon separately in the forthcoming Connection Offer Process and Policy Paper; and
- xi. In cases where rule (i) above does not allow the relocation of generator capacity but the System Operators determine that there is negligible impact on the transmission and distribution system power flows, the System Operators may allow capacity relocation to take place. Where the System Operators believe that there will be an appreciable impact on the transmission or distribution systems or is otherwise contrary to the intent of the capacity relocation rule-set, the request will be rejected.

In the event that a request to relocate is deemed to be acceptable by the relevant System Operator under the above criteria, then it will only be processed following submission of a revised application form or connection agreement modification application, as appropriate. In addition, and even in the case where an offer has yet to be issued, an appropriate fee will apply to cover any additional costs required to process

³⁵ This is probably only likely to be required where an applicant is sharing assets as part of an existing subgroup or will be sharing assets in a new subgroup.

the Change and will be levied in accordance with the standard practice by the relevant System Operator.

18 Alternative Connection Method

18.1 Outline

On occasion an alternative connection method to that offered by the SO may be requested. The reasons and rationale for this vary. In general, the SOs are open to accommodating such connections, where feasible.

18.2 Ruleset:

Requests for alternative connection methods by connecting customers shall generally be accommodated by the SOs where it meets the criteria set to below:

- It is technically feasible and there are no negative significant system, planning or environmental implications associated with the proposed connection method;
- It is in line with the general principles of the Group Processing Approach;
- Where the change impacts on shared assets any costs impact shall be to the account of the party requesting the change;
- Where the change impacts on shared assets any impact other than cost – for example an impact on the timeline for delivery - must be agreed in writing by all projects affected;
- It is consistent with the long term development of the system including, but not limited to:
 - Not adversely impacting upon the ability of the SOs to obtain necessary planning consents for other system developments in either the short or medium term.
 - Not adversely affecting scarce station, or line routing capacity for potential future system development to the benefit of all customers.
 - Not likely to lead to higher charges for existing or connecting customers which includes those within the Gate being processed at the time of the request.
 - In the event that the change proposed might lead to a delay in connection of other projects, any projects affected must advise their agreement in writing
 - Not likely to increase costs for the End User.
 - Not resulting in a change of the designated connection point on the meshed transmission system originally chosen by the SO.
- The project will be liable for any additional cost to the system operator associated with its connection method;
- In the event that the requested connection method change involves the project no longer being part of the subgroup determined by the system operator, it should pay

as if it were a member of that subgroup. Once all offers have been accepted, rejected or lapsed it may be that the subgroup connection arrangements can be re-optimised such that the 'stranded asset' charge payable by those who have left the subgroup is reduced. However this will follow the process set out in Section 10. In addition, any re-optimising of the subgroup will, in the first instance, be to the benefit of the End-User.

18.3 Process

Applicants shall apply for an alternative connection method in the same way as normal capacity applications or modifications to existing offers/agreements as per the standard practice.

19 Change in Application Details

19.1 Outline

Depending on the modification requested many of the same rules as above may apply. As a general rule consideration should be given to whether it is appropriate – based on the revised information – to process the application with the same deemed complete date, or whether the change means that an entirely new application is being processed. The minimum data required to allow an application to be processed is as set out below, as per the Gate 3 CER Direction 08/260:

1. Legal applicant name, address and company registration number;
2. Contact name and address;
3. Generator address and grid coordinates;
4. MEC;
5. MIC;
6. Internal network layout and major equipment location (e.g. turbines, stations, etc) on a Discovery Series 1:50000 OS Map or a similar appropriate scale;
7. Preferred connection date;
8. Preference for single or multiple connecting circuits; and,
9. Signed statement from applicant that any necessary landowner consents are in place for the project and witnessed by a solicitor.

19.2 Ruleset

In relation to items 1, 2, typically these modifications will not have any impact on others and as such can be progressed provided the correct documentation is provided. Items 3 (and 9 which is associated), 4 and 6 are covered in this paper. Items 7 and 8 most likely will have to be assessed on a case by case basis.

19.3 Process

Changing application detail requests should be applied for by submitting a revised application form to the appropriate SO. The modification fee shall be calculated and invoiced subsequently.

20 Modifications Requests

20.1 Outline

With regard to any request for modifications to connection applications, offers or agreements, the following ruleset will apply.

