Entry Capacity Substitution

Workshop 2
7th May 2008

Substitution Example

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Introduction

- 2007 TPCR introduced an obligation on National Grid to introduce “Entry Capacity Substitution”.

- At Entry Capacity Substitution workshop 1 National Grid agreed to consider providing a worked example to illustrate the impact of Entry Capacity Substitution.

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Introduction

- The example is illustrative only and should not be taken as guaranteeing specific outcomes when the substitution processes are implemented.

- Example
  - Consider the scenario where incremental entry capacity is requested at Easington ASEP in a future QSEC auction.
  - Intended to show processes involved without referring to actual projects.
  - All values used are indicative whilst being a reasonable approximation to actual capacity levels.

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Assumptions

- How capacity substitution is ultimately developed will define the precise processes to be followed and may add a level of complexity.
- Hence to illustrate the end-to-end process it is necessary to make a number of assumptions.
  - A single NPV test applies irrespective of how incremental capacity is made available.
  - Substitution applies from 42 months after the auction.
  - Capacity available for substitution as defined in Licence.
  - Existing capacity allocations and QSEC bids are consistent through the QSEC timeframe.

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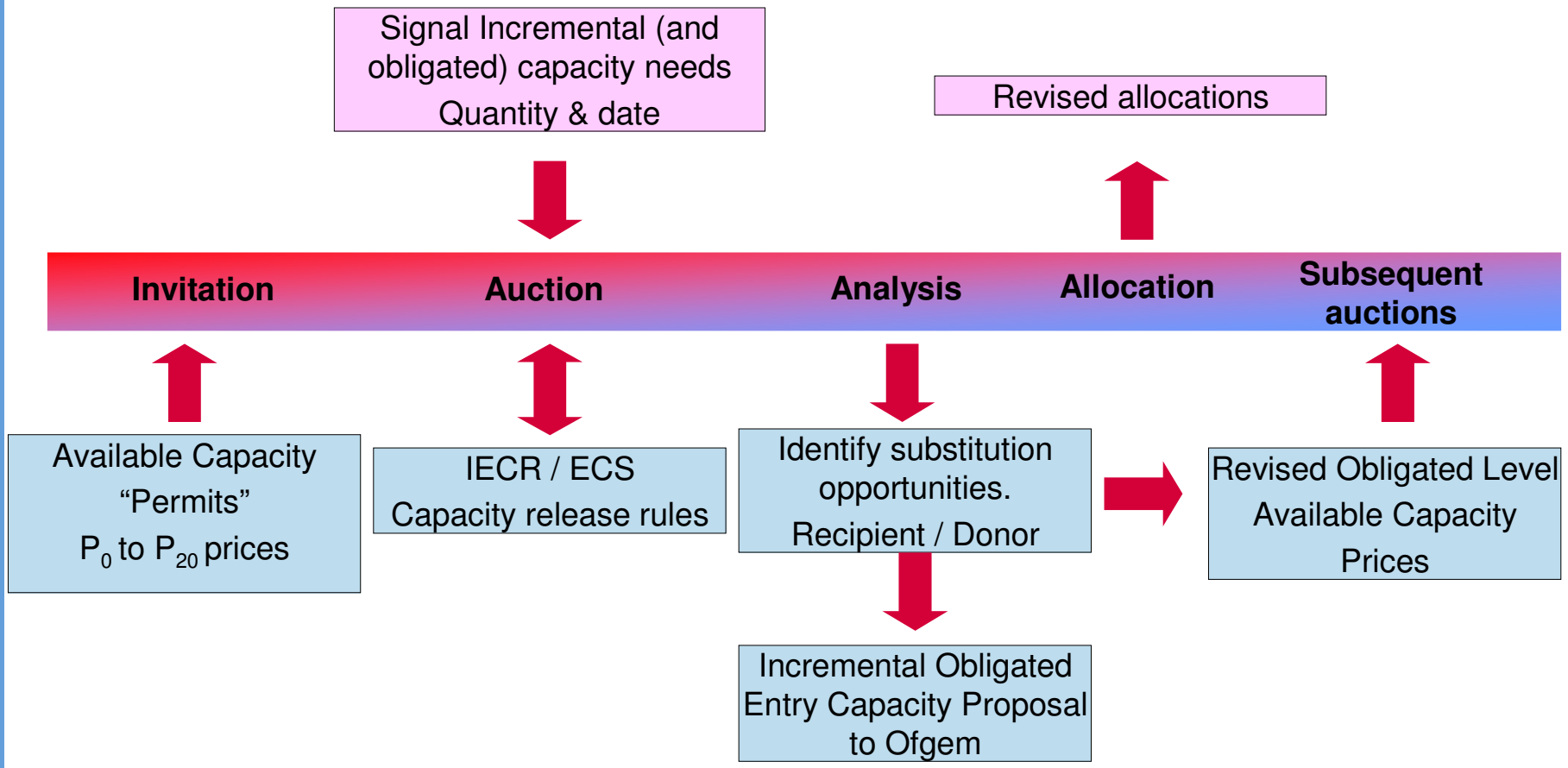
Overview of QSEC Auction with respect to Substitution



