
OPTIMISATION OF ENTRY CAPACITY BETWEEN ASEPS – STRAWMAN MODEL

INTRODUCTION

1. Under the current regime we are obliged to release a baseline level of capacity at each ASEP in at least one clearing allocation¹. This, combined with the method used to determine baselines for the current price control, could lead to the sterilisation of capacity.
2. A simple example of this issue is where there are two entry points using the same part of the system with potentially a high degree of substitutability. Users at one entry point may not wish to purchase the full amount of baseline capacity, whereas users at the other entry point may wish to purchase capacity above the baseline set for that entry point. Where this situation occurs during the constrained period, users have to rely upon the release of non-obligated capacity.
3. Historically we have only released non-obligated capacity in the constrained period close to the gas day due to the uncertainty in supply/demand conditions and the lack of a process to ensure non-discriminatory release of non-obligated capacity between competing entry points. However, based on the results of the February 2006 AMSEC auctions, there are clearly users wishing to obtain above baselines levels at the year ahead stage. We are therefore considering innovative solutions which may allow such users to obtain additional capacity.
4. These issues have been noted in Ofgem's third consultation on the Transmission Price Control Review in which Ofgem proposes that we should be obliged to develop an Entry Capacity Release Methodology Statement for application from 1 Apr 07. However this strawman presents a potential model to facilitate the optimisation of entry capacity in the constrained period between ASEPs under the current price control. If it not possible to develop and implement such solutions before 1 Apr 07, then, in any event, this strawman may present a process which could be captured within the Entry Capacity Release Methodology Statement.

KEY FEATURES

5. The process for the optimisation of entry capacity can be broken down into 5 key areas, and in some cases there are alternative options within each area;
 - a. Identification of recipient ASEPs
 - i. This establishes the ASEPs ("recipient ASEPs") at which User demand for capacity is above baseline levels as a trigger to

¹ We currently fulfill this obligation by offering any unsold baseline capacity at 07:00 on the gas day at zero reserve price.

initiate capacity optimisation between ASEPs, if there is any “spare” capacity.

- b. Identification of donor ASEPs and Transferable Capacity
 - i. This establishes how much capacity is deemed available for transfer (the “Transferable Capacity”) and from which ASEP(s) (“donor ASEPs”).
- c. Identify demand for Transferable Capacity at the “recipient ASEPs”
 - i. This establishes the level of demand at the recipient ASEP for the transferable capacity.
- d. Exchange Rate determination
 - i. This process will establish the cost associated with transferring capacity from donor ASEPs to recipient ASEPs. This will mainly be associated with the cost of buying back capacity in the event of a constraint caused by the gas flows associated with the transferred capacity.
- e. Allocation Methodology
 - i. This will determine how capacity is allocated for transfer, based on the cost of transferring the capacity and the revenue generated by selling the transferable capacity.

IDENTIFICATION OF RECIPIENT ASEPS

- 6. This process would be initiated in the event that, after the AMSEC auction, one or more ASEPs have sold out and have been oversubscribed for at least [1] month for the next capacity year. These become the recipient ASEPs.

IDENTIFICATION OF DONOR ASEPS

- 7. To identify the capacity available for transfer it has to be established which ASEPs to include as donors. Firstly, a donor ASEP must have unsold baseline capacity after the AMSEC auction for the following capacity year. However there are the following options by which donors could be included within the allocation methodology:
 - a. Option 1 - Lowest cost ASEP
 - i. This would involve identifying the lowest cost option for the transfer of capacity to the recipient ASEP. If demand for capacity was not met by transferring capacity from the lowest cost ASEP, then additional capacity would be transferred from the next lowest cost donor ASEP, and so on.
 - ii. This option would allow a simpler allocation process compared to options 2 and 3.

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- b. Option 2 – ASEPs within local vicinity
 - i. This would involve the donor ASEPs selected for the transfer of capacity being ASEPs in the same geographical area as the ASEP which required additional capacity.
 - ii. This would provide a greater likelihood that there was a physical interaction when transferring the capacity and therefore would reduce the cost of transferring the capacity. It would involve a less complex allocation process (although there could still be multiple ASEPs involved) and would therefore provide a greater level of transparency compared to option 3.
 - c. Option 3 - All ASEPs
 - i. It is possible to allow capacity to be transferred between any two ASEPs on the NTS. However, in reality the process of transferring capacity from a donor ASEP a significant distance apart from the recipient ASEP is likely to prove very expensive for the bidding User.
 - ii. In addition the greater the number of ASEPs available to transfer capacity, the greater the complexity associated with the allocation process, which would make transparency of the process very difficult and completion of the allocation process resource intensive.