20.2 Ruleset

- Modification requests can generally only be facilitated before an offer issues and once an offer has been accepted.
- Modification requests based on live offers will only be considered by the SOs where there is expected to be an extensive leadtime between when an offer is issued and when the offer validity period is expected to end and where the SOs consider that processing a modification request is possible without impacting on the original validity period. For the avoidance of doubt offer validity periods will not be extended by requests for modifications.
- Any modification requested will take account of the impact on all offers issued or due to be issued before the modification has been processed – even where such offers are issued in different Gates – once the Gate Start Date has passed.
- Post the Gate Start Date there may be delays to processing of modifications (even from a previous Gate), if the request impacts on the proposed connection method of a project (or projects) being processed. This is due to the fact that studies for connection of generation need to be based on the definite network configuration
- Where a modification requested by a subgroup involving shared assets is not accepted by any project sharing those assets, the modification acceptance of all other subgroup members is invalid and as such the original connection method will be progressed.
- Where a modification gives rise to stranded assets, the rules which will apply are as set out in Section 10.5

20.3 Company Modifications

Post Connection Agreement execution the SOs have the right to issue a Company Modification, when appropriate.

In relation to Transmission connected customers clause 21.3 of the 'Transmission General Conditions of Connection and Transmission Use of System' sets out the terms and conditions which apply in this context.

In relation to Distribution connected customers clause 4.0 of the Quotation Letter sets out this requirement. For example, should there be a change to the short circuit requirements associated with a particular facility or an alteration in the shallow connection method, where such changes are required for system security and/or planning reasons, the SOs will issue a Company Modification.

Finally it is worth bearing in mind that the connection method offered for a subgroup may be revised if one or more project within a particular subgroup decides not to proceed with their connection, or reduces their MEC.

Sections 7 and 10 covers in detail how such situations are treated.

20.4 Timing and Associated Conditions

Where a request to modify any application details (referred to as the Change) is allowed under the criteria set out in any relevant section, the conditions set out below will determine whether the request can be processed in time for first offer issuance, or as a modification post offer issuance.

Case 1: If the timing of the Change request is such that this Change would result in a potential delay to any of the offer related delivery dates for any other customer, then the Change shall only be processed – as a modification to the connection offer - after the offers for all of the affected customers have issued. In this case normal modification fees and timelines will apply. A potential delay would be very likely to occur for other customers once connection studies have commenced for a particular Area.

Case 2: Change is requested before the next Gate Start Date from an applicant relating to an existing executed connection agreement. This will be processed as a standard modification to a connection agreement. The System Operators will not take into consideration any applications which do not have a signed or live connection offer.

Case 3: Change is requested before the next Gate Start Date from a Queued Applicant. The offer will be issued based on the revised information, but the original deemed complete date will apply. No agreement to the Change will be required from other potential group members and no stranded asset costs will be incurred. This is due to the fact that the sub-groups relating to this application will not yet have been established.

Case 4: Change is requested after the Gate Start Date, but connection studies not yet started. The System Operators are unlikely to have the time and resource to fully assess

the potential impacts of the 'before and after scenarios' as this would require multiple studies. If this request is to be processed as a connection offer (rather than a modification) the written and unconditional permission of each member of the existing sub-group, and any sub-group to which the application is transferring (if applicable) will be required.

Assuming full agreement:

- i. The connection offer will be issued based on the new application details
- ii. Stranded asset costs will not apply

For the avoidance of doubt full agreement must be in place within a timeframe which allows studies to proceed on the basis of the revised details.

Case 5: Change is requested at a time when Gate has commenced. Connection studies have commenced, but are deemed to be non-complex such that stranded asset costs can be assessed. The connection offer to the party requesting the Change will include the payment of stranded asset costs. The assessment of the complexity of a subgroup shall be at the sole discretion of the System Operators. Due to the natural interrelated nature of applications and subgroups in Gates to date it is considered unlikely that this scenario will arise on many occasions.

In the event the customer, upon receiving the offer, submits a subsequent request to change back to original application details in order to avoid said stranded costs this request would be considered as a modification in the normal manner.

Case 6: Change is requested at a time when Gate has commenced and connection studies have commenced, but are deemed to be complex such that stranded asset costs can't be assessed - the Change can only be processed as a modification request after connection offers for the affected subgroup/subgroups have been issued.

The above conditions can be summarised in the Table 1 below. Please note that the conditions set out in the table below pre-suppose that the change in application detail requested is allowable, and as such deals only with the timing of when the request can be processed.

Timing of request	Applicant being considered	Details of Terms which apply	Consent of Current Gate ³⁶	Stranded Asset Calculation to take account of Gate in process ³⁷
a). Before Gate commences	Executed Connection Agreement	Case 2	N	N
	Application in Queue	Case 3	N	N
b). Gate commenced; connection studies not yet commenced	Executed Connection Agreement	Case 4	Y	N
	Application in Gate	Case 4	Y	N
c). Gate commenced; connection studies commenced but deemed non-complex so that stranded asset calculation feasible	Executed Connection Agreement	Case 5	N	Y
	Application in Gate	Case 5	N	Y
d). Gate commenced; connection studies commenced and deemed complex so that an attempt to calculate stranded assets would delay Gate offers for customers	Executed Connection Agreement	Case 6	N	N
	Application in Gate	Case 6	N	N

Table 1

³⁶ “Consent of Current Gate” means each member of any sub-group established on the Gate Start Date and potentially impacted by the proposed Change must provide written consent to the change in location proceeding.