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Substitution Example - Invitation

- Assumptions
  - National Grid can meet all expected incremental capacity requests in the 42 month default lead-time; i.e. no “permits” played.
  - Donor ASEPs will be those with available capacity and greatest interactivity with the Recipient ASEP. For example, in respect of Easington, the Donor ASEPs **could be** those identified in the table below.
  - No surrender facility.

ASEP	Obligated level mscmd	Baseline mscmd	Unsold
Easington	130	98	0
Hornsea	21	16	1
Theddlethorpe	56	56	49
Bacton	165	165	96

- “Unsold” capacity is 90% baseline minus the highest sold quantity for any quarter after month 42. For other quarters more capacity will be available for sale at the ASEP but not for substitution.
- All unsold capacity is available for Users at the relevant ASEP or, if remaining unsold, for substitution.

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Substitution Example – Assumed Auction Bids

- Easington auction bids received for incremental entry capacity.
- Passes NPV test for quantity 10 mscmd from 42 months.

- AN Other ASEP auction bids received for incremental entry capacity. Passes NPV test for quantity 5 mscmd from 42 months.
  - Not shown in table below.

- Potential Donor ASEPs: total bids received (plus existing allocations) are less than 90% baseline.

ASEP	**Quantity bid**	**Quantity of baseline sold**	**Available for sub** i.e. 90% baseline minus max sold level
Easington	10 incremental	88	0
Hornsea	Bids no higher than existing levels	14	1
Theddlethorpe		2	49
Bacton		52	96

