



LOW CARBON
CONTRACTS COMPANY

GUIDANCE: INSTALLED CAPACITY & FINAL INSTALLED CAPACITY

Version 2, January 2017

Contents

1. Introduction	3
2. Installed Capacity	4
3. Adjustments to Installed Capacity Estimate: Permitted reduction prior to Milestone Delivery Date	7
4. Adjustments to Installed Capacity Estimate: Relevant Construction Event	8
5. Final Installed Capacity	11
6. Frequently Asked Questions	14

1. Introduction

- 1.1** This guidance has been prepared by Low Carbon Contracts Company Ltd (“LCCC”) to support Generators in delivering the requirements of the Contract for Difference (“CFD”), specifically regarding the Installed Capacity (“IC”), the Initial Installed Capacity Estimate (“IICE”), Installed Capacity Estimate (“ICE”) and the Final Installed Capacity (“FIC”). The parts of the CFD which are relevant to this guidance are the definitions of “Installed Capacity”, “Initial Installed Capacity Estimate”, “Installed Capacity Estimate”, “Final Installed Capacity” and Conditions 5, 6 and 7 (Adjustments to Installed Capacity Estimate: Relevant Construction Event, Adjustments to Installed Capacity Estimate: Permitted reduction and Final Installed Capacity; Maximum Contract Capacity).
- 1.2** This guidance does not and is not intended to supersede or replace the provisions of the CFD. This guidance does not constitute legal, or investment advice and generators should not have reliance upon it. Generators should consult with professional advisors where they require advice whether legal or otherwise on the application of the CFD.
- 1.3** This guidance and any associated guidance is subject to change.
- 1.4** Defined terms used in this guidance and not defined herein should be given the meaning provided in the CFD (which is comprised of the CFD Agreement (being the front section) and the FIT Contract for Difference Standard Terms and Conditions as published by the Department of Energy & Climate Change on 29 August 2014 (“Conditions”). This guidance also applies to the Investment Contracts. Generators with Investment Contracts are advised to review the equivalent clauses in their contracts.
- 1.5** Generators are encouraged to consult with LCCC to discuss any queries they have at the earliest opportunity (see contact details on page 13).

2. Installed Capacity

2.1 “Installed Capacity” is defined in the CFD as:

“...the capacity of the Facility (expressed in MW) were it to be operated on a continual basis at the maximum capacity possible without causing damage to it (assuming any source of power used by it to generate electricity was available to it without interruption)”

2.2 “Facility” is (in summary terms) defined in the CFD as:

“The generating facility comprising all assets.....:

- (A) *which are used (or intended to be used) to generate or deliver electricity;*
- (B) *which were taken into account by the Generator in determining the Initial Installed Capacity Estimate (“IICE”); and*
- (C) *which are (except as otherwise agreed in writing by the CfD Counterparty) situated within the area shaded on the map provided...*

[adjusted in relation to reductions or determinations in capacity pursuant to Conditions 5, 6 and 7] and otherwise excluding all assets forming part of the Transmission System or a Distribution System¹”.

The “Facility” is further described in the “Facility Description” provided by the generator pursuant to the requirements of the Initial Conditions Precedent.

2.3 The definition of “Installed Capacity” states that the Facility must “*be operated on a continual basis*”, meaning that the capacity of all assets of the Facility which are necessary for the continuous generation of electricity should be included in determining IC, taking into consideration their positive and/or negative contribution towards generation. IC of the Facility is therefore the total capacity net of any parasitic electrical load and/or electrical losses without which the Facility would not be able to continuously generate, in accordance with all regulatory and safety requirements, as measured at the export meter. LCCC considers the export meter to be part of the Facility.

2.4 The IICE in MW is the capacity as is stated in Clause 7.1 of the CFD Agreement. The Installed Capacity Estimate (“ICE”) is the Generator’s estimate of the Installed Capacity from time to time, being the Initial Installed Capacity Estimate at the time the CFD Agreement is executed as it may

¹ The full definition of “Facility” should be referred to. The definition for all technologies is identical, other than in the case of offshore wind where the definition also refers to the situation of Offshore Transmission System assets. The definition for offshore wind is otherwise as summarised above.

be reduced in accordance with Conditions 5 and 6 (see paragraph 2.14). The ICE cannot be more than the IICE.