³⁷ “Gate in process” means that a Gate is being processed i.e. after a Gate Start Date but before the issuance of the final connection offer associated with that particular Gate.

In relation to d) in Table 1 above (i.e. Case 6) the Change can only be processed as a modification request after connection offers for the affected subgroup/subgroups have been issued.

For the avoidance of doubt:

- In the event that the applicant's connection method involves it no longer being part of the sub-group determined by the System Operator, it should pay as if it were a member of that group subject to the resultant group connection arrangements being re-optimised where appropriate, plus any incremental cost associated with its particular connection solution. This is further dealt with in Section 10.5 and the Joint TSO/DSO Group Processing Approach Charging and Rebating Principles³⁸.
- As already provided for in CER's Gate 3 Renewables Direction issued on the 16th December 2008:

"The system operators reserve the right to change the connection node and connection method for prudent system planning reasons; however the connection charge will be on the basis of the LCTA for the transmission subgroup."³⁹

20.5 Process

Modification requests should be applied for by submitting a revised application form to the appropriate SO. The modification fee shall be calculated and invoiced subsequently.

³⁸ This includes any on-going maintenance or other charges applicable to the applicant as if it were a part of the original sub-group.

³⁹ The Connection node referred to is the connection node on the meshed Transmission System.

Appendix 1 – Glossary of Terms

Some of the commonly used terms in this paper have been elaborated upon as below for ease of reference. For full meaning of the terms please refer to the specific connection agreement documentation or appropriate CER direction(s).

CER – means the Commission for Energy Regulation

CID – Consents Issue Date. This means the date on which Transmission System Operator and the customer have obtained the consents relating to the relevant connection works for connection of the customer's project. Further details are set out in customer's connection agreements.

Connection Queue is the queue of applications for connections which includes contact details of the customer applying for connection, the capacity requested, the location of the plant and the relevant application dates.

COPP – Connection Offer Policy and Process

FAQs – Firm Access Quantities

A *Gate* is a regulated set of customer connection applications which are chosen and assessed for connection using a defined set of eligibility criteria and processing rules.

Gate Start Date - is the date upon which a final direction to commence a Gate is issued by the CER or some other date as specified by the CER

LCCM – Least Cost Connection Method. This is typically the basis on which a customer will be charged (except where a customer requests a more expensive connection method). For DSO connections the term typically used is the Least Cost Technically Acceptable (LCTA) Connection method. This is the least cost method by which the customer, or subgroup, can be connected which can accommodate their MEC and MIC, while meeting system standards both under normal and standby feeding arrangements.⁴⁰ For TSO the LCCM is the Least Cost Chargeable (LCC) – which is the basis on which the connecting customer is charged. However the LCC may not be technically acceptable when TSO considers catering for contingencies deeper in the system.

⁴⁰ A more comprehensive definition can be found in Section 2.1 of the Joint TSO/DSO Group Processing Approach Charging and rebating Principles 2010.

MEC – Maximum Export Capacity means the maximum permissible amount of electricity that can be exported onto the Transmission System or the Distribution System at a customer's connection point expressed in MW as set out in a customer's connection agreement. Where such values require conversion from MVA or kVA to MW as appropriate a factor of 0.95 kW/kVA shall be used;

Modification is a formal request submitted by a customer to a system operator to make a change to application details, a connection offer or a connection contract.

Planning Permission Date means for the DSO the date on which the planning permissions necessary for the relevant connection works have been achieved, scope of work designs have been completed and invoice for Second Stage Payment has been issued.

SOs – means the Transmission System Operator (EirGrid) and Distribution System Operator (ESB Networks)

Security – where the document sets out the need for security this can take a number of forms

- *A bond*
- *A Parental Company Guarantee - PCG (provided the company in question has a sufficient security rating)*
- *A cash payment*

Stranded Asset Costs are connection costs, other than deep reinforcements, or shallow optimization works called for by the SOs, which are not paid for by connecting customers and have to be funded by the UoS customer.

SO Preferred Connection Method is a connection method called for by the SOs which may be more expensive in terms of shallow connection works, but is deemed to result in more optimum system development

Sub-group is a set of applicants which share shallow transmission or distribution works.

UoS Customer/End User – means the overall customer base who pay for use of the Transmission System or Distribution System for the passing of electricity through these systems and for the transportation of such electricity to the customers connection points.