TRANSFERABLE CAPACITY

- 8. In parallel with establishing the ASEPs which will be available to transfer capacity it is also required to establish how much capacity at each donor ASEP will be available to transfer.
 - a. Sold Capacity
 - i. This capacity could be bought back at the donor ASEP, if the User was prepared to sell, through a tender process and then would be available for transfer.
 - b. Unsold Capacity
 - i. This is the capacity that remains unsold at the donor ASEP after the AMSEC auction.
 - ii. Transferring of unsold capacity would require an amendment to National Grid's licence obligations

IDENTIFY DEMAND FOR TRANSFERABLE CAPACITY

- 9. This will establish the level of demand for the transferable capacity and would be done by holding an additional AMSEC type auction (the "Annual Monthly

Transferable System Entry Capacity” AMTSEC auction) at the identified recipient ASEP(s) to establish the level of capacity required.

AMTSEC auction

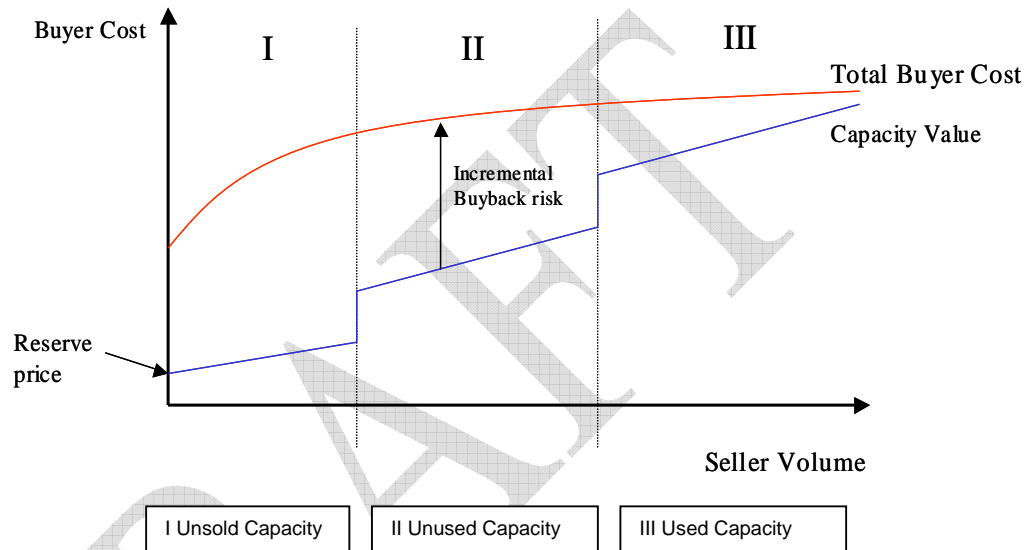
10. The AMTSEC auction would include the following rules
 - a. Pay as bid
 - b. Applications would be invited for [April] to [March] of the forthcoming year
 - c. The invitation would include
 - i. The [one] date on which the auction will be held
 - ii. The reserve prices applicable to the recipient ASEP(s)
 - iii. The recipient ASEPs
 - iv. Indicative exchange rate(s) for the recipient ASEP(s) from the donor ASEP(s).
 - d. Applications would include the following information
 - i. The identify of the User
 - ii. The recipient ASEP
 - iii. The capacity year and the calendar month for which NTS Entry Capacity is required
 - iv. The amount (not less than the minimum eligible amount) of Monthly NTS Entry Capacity applied for in kWh/day)
 - v. The amount (the bid price) which shall not be less than the reserve price.
 - e. Allocation would be confirmed [6] weeks after the AMSEC auction was held.