2.5 The parasitic electrical loads and electrical losses that should be deducted when determining the ICE are:

- a) any parasitic electrical load generated by auxiliary equipment required to operate the Facility for a sustained period of time safely and efficiently at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity); and
- b) any electrical losses within the Facility from the generating units to the export metering point when generating at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity).

2.6 Any parasitic electrical load and/or electrical losses required to operate equipment to handle or prepare a material, substance or such other matter which is not necessary for the Facility to operate should not be deducted when determining IC (see box below).

Example on parasitic electrical load and electrical losses to be deducted

The parasitic electrical load of conveyor belts used to deliver fuel for generating electricity should be deducted when determining the IC if it is necessary for the Facility to continuously generate for a sustained period at the maximum capacity possible and without causing damage to the Facility.

The parasitic electrical load of equipment that is separately metered, for example, to segregate recyclable material from fuel should not be deducted when determining the IC if it is not necessary for the Facility to continuously generate for a sustained period and without causing damage to the Facility. For example, this material could have been managed in advance without the need for the Facility to be generating.

2.7 At all relevant times the Generator must comply with the Conditions, conditions of planning consents, connection agreements and all applicable law. The capacity of grid connections, conditions of planning consent, subsequent changes to planning consents and/or any other permissions are not relevant to determination of IC under the CFD. For example, the IC cannot be less than the Required Installed Capacity (“**RIC**”) due to the Generator not having sufficient transmission or distribution capacity (adjustments to the ICE are limited to those related to Permitted reduction and Relevant Construction Event (“**RCE**”) – see sections 4 and 5 below).

- 2.8** Generators should not install, commission or operate generating assets, as part of the Facility, whose aggregate maximum generating capacity exceeds the ICE as the FIC cannot exceed the ICE.
- 2.9** For thermal technologies, the IC is the maximum nameplate capacity of the steam turbine and/or gas turbines and engines minus parasitic loads and electrical losses to and including the export meter.
- 2.10** For Combined Heat and Power (“**CHP**”) schemes the IC is the net electrical power output when the turbine or engine is in power only mode at maximum continuous rating minus parasitic loads and electrical losses to the export meter.
- 2.11** For wind technologies, the IC is the aggregate capacity of all individual wind turbine generator nameplate capacities, (including the operation of any power modes) less all parasitic electrical loads and electrical losses to and including the export meter.
- 2.12** For PV technology, the IC of the Facility is rated in MW of AC power (MW_{AC}), not MW of DC power (MW_p), since it is on this capacity rating that electricity is generated and output in MWh of the Facility measured.
- 2.13** The Operation Conditions Precedent (“**OCP**”) set out in Schedule 1 Part B, paragraph 2.1 (B) requires the Generator to commission no less than 80% of IC and provide evidence thereof. All OCPs must be satisfied to serve a valid Start Date Notice.
- 2.14** LCCC guidance on Commissioning Tests for OCP and FIC include detail of how electrical losses and parasitic loads are measured.
- 2.15** The ICE may be adjusted under Condition 5 (Adjustment to Installed Capacity Estimate: Relevant Construction Event) (“RCE-Adjusted Installed Capacity Estimate”) and/or before the Milestone Delivery Date (“MDD”) under Condition 6 (Adjustment to Installed Capacity Estimate: Permitted reduction) (the “Revised ICE”) of the Conditions. These matters are referred to further below.