Appendix 2 - Bonding arrangements

Issue	Amount of bond	Timing of bond
Splitting	The amount of the security will be calculated based on value of the shared assets, and should be equal to the amount of the biggest pre MW share	To be put in place at offer acceptance
Combination of offers	The first 'phase' of the project will be required to put in place a bond to cover the potential stranded costs of the remaining phases prior to acceptance of the connection offer	To be put in place at offer acceptance
Temporary Connections	The customer must provide security for any remaining connection charges on their permanent connection	To be put in place prior to energisation of Temporary Connection

Appendix 3 – Example of Phasing

Scenario One

- **Total MEC = 20MW**; Shallow connection works (including deep distribution works) expected to be complete in **2012**; Firm Access for total 20MW expected **2014**
- **Phase One = 10MW** – for energisation 2012 (in line with shallow works). The use it or lose it and draw down of bond rule will apply to the 10MW 12 months post energisation (2013)
- **Phase two = 10 MW** – the Use it or Lose it provision will apply to the total 20MW within one year of Firm Access – e.g. 2015.

Scenario Two

- **Total MEC = 20MW**; Shallow connection works (including deep distribution works) expected to be complete in **2016**; Firm Access for total 20MW expected **2014**
- Realistically not possible to develop in phases; the Use it or Lose it provision will apply to the total 20MW within one year of energisation – e.g. 2017.

Scenario Three

- **Total MEC = 20MW**; Shallow connection works (including deep distribution works) expected to be complete in **2012**; Firm Access for total 20MW expected **2020**
- **Phase One = 10MW** – for energisation 2012 (in line with shallow works). The use it or lose it and draw down of bond rule will apply to the 10MW 12 months post energisation
- **Phase two = 10 MW** – the Use it or Lose it provision will apply to the total 20MW within four years of energisation (i.e. phase 2 to be up and running 3 years after phase 1) – e.g. 2016.

Appendix 4 – Change of Generation Type

The SO's will consider any request for a change of generation type, within the context of whether it is a change in (i) fuel type and (ii) technology type.

Any change of generation type will be considered by the SO's on a case by case basis. The underlining principle for decision being the engineering and technical analysis assumed for a given generator with a given export capability and a given fuel and technology type.

	Technology Type											Technology Type
	Tidal	Wave	Solar	Geo	Offshore	Wind	P.Hydro	Hydro	C.Thermal	CCGT	OCGT	
OCGT	X	X	X	X	X	X	X	X	X	√	-	
CCGT	X	X	X	√	X	CbC	X	X	√	-	√	
C. Thermal	X	X	X	√	X	CbC	X	X	-	√	√	
Hydro	X	CbyC	X	X	X	CbC	√	-	X	X	X	
P. Hydro	X	X	X	X	X	CbC	-	√	X	X	X	
Wind	CbyC	CbyC	CbyC	CbyC	√	-	CbyC	CbyC	X	X	X	
Offshore	X	X	X	X	-	√	X	X	X	X	X	
Geo	CbyC	CbyC	CbyC	-	X	CbyC	CbyC	CbyC	X	X	X	
Solar	CbyC	CbyC	-	CbyC	X	CbyC	CbyC	CbyC	X	X	X	
Wave	CbyC	-	CbyC	CbyC	X	CbyC	CbyC	CbyC	X	X	X	
Tidal	-	CbyC	CbyC	CbyC	X	CbyC	CbyC	CbyC	X	X	X	

Legend:

X = Unlikely to be approved

√ = Likely to be approved

CbyC = Case by case review by the SOs

Glossary:

OCGT	Open Cycle Gas Turbine
CCGT	Closed Cycle Gas Turbine
C. Thermal	Conventional Thermal
P. Hydro	Pumped Hydro
Offshore	Offshore Wind
Geo	Geothermal unit
Wind	Onshore Wind

Worked Examples:

Example 1 – Wind to Conventional Thermal

Example one looks at a wind farm plant looking to change its generation type to that of a conventional facility, in this case a CCGT.

This is unlikely to be approved for the following reasons:

- It's a change of technology type going from renewable to conventional.
- The running regime assumptions that underpin a wind farm and conventional thermal plant are entirely different. That is, their effect and profile on the transmission system would be very different.
- A material increase in load factor would be anticipated.
- A material increase in constraint levels would be anticipated.

Example 2 – Offshore Wind to Onshore Wind

Example two looks at a wind farm plant looking to move its connection from offshore to onshore.

