The Incremental Entry Capacity Release Methodology Statement

Gas TCMF

05th July 2007

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Content

- What is the Incremental Entry Capacity Release Methodology Statement (IECR)?
- What's new?
- What is the Methodology?
- Should Entry Capacity Substitutions be treated differently?

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National Grid's GT Licence

- Special Condition C15 states that ….
  - ….the Licensee shall prepare …. an incremental entry capacity release methodology statement setting out …. the methodology by which it will determine whether to make incremental entry capacity available for sale to gas shippers.
- Incremental Entry Capacity is capacity in excess of "Obligated NTS Entry Capacity".
- Put simply, the IECR is the document that describes the process by which Users can request "new" entry capacity in the knowledge that NG will accept the request.

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What's New for 2007?

- As a result of TPCR National Grid NTS has new rights and obligations
  - Investment Lead times
  - Entry Capacity Substitution
- New Pricing Methodology
  - Transcost replaced by Transportation & Tariff models
- Format changed and references updated.

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Investment Lead Times

- Investment Lead times
  - The normal “default” period for release of incremental capacity has increased from 36 to 42 months from the 1st day of the month following the end of the Annual Invitation Period, i.e. from 1st April.
  - Facility to release capacity earlier or later than the default -“Permits”. Process details to be developed and communicated.
  - Accelerated release.

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Entry Capacity Substitution

- National Grid is obliged to use reasonable endeavours to substitute entry capacity.
- Entry Capacity Substitution means "*the process by which unsold non-incremental obligated entry capacity is moved from one or more NTS entry points to meet demand for incremental obligated entry capacity at another NTS entry point*"; and
- With the objective of: "*ensuring that substitution is effected in a manner which minimises the costs associated with funded obligated entry capacity*"
  - i.e. minimising the amount of investment required by utilising unsold obligated entry capacity at an ASEP as an alternative to investment.

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The Transportation Model

- Implemented following consultation and Ofgem's non-veto of GCM01.
- Replaces Transcost as tool to calculate LRMCs for "base" quantities and hence to determine reserve (and P_0) prices.
- Also used to calculate LRMCs for incremental quantities and hence to determine step prices.
- Subsequent consultation, GCM06, considered effect of "spare" capacity. Implementation reduces, for relevant entry points, the P_0 price. This reduction has NOT been fed through to the determination of incremental step prices.

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Decision Making Methodology

- Based on Users indicated demand
- Where supported by unequivocal User commitment.
- Test relies upon comparison of the *estimated cost to provide incremental capacity* against Users' commitment (accepted bids) to use the incremental capacity.
  - For new ASEPs an estimate of the cost of the connecting pipeline (if provided by NG) is included in the test.