3. Adjustments to Installed Capacity Estimate: Permitted reduction prior to Milestone Delivery Date

- 3.1** Condition 6 “Adjustments to Installed Capacity Estimate: Permitted reduction” sets out the process to reduce the IC by giving notice (the “**ICE Adjustment Notice**”) prior to the Milestone Delivery Date (“**MDD**”) where the Generator considers that the IC will be lower than the IICE.
- 3.2** The ICE Adjustment Notice must be given no later than the MDD (the “**ICE Adjustment Deadline**”) and must:
- a) specify the amount, in MW, by which IC will be lower than the ICE;
 - b) specify the new Installed Capacity Estimate (the “**Revised ICE**”) following the reduction. The Revised ICE cannot be less than 75% of the ICE (being the IICE or the “**RCE-Adjusted Installed Capacity Estimate**” (see section 4), if applicable);
 - c) include details of any change in assets comprising the Facility which result from the reduction to ICE; and
 - d) include such Supporting Information as the Generator considers relevant to evidence any changes to the assets comprising the Facility resulting from the reduction to ICE.
- 3.3** The Revised ICE will constitute the ICE from the date of the ICE Adjustment Notice.
- 3.4** The Generator can give an ICE Adjustment Notice on only one (1) occasion.
- 3.5** The ICE Adjustment notice is irrevocable and the Generator cannot subsequently increase ICE, placing a new upper limit on FIC, which may only be reduced in accordance with Condition 5 (Adjustments to Installed Capacity Estimate: Relevant Construction Event).

4. Adjustments to Installed Capacity Estimate: Relevant Construction Event

4.1 Condition 5 “Adjustments to Installed Capacity Estimate: Relevant Construction Event” sets out the process to give notice to reduce the ICE where the Generator considers that a Relevant Construction Event has occurred.

4.2 An RCE Notice must be issued no later than three (3) months before the Longstop Date, accompanied by a Directors’ Certificate. Once an “**RCE Notice**” is issued it is irrevocable and, if ICE is reduced, it cannot be subsequently increased.

4.3 A RCE is a Construction Event:

- a) which no generator acting in accordance with a Reasonable and Prudent Standard and having made all due and careful enquiries would have been aware, and/or of which the Generator was not aware, at the FIT CFD Application Date (being the date the FIT CFD Application was received by the Delivery Body); and
- b) which renders the development, completion, construction, conversion, installation, or commissioning of the Facility to meet the ICE uneconomic. The following are Construction Events that may qualify as Relevant Construction Events:
 - i. new or unknown fauna or flora;
 - ii. unexploded ordnance;
 - iii. mudstone;
 - iv. archaeological remains;
 - v. antiquities;
 - vi. hazardous materials; and/or
 - vii. Force Majeure.

4.4 If a Generator considers that a RCE has happened, it must give LCCC (a RCE Notice which must:

- a) specify the reduction to the ICE which the Generator considers necessary for the RCE;
- b) specify the resulting reduced ICE which shall apply if the reduction is made (an RCE-Adjusted Installed Capacity Estimate);
- c) detail any changes to the assets comprising the Facility resulting from the proposed reduction in ICE; and
- d) include such Supporting Information as the Generator considers relevant to:

- i. evidence the existence and/or occurrence of the Construction Event and the basis on which it constitutes a RCE;
 - ii. the basis on which the RCE makes reduction of ICE necessary and to the amount proposed as the RCE-Adjusted Installed Capacity Estimate; and
 - iii. detail any change to the assets comprising the Facility resulting from the proposed reduction.

- 4.5** Supporting Information must be provided by accredited professionals and to a Reasonable and Prudent Standard.

- 4.6** If a RCE happens immediately before MDD, such that the Generator is unable to issue an RCE Notice before MDD the Generator must immediately provide, in good faith, an estimate of:
 - a) the reduction to ICE necessary for the RCE; and
 - b) the RCE Adjusted Installed Capacity Estimate.

- 4.7** The Generator shall, as soon as reasonably practicable following the MDD, issue a further RCE Notice in the form provided for in Condition 5.1.

- 4.8** Upon receipt of a RCE Notice, LCCC will review the RCE Notice and within twenty (20) Business Days issue an “RCE Response Notice” to the Generator specifying whether LCCC considers that:
 - a) a RCE has or has not happened;
 - b) it accepts or does not accept the RCE-Adjusted Installed Capacity Estimate; or
 - c) it has not been provided with sufficient Supporting Information to determine either of the above or the change to the assets comprising the Facility resulting from the proposed reduction to ICE. In this circumstance LCCC will provide details of the additional Supporting Information it requires (the “**RCE Supporting Information**”).