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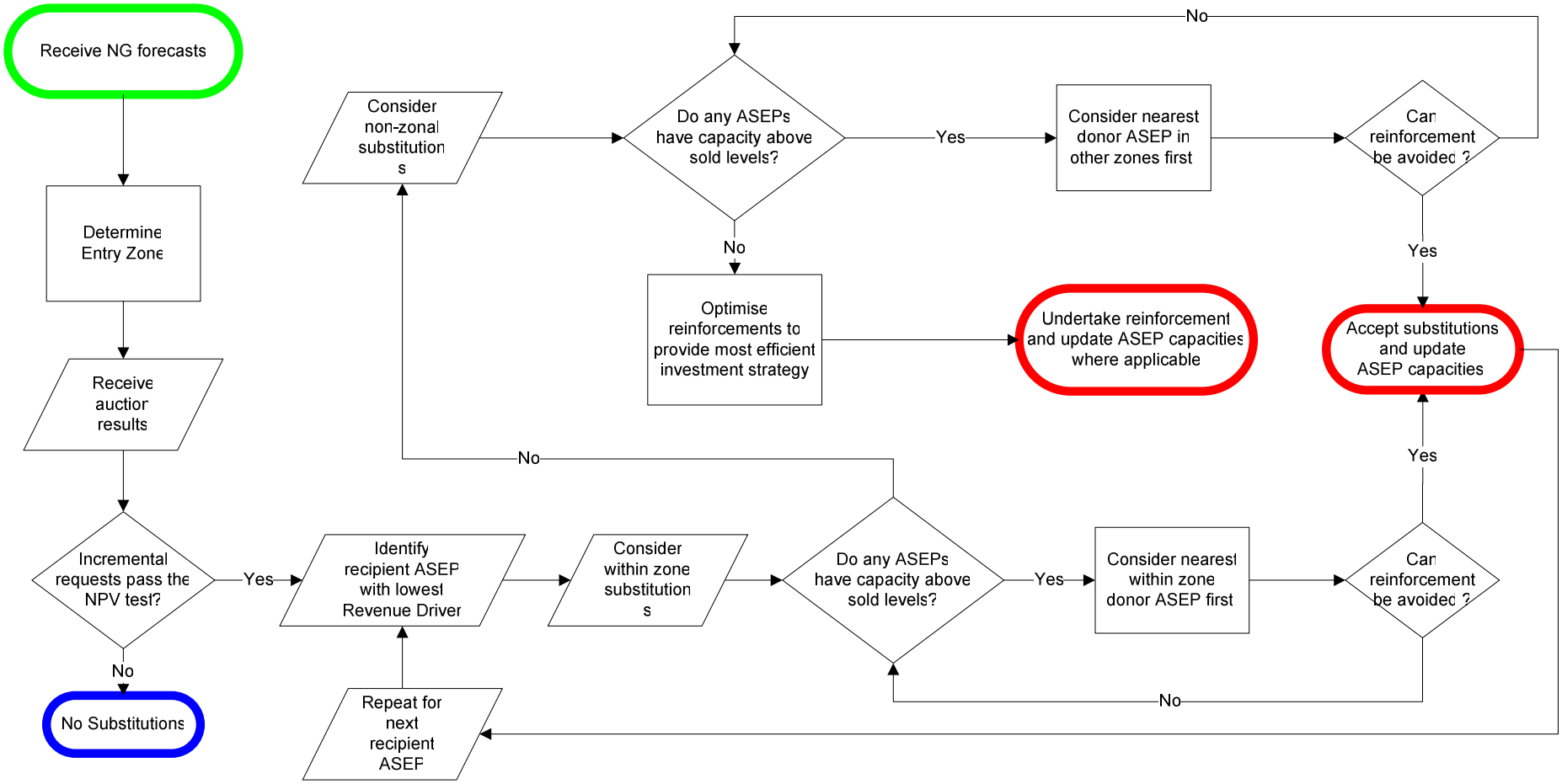
Capacity Substitution Process Previously Consulted Upon.



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Substitution Example – Recipient ASEP

- Incremental capacity triggered for Easington and AN Other

- Revenue driver at Easington is lower than AN Other so consider this as Recipient ASEP for substitution first.
  - Lower revenue driver implies that the ASEP will benefit most from substitution. Hence more likely to minimise need for investment.

- AN Other not considered further in this example.

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Substitution Example – Analysis as per Illustrated Process Diagram

- Donor ASEP identified as nearest ASEP (by pipeline distance) with available capacity
- Hence ranking of Donor ASEPs in example is
  - Hornsea
  - Theddlethorpe
  - Bacton
- Substitutions will be verified by network analysis.
- Substitutions will not be permitted where analysis shows failure to maintain pressure and other network commitments or increases risk of constraint management actions being required.

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Substitution Example - Allocations

- Revised allocations (based on peak quarter)
  - Users at Easington: 10 mscmd incremental
  - Users at Donor ASEPs: No change from pre-auction
- Revised obligated levels
  - Easington: Previous obligated level plus 10 = 140 mscmd
  - Donor ASEPs: As determined according to methodology
- Revised obligated levels apply from the first date of substitution, i.e. 42 months, and will be available in the next QSEC and relevant MSEC auctions in due course.