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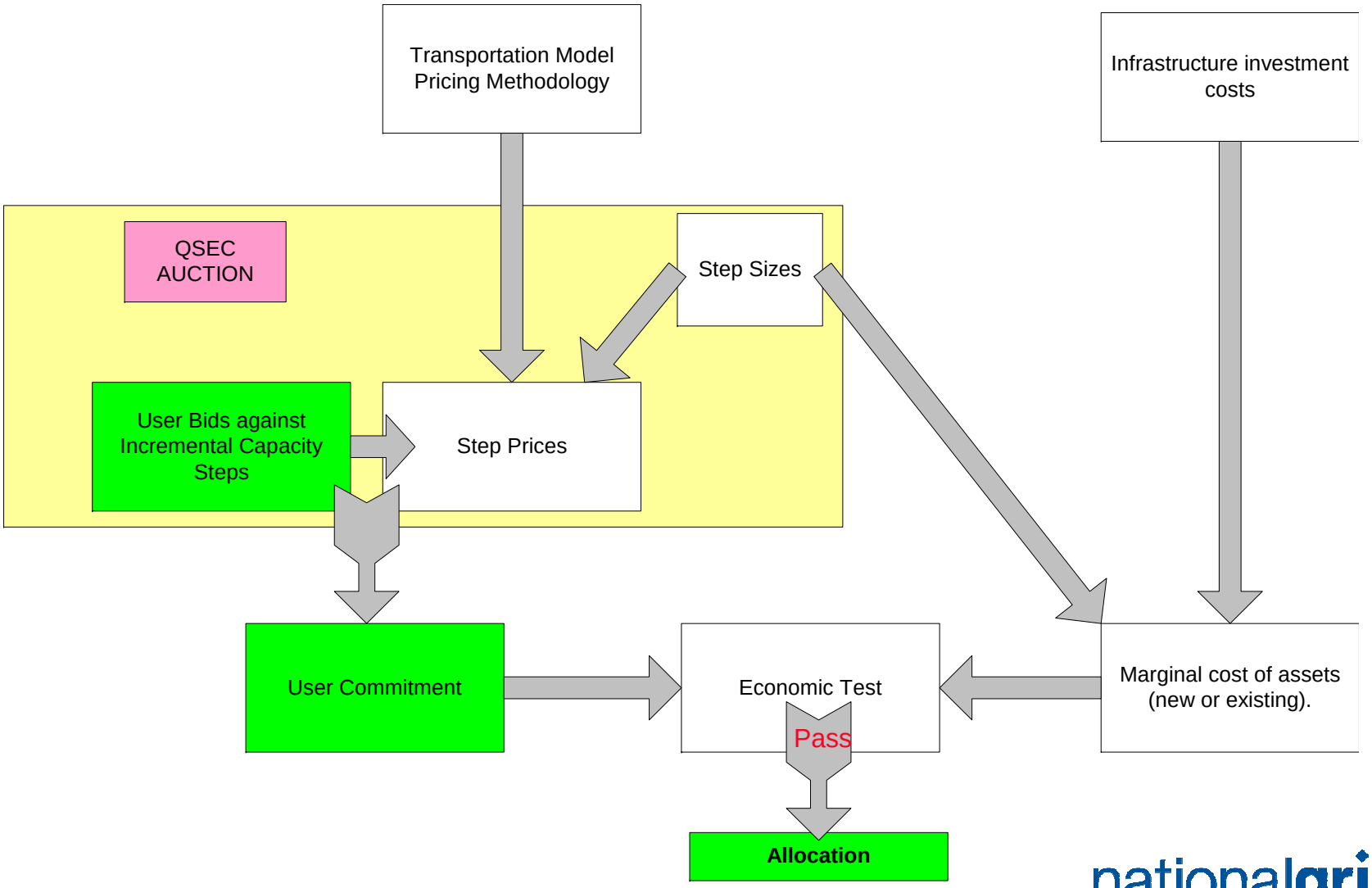
Decision Making Methodology



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Economic Test

- Qualifying Bids
  - Bids from all Users are aggregated.
  - Taken from the first quarter where demand at relevant step price equals, or is greater than the step size.
  - Bids earlier than capacity release date do not form part of the test.
  - Up to 32 consecutive quarters considered, but capped at 15 years from first qualifying quarter.
- Successful Test
  - NPV of qualifying bids >= 50% of estimated incremental cost to provide the incremental capacity.

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Economic Test

Consider the simplified example.

Five incremental capacity steps with calculated price steps and asset costs.

Available (GWh)	Price Label	Price (p/kWh/d)	Estimated project cost (£m)
150	P5	0.06	20
140	P4	0.05	16
130	P3	0.04	12
120	P2	0.03	8
110	P1	0.02	4
100	P0	0.01	0

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Economic Test

Consider the simplified example.

Aggregate bids are placed as below.