- 4.9** If LCCC considers that an RCE has happened, it will confirm that either:
 - a) the RCE-Adjusted ICE is accepted with effect from the date of the RCE Response Notice;
or
 - b) the RCE-Adjusted ICE is not accepted and ICE shall remain unadjusted.

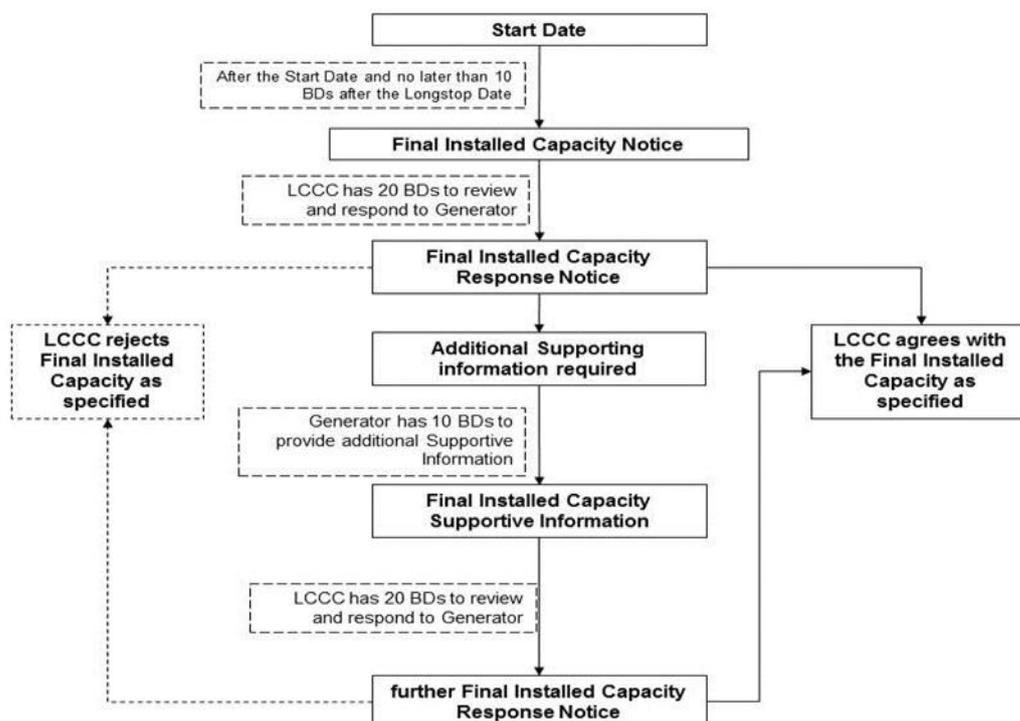
- 4.10** If LCCC does not consider that an RCE has happened, this will be stated in the RCE Response Notice and the ICE will not be adjusted unless otherwise varied by the Dispute Resolution Procedure.

- 4.11** If LCCC requests additional RCE Supporting Information the Generator will provide it as soon as reasonably practicable and in any event within ten (10) Business Days after receipt of the RCE Response Notice, or such other timescale given by LCCC in its RCE Response Notice.
- 4.12** Once the RCE Supporting Information is received, LCCC will review it and respond to the Generator within ten (10) Business Days, specifying whether LCCC considers that an RCE has or has not happened and whether LCCC accepts or does not accept the RCE-Adjusted Installed Capacity Estimate (a “**Further RCE Response Notice**”).

5. Final Installed Capacity

5.1 Condition 7 “Final Installed Capacity; Maximum Contract Capacity” sets out the process through which the Generator must give notice following the Start Date and in any event no later than ten business days after the Longstop Date to specify the IC that has been Commissioned.

5.2 Figure 1 below provides an overview of the contractual process for determining FIC:



5.3 The Final Installed Capacity Notice shall specify the FIC, being the IC which has been Commissioned at the date of the notice.