This would likely be approved for the following reasons:

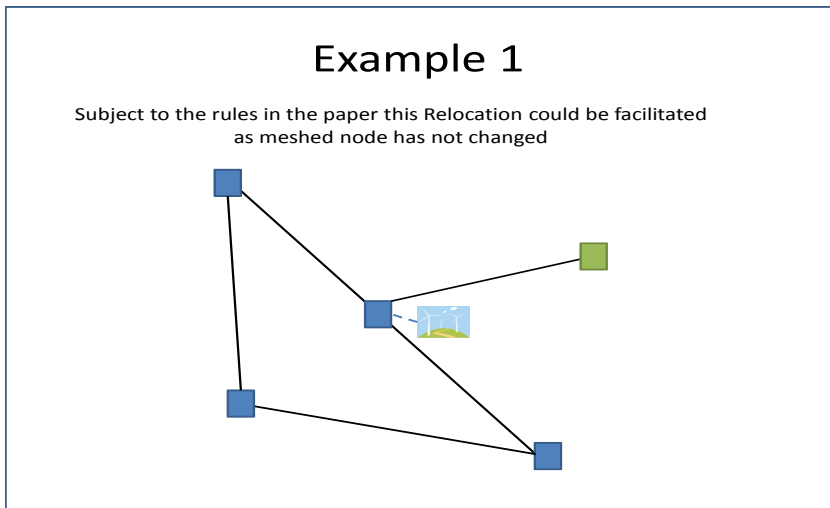
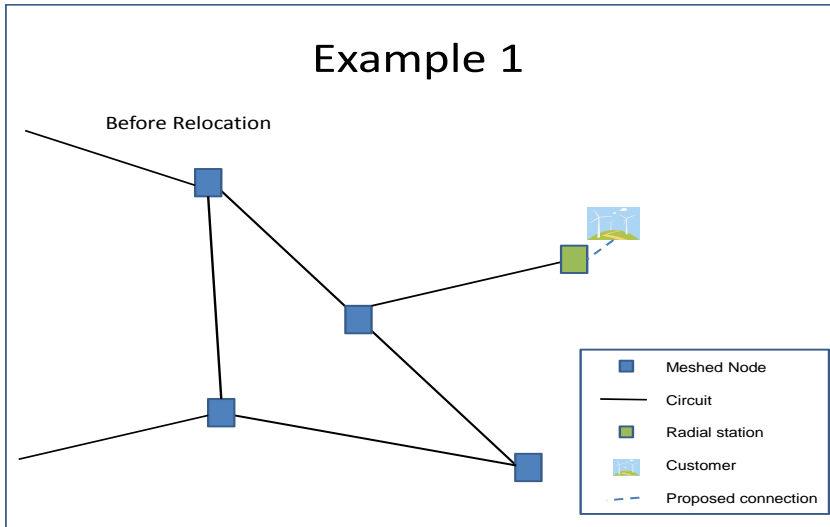
- It is not a change of technology type – the plant is still renewable.
- The running regime assumptions that underpin a wind farm, be it offshore or onshore are similar.
- A material increase in load factor would be difficult to anticipate as onshore locations will naturally have different load factors therefore it would be considered on the whole to have limited material impact..
- As per the above a material increase in constraint levels would not anticipated on the whole.

Appendix 5 – Examples with regard to capacity relocation

The following examples are provided to assist in the interpretation of the capacity relocation rules which are set out in Section 17 of the paper.

The examples illustrate some typical instances where capacity relocation may be sought. It is not, and does not aim to be, a conclusive representation of the rules or of all scenarios.

Please note that, for all examples, the rules and terms, as detailed in this document, will be applied and have precedence over what is conveyed by way of example.