Trigger level 130 GWh in Q3

Supply			Demand									
Available (GWh)	Price Label	(p/kWh/day)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
150	P_5	0.06	*100*	*100*	*120*	*120*	*110*	*100*	*100*	*100*	*100*	*100*
140	P_4	0.05	*100*	*100*	*120*	*120*	*110*	*100*	*100*	*100*	*100*	*100*
130	P_3	0.04	*100*	*100*	*130*	*130*	*120*	*100*	*130*	*130*	*100*	*100*
120	P_2	0.03	*100*	*100*	*135*	*135*	*120*	*100*	*135*	*131*	*110*	*100*
110	P_1	0.02	*100*	*100*	*140*	*135*	*130*	*100*	*140*	*140*	*120*	*100*
100	P_0	0.01	*100*	*100*	*145*	*140*	*131*	*100*	*140*	*140*	*120*	*100*

NB – Not all quarters shown

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Economic Test

Consider the simplified example.

Cleared price is P_3 for Q3 and Q4. For Q5 cleared price is P_1.

In Q9 only 20 GWh are released at a cleared price of P_1.

			Apr-11	Jul-11	Oct-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13
			Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**
Incremental Capacity to release	**GWh**	**(a)**	0	0	30	30	30	0	30	30	20	0
Clearing Price	**p/kWh/d**	**(b)**	0.01	0.01	0.04	0.04	0.02	0.01	0.04	0.04	0.02	0.01
Days per quarter	**day**	**(c)**	91	92	92	91	91	92	92	90	91	92
Incremental Revenue	**£m**	**(a)*(b)*(c) 100**	0.00	0.00	1.10	1.09	0.55	0.00	1.10	1.08	0.36	0.00
NPV Test	**£m**	**50% Estimated Project Cost**	**6**									
NPV of Revenue	**£m**	**2.01%**	**6.63**									

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Treatment of Capacity Substitution

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Background

- At previous Transmission Workstream meeting, the issue was raised whether there should be a separate or lower “test” to release incremental capacity that is provided through substitution
- This topic was further raised by Ofgem in its open letter dated 27 June 2007.
- Intention today is to explore this issue and understand industry view.

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Current Envisaged Processes

- Additional entry capacity at a specific ASEP is / will be made available via:
  - Proposed transfer and trades process for Y+0, Y+1;
    - Subject to donor ASEP availability
  - IECR methodology for Y+2 onwards.
    - Subject to NPV test.
      - Economic test relies upon comparison of the estimated cost to provide incremental capacity against Users' commitment (accepted bids) to use the incremental capacity.
      - Provides User commitment to demonstrate that necessary investment is economic and efficient.
    - Where bids are successful NG will investigate substitution opportunities as part of the investment planning process.
    - Capacity substituted to support incremental capacity at another ASEP will not be available for release at future auctions.

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Key Questions & Considerations

- Where substitution opportunities exist
  - Should the NPV test be reduced?
  - Should a lower User commitment be needed?

- But
  - Except for new ASEPs, substitution opportunities are not known in advance of the QSEC auction
  - How can Users have certainty of the availability of incremental capacity?
  - Substitution is a limited “resource”, therefore where would it fit within existing auction structures and how should we assess competing requirements?

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Entry Capacity Substitution Methodology Consultation – Industry Concerns

Key concerns expressed:

- Loss of capacity at the donor ASEP
  - Makes new projects expecting to use “spare” capacity less viable. Impact on Security of Supply.
  - May lead to inefficient investment decision as Users bid to protect capacity normally obtained short-term.
- Loss of Total Capacity
  - Generally a limit on exchange rates preferred.
    - Most respondent unable to specify a precise rate, but 1:1 and 1.5:1 suggested.

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Scenario 1: Incremental Capacity required at a Declining Terminal

- Consider an ASEP where
  - sold capacity in the short term (e.g. up to Y+4) is at baseline
  - sold capacity in the medium term is below baseline
  - there is demand for “additional” capacity
- Users need to signal incremental demand via the IECR methodology
  - But it is difficult to pass the NPV test because Users need to bid above baseline (i.e. above that required) into the medium term.
  - Investment to provide capacity for short term need may be inefficient (even if NPV test is passed).
  - How / should we ensure capacity substitution is available?
  - How should such Users guarantee access to incremental capacity?
  - Would it be appropriate to set a lower NPV test?
    - Merit order then needs to be considered.