5.4 The FIC shall not exceed ICE (as may be formally adjusted in accordance with Conditions).

5.5 The FIC shall not be less than the Required Installed Capacity (“RIC”). The RIC is set out in clause 7.2 of the CFD Agreement and must be not less than:-

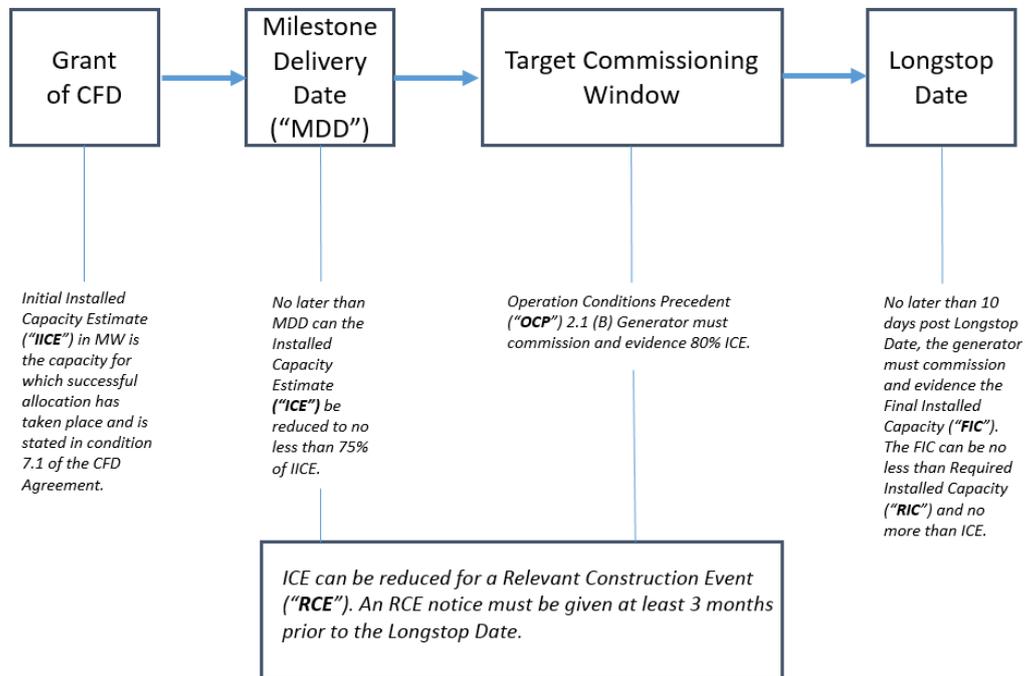
- a) 85% of the ICE for offshore wind (other than an “**Eligible Low Capacity Facility**”).
- b) 95% of the ICE for all other technologies (other than Eligible Low Capacity Facilities); or
- c) in the case of an Eligible Low Capacity Facility that is:

- i. offshore wind, the lower of (i) 85% and (ii) the ICE less the size (expressed in MW) of one of the Facility's turbines;
- ii. onshore wind, the lower of (i) 95% and (ii) the ICE less the size (expressed in MW) of one of the Facility's turbines; and
- iii. tidal range, tidal stream or wave, the lower of (i) 95% and (ii) the ICE less the size (expressed in MW) of one of the Facility's generation engines.

An Eligible Low Capacity Facility is a Facility (i) which has an ICE not greater than thirty (30) MW; and (ii) is offshore wind, onshore wind, tidal range, tidal stream or wave.

- 5.6** For all technologies, Commissioning and reliability tests should be performed and evidence provided to the satisfaction of LCCC to confirm FIC Commissioned and that the Facility can achieve and operate at a net IC no less than the RIC and no greater than the ICE.
- 5.7** The Final Installed Capacity Notice should include such Supporting Information as the Generator considers relevant to its determination of the FIC. Details on Commissioning Tests and Supporting Information are available from guidance on OCP and also LCCC's Commissioning requirements in relation to the relevant technology.
- 5.8** The Final Installed Capacity Notice must be accompanied by a Directors' Certificate confirming that it and any Supporting Information supplied by the Generator is true, complete and accurate.
- 5.9** Failing to provide a Final Installed Capacity Notice on or prior to the date ten (10) Business Days after the Longstop Date is a Termination Event under Condition 53.1(D).
- 5.10** Providing a Final Installed Capacity Notice indicating FIC lower than RIC is a Termination Event under Condition 53.1 (D).
- 5.11** Without prejudice to LCCC's rights to terminate, as described by 5.9 and 5.10 above, if the Generator does not give a Final Installed Capacity Notice by the prescribed deadline, the FIC will be deemed to be 80% of the ICE. This is, of course, assuming that the generator has passed its OCPs in relation to commissioning such capacity.