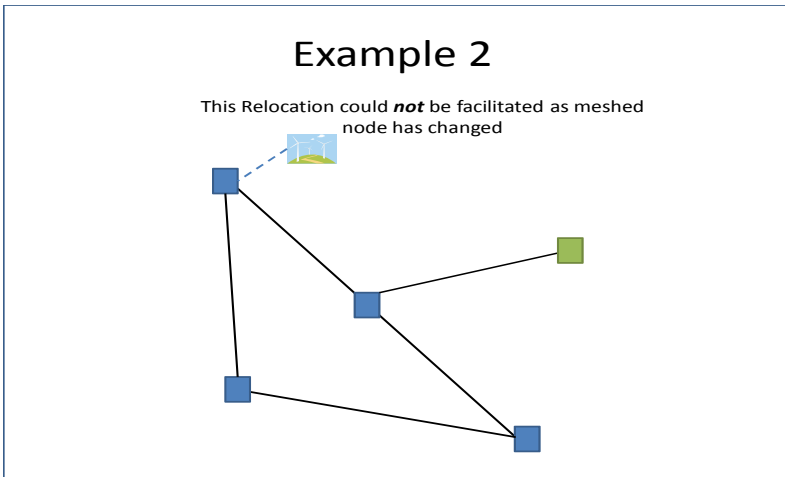
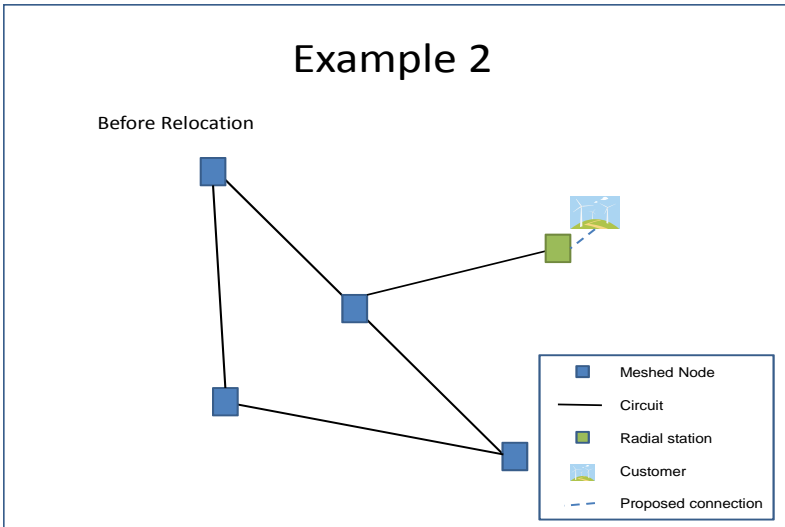


Example 1:

Related eligibility criterion: (i)

In this instance the relocation may be facilitated as it does not result in a re-designation of the meshed node.

Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criterion (i).

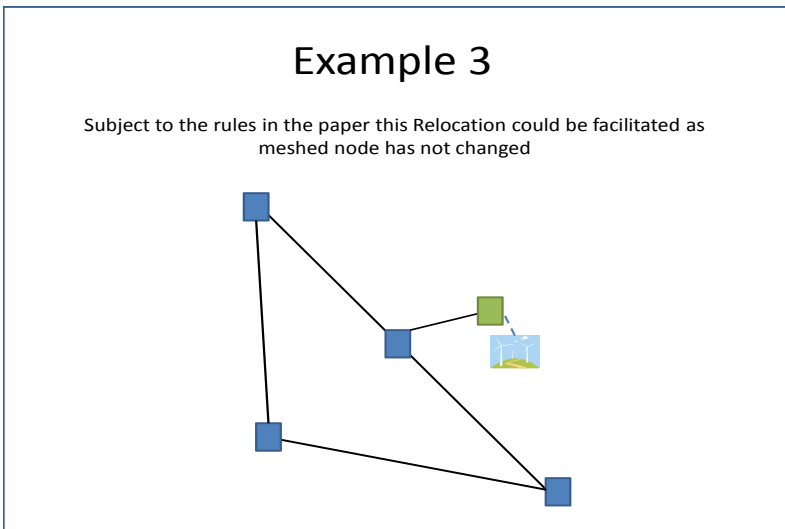
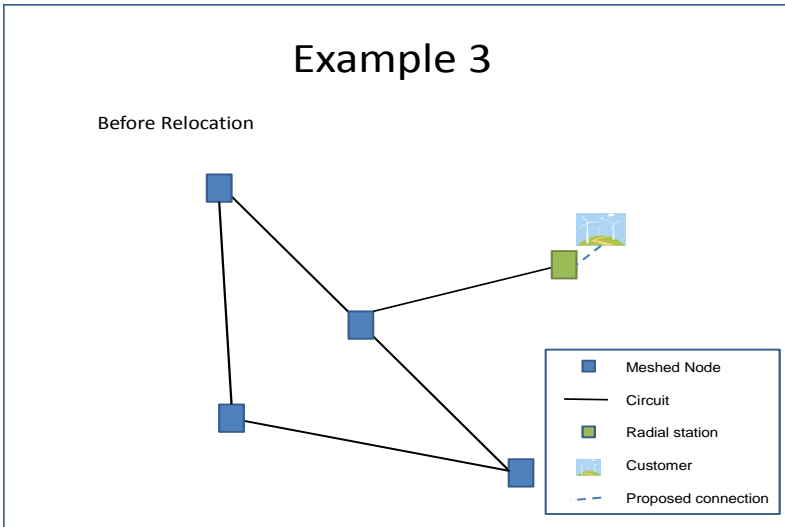


Example 2:

Related eligibility criterion: (i)

In this instance the relocation will **not** be facilitated as it does result in a re-designation of the meshed node.

Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criterion (i).