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Scenario 2: Incremental Capacity required at a New Entry Point

- Consider a new entry point
  - Incremental capacity is normally, but not always, obtained via the initial QSEC auction.
  - Substitution opportunities can be identified in advance but only where this specific auction is held for the new ASEP.
  - Step prices are likely to be unchanged, but
    - In the case of substitution, the actual incremental cost of providing capacity to the ASEP could be zero; or
    - Without substitution, the actual incremental costs should be largely as determined through the price steps; or
    - There could be a mix of investment and substitution (the cost of any connecting pipeline would also need to be factored in)
- If no (or reduced) actual investment is required, should the NPV test / commitment be reduced?

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Scenario 3: Small Incremental Capacity Demand at an Existing Entry Point

Consider an existing entry point where:

- capacity has been substituted away; and
- Incremental capacity is subsequently required over the short term e.g. a small off shore gas field.

- The economics of these new projects cannot rely on existing infrastructure.
- Incremental capacity must be obtained via the IECR methodology.
- How can the impact on such projects be minimised?

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Range of Options

Options	Description	Advantages	Disadvantages
Do Nothing (but review for next year)	Substitution only applies where the current IECR test is passed. Experience is gained of the process and in reviewing its impact revised proposals may be brought forward for next year.	Provides a degree of stability ahead of this year's September QSEC. Allows time to fully consider and consult on the implications of changing the IECR test. Trade and transfer provides a route to manage the requirement and ensure the efficient and economic use of the system	The existing IECR test may create a barrier to entry for some projects. Trade and transfers may not provide the certainty that some projects require.
Extension of transfers	It could be possible to extend the proposed capacity transfer process to cover the 42 month investment lead time. This would allow quarterly periods of capacity to be transferred, driven either through the QSEC or separate auction.	Allows capacity to be moved for a defined duration with no long term capacity destruction. Medium / long term capacity available for increased demand at the donor or for further transfers.	Significant development work required to determine transfer rates for each quarter. More distant transfers increase uncertainty. Short term implementation would be problematic. The transfer process is largely ex-ante unlike substitutions.
Lower NPV test	Incremental capacity could be released where auction signals do not meet the 50% NPV test provided that the incremental capacity can be satisfied through substitutions.	Satisfies greater User demand for release of capacity where needed. Can be a simple test to apply where no investment is required. Transparent. Provides clarity of requirements before bidding in auctions for new ASEPs	Usually the ASEPs where substitution opportunities exist are not known in advance so bidding against a lower test would not guarantee release of capacity. A different test should apply where there is a mix of investment and substitutions; potentially confusing. Additional post QSEC network analysis. Need to distinguish between bids (i.e. existing test vs lower test, and bids satisfying the lower test). Lower test may be satisfied without long term bookings, so capacity may be substituted away again in the longer term. This would create greater uncertainty by maximising capacity movement and potential destruction.
Lower User commitment (Unpicking of auction bids)	Incremental capacity is only released where the current IECR test is passed, but where incremental capacity is met through substitution the relevant User commitment could be reduced by amending placed bids. P_0 - P_n prices remain unaltered.	User commitment aligned to associated investment risk.	Complicated with significant impact on systems. Sets a precedent for reversing auction bids. Reduces User's allocations. Provides no benefit to "marginal" developments.

Summary

- The IECR states the methodology by which NG will release incremental entry capacity
- Changes brought in to the new IECR include:
  - New charging model
  - Investment Lead times
  - Capacity Substitution
- Release of incremental capacity requires a User commitment (via QSEC auctions) equivalent to 50% of the estimated incremental cost of providing the incremental capacity.
- Capacity Substitution aims to reduce the need for investment.
  - Scope for reduced User commitment and NPV test

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