5.12 Figure 2 below provides an overview of how the IICE may be changed:



Example: Installed Capacity Estimate; Required Installed Capacity; and Final Installed Capacity

An onshore Facility with an Initial Installed Capacity Estimate ("IICE") of 160 MW has before the Milestone Delivery Date ("MDD") adjusted the Installed Capacity Estimate ("ICE") to 120 MW (the Revised ICE).

Consequentially, the Required Installed Capacity ("RIC") is 114MW, being 95% of the Revised ICE.

Feedback

If you have any feedback on this guidance, please send your comments to

contractmanagement@lowcarboncontracts.uk

Issued: January 2017

END

Frequently Asked Questions

1. Can the Initial Installed Capacity Estimate be changed?

Yes, the Initial Installed Capacity Estimate (“IICE”) can be reduced in advance of the Milestone Delivery Date (MDD) but to no less than 75% of the IICE as a Permitted reduction by giving notice prior to the MDD. IICE may also be reduced for a Relevant Construction Event. Please refer to Conditions 5 and 6 of the Conditions (Adjustments to Installed Capacity Estimate: Relevant Construction Event and Adjustments to Installed Capacity Estimate: Permitted reduction).

2. Is the Installed Capacity a gross or net?

The IICE, Installed Capacity (IC) and Final Installed Capacity (FIC) in MW are all expressed as net. Any parasitic electrical load and/or electrical losses as measured at the export meter without which the Facility would not be able to continuously generate should be deducted to calculate IICE, IC and FIC.

3. What parasitic electrical loads and electrical losses are included in determining the net capacity?

The parasitic electrical loads and electrical losses that should be deducted when determining the ICE are:

- a) *any parasitic electrical load generated by auxiliary equipment required to operate the Facility for a sustained period of time safely and efficiently at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity);*
- b) *any electrical losses within the Facility from the generating units to the export metering point when generating at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity); and*

- c) *any parasitic electrical load and/or electrical losses required to operate equipment to handle or prepare a material, substance or such other matter which is not necessary for the Facility to operate should not be deducted when determining IC.*

4. Is the Installed Capacity determined by the name plate capacity of individual wind turbines or their maximum capacity in power modes?

The IICE is the capacity in MW for which successful allocation has taken place and is stated in clause 7.1 of the CFD Agreement. The IICE is informed by the aggregate of the nameplate capacity/specification of generating assets comprising the Facility. The Generator should be aware of the requirement not to exceed the FIC on final commissioning which will be determined by Commissioning Tests.

5. Can output exceed the contract capacity?

FIC shall not exceed the ICE. The Generator is entitled to receive settlement payments up to an output that corresponds to the Maximum Contract Capacity. The Maximum Contract Capacity is the ICE until the FIC, and then it is the FIC.

6. Can additional capacity be installed using a separate meter?

No. FIC shall not exceed ICE. Additional generating assets that are separately metered and not a part of the Facility are not subject to the CFD and to all intents and purposes are distinct from the Facility and any obligations LCCC has under the CFD.

7. Can Generators overbuild and/or use larger turbines, thereby exceeding the ICE and/or the FIC?

Generators should not overbuild or install turbines whose maximum generating capacity, in aggregate across the Facility, exceeds the ICE. Please note in this regard that the FIC cannot exceed the ICE. The ICE of necessity cannot be more than the IICE. The Ice is the IICE as reduced in accordance with Conditions 5 and 6.

8. What relevance do other consents, such as connection agreements and planning consents have to the Installed Capacity?

The Generator must at all times comply with the Conditions. The Generator must at all times comply with all Laws and Directives, promptly obtain and comply with all Required Authorisations (including planning consents) and at all times comply with all terms of those Industry Documents to which it is a party.