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Substitution Example - Allocations

- Role of Ofgem (C8D 9 l)
  - National Grid will submit to Ofgem its Incremental Obligated Entry Capacity Proposal
  - Specifies quantity of incremental entry capacity and whether it should be treated as:
    - non-incremental obligated entry capacity (i.e. substitution); or
    - funded incremental obligated entry capacity.
  - Ofgem have 7 days to suspend implementation
  - If suspended, Ofgem have 28 days to:
    - Veto; or
    - direct to modify (subject to agreement with National Grid).
      - Volume at the recipient ASEP to be treated as substituted capacity
      - First month of substitution
    - This could require analysis to be repeated and investment plans revised.
      - Allocations to be made within 2 months auction closing (UNC B2.6.7).

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Substitution Example

Incremental Obligated Entry Capacity Proposal.

- National Grid will submit to Ofgem its Incremental Obligated Entry Capacity Proposal.
- In respect of Easington:
  - Quantity of incremental entry capacity = 10 mscmd; of which
    - X mscmd will be met from substitution; and
    - Y mscmd will be funded.
- National Grid receives no additional revenue in respect of incremental capacity met by substitution.

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Substitution Example – Prices

- Reserve Prices (and step prices for incremental entry capacity) are a function of the obligated capacity level
- Hence, substitution will generally decrease the P_0 price at Donor ASEPs; and
- Release of incremental capacity will generally increase the P_0 price at Recipient ASEPs
- Revised obligated levels / prices apply from the applicable quarter/month, i.e. from month 42.

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Substitution Example – Prices (to be completed)

ASEP	Initial Prices p/kWh/day			Change in obligated level mscmd	New Prices p/kWh/day		
	P_0	P_1	P_5		P_0	P_1	P_5
Easington	0.0080	0.0082	0.0094	+ 10			
Hornsea	0.0092	0.0094	0.0098	Subject to results of analysis			
Theddlethorpe	0.0068	0.0069	0.0073				
Bacton	0.0098	0.0099	0.0103				

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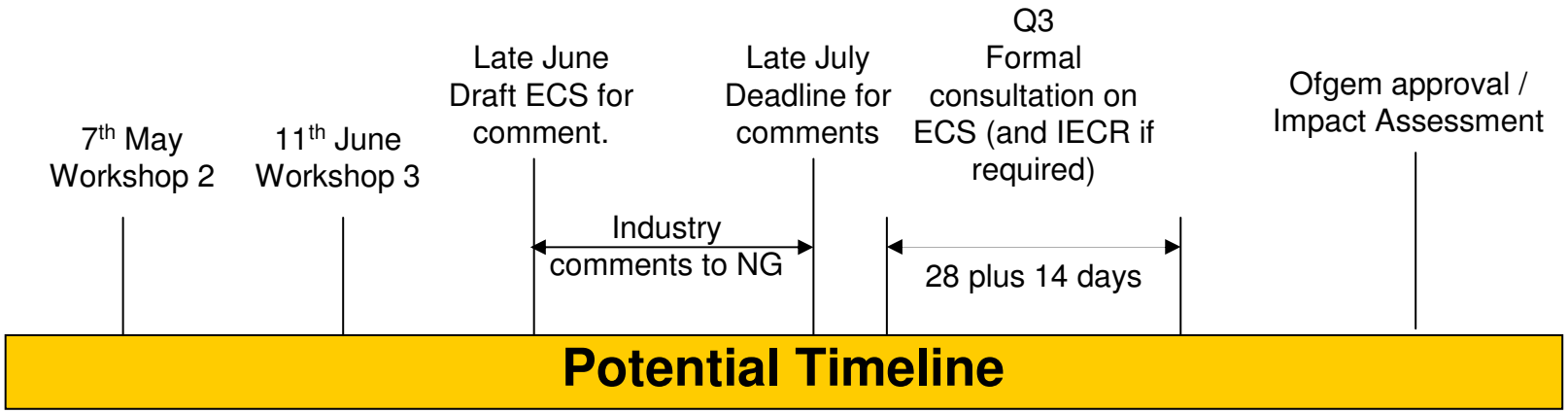
Potential Timeline for Development of Entry Capacity Substitution
7th May 2008



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Next Steps

- Next workshops
- 11th June
  - National Grid to walk through draft methodology for determining Entry Capacity Substitution quantities / locations.

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