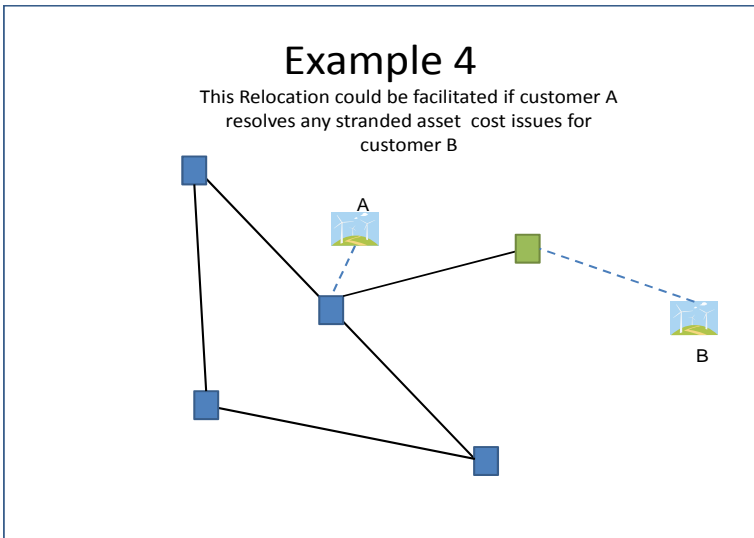
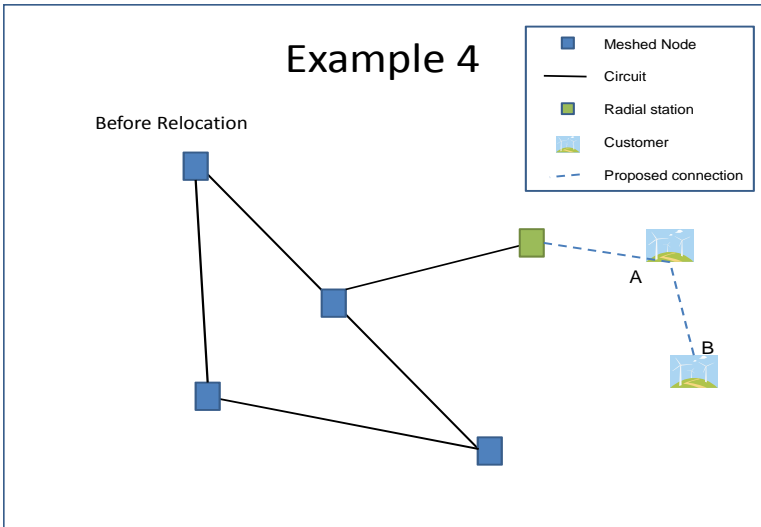


Example 3:

Related eligibility criterion: (i)

In this instance the relocation may be facilitated as it does not result in a re-designation of the meshed node. In this example, both the generation facility and the radial station are relocated closer to the meshed node.

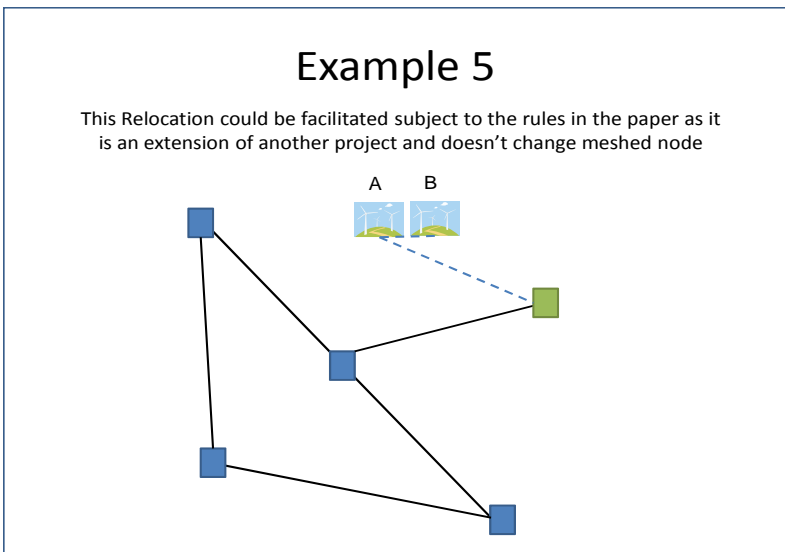
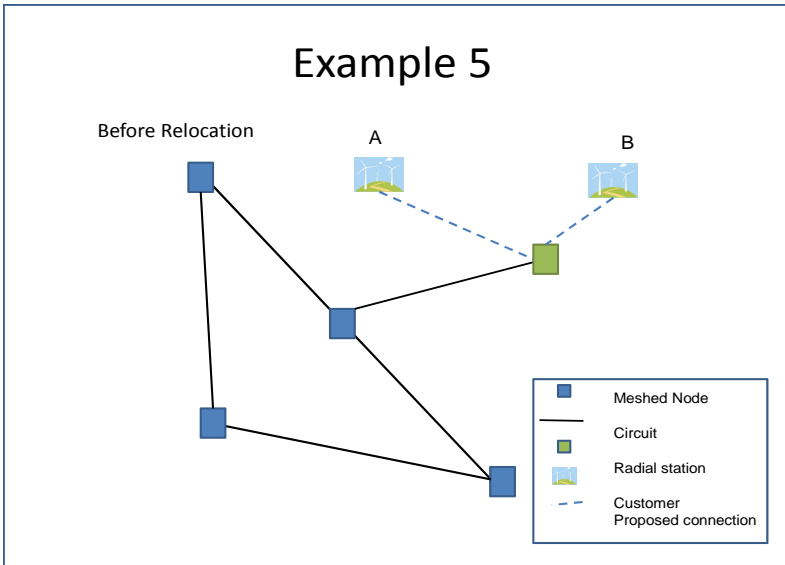
Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criterion (i).



Example 4: Related eligibility criterion: (i) & (viii)

In this instance the relocation may be facilitated if customer A resolves any stranded asset cost issues for customer B.

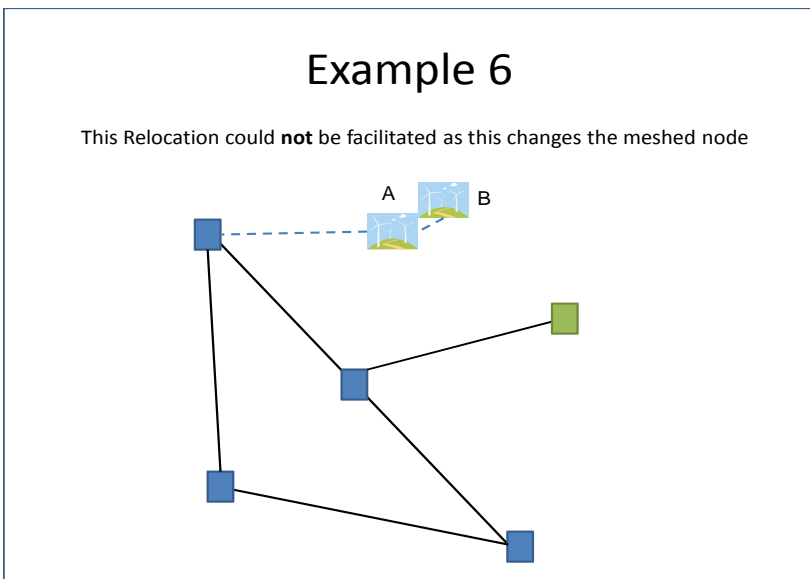
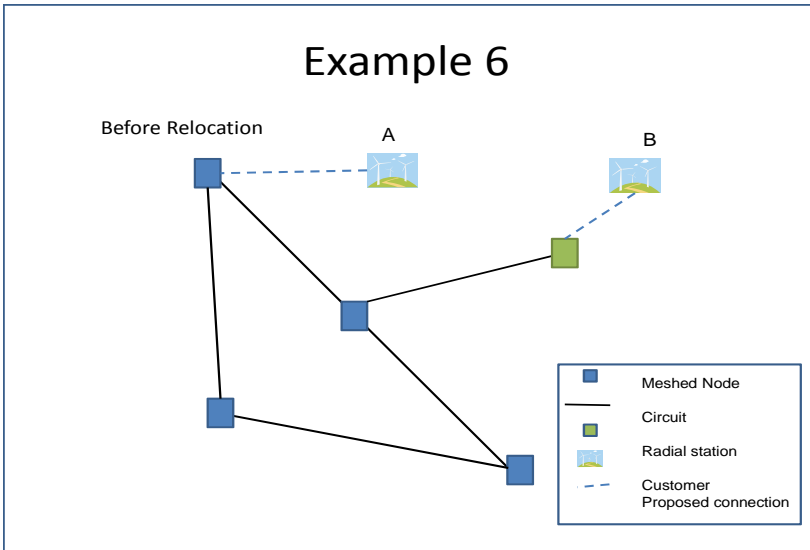
Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criteria (i) & (viii).



Example 5: Related eligibility criterion: (i)

In this instance the relocation may be facilitated.

Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criterion (i).



Example 6:

Related eligibility criterion: (i)

In this instance the relocation will **not** be facilitated as it does result in a re-designation of the meshed node.

Note: Each case will be assessed in accordance with the rules as set out in the main body of the paper. For simplicity, this example is an illustration of the application of eligibility criterion (i).