EXCHANGE RATES

11. The exchange rate identifies the cost of transferring the capacity between two ASEPs.
 - a. This is mainly the forecast costs that could be incurred as a result of constraints arising from the additional flows associated with the transferred capacity, primarily buying back the firm capacity at the donor ASEP
 - b. The exchange rate will also account for any physical change in the flows between the two ASEPs that could be expected as a result of

the capacity transfer and that could mitigate some of the otherwise anticipated costs.

- c. How an exchange rate is likely to be derived is demonstrated in the diagram below;



- d. If there are multiple ASEPs with capacity available to transfer to the recipient ASEP then an exchange rate would be created between each of the donor ASEPs and the recipient ASEP.
- e. If there are multiple donor and/or recipient ASEPs it is possible that the exchange rate will be adjusted during the allocation process to reflect the changing level of capacity at the recipient ASEP.

ALLOCATION METHODOLOGY

12. This details how the capacity available for transfer would be allocated.

- The available capacity will be transferred with the intention to maximise the release of capacity, with capacity being released until the cost of the transfer exceeds the value of the transferable capacity placed on it through the AMTSEC auction.
- All bids received through the AMTSEC auction would be allocated in price order, highest price first.
- The available capacity will be allocated in price order, with the lowest cost capacity transferred first.
- The revenues from the bids and the forecast costs for the transferable capacity will be aggregated together until the point at which the aggregate revenues first exceed the aggregate costs.

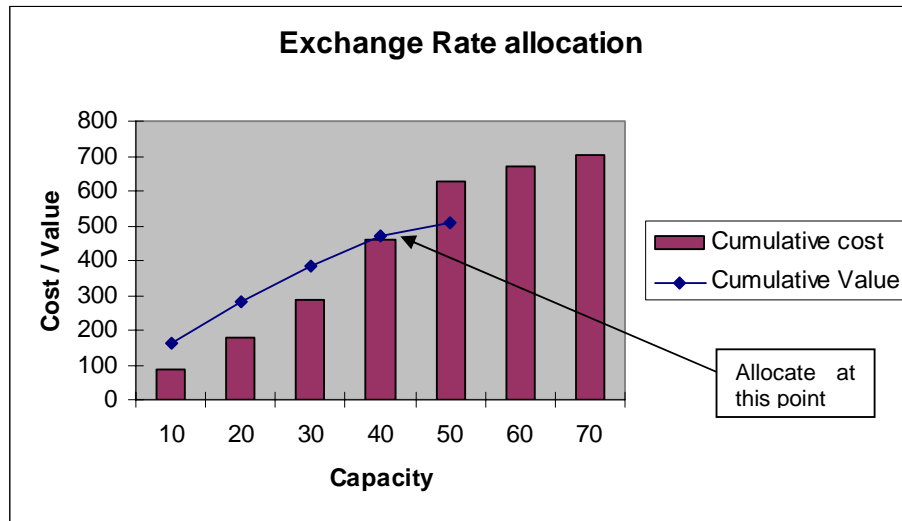
- e. The level of capacity that can be transferred at this point will be allocated to the successful bidders.
- f. In the event that bids could not be fully satisfied then prorating would take place.

Option 1 'Lowest Cost ASEP'

13. Under Option 1 'Lowest Cost ASEP' the allocation process would involve 1 donor ASEP (at a time) and 1 or more recipient ASEP. The example below shows how the allocation process would be managed with 1 donor ASEP and 1 recipient ASEP:

Capacity available for transfer from Donor ASEP	Cumulative Cost of transferring capacity from Donor ASEP (£000s)	Capacity demand at recipient ASEP	Bid value for capacity at recipient ASEP (highest bid price £000s)	Cumulative Bid value for capacity at recipient ASEP (£000s)
10	85	10	160	160
20	180	20	120	280
30	285	30	105	385
40	460	40	85	470
50	625	50	40	510
60	670	60	-	-
70	705	70	-	-

- a. The allocation process is represented graphically below demonstrating the point at which the net cost of transferring the capacity exceeds the net value of the sale of the transferred capacity;



- b. In the example shown the level of capacity that can be released is 40 units, that is the highest level of capacity identified before the forecast cost of transferring the capacity exceeds the revenue generated.
- c. It would also be possible under Option 1 for there to be 1 donor ASEP identified as the lowest cost ASEP for more than one recipient ASEP. In this instance we would look to allocate capacity at the recipient ASEP based on the value of the bid, with the highest priced bid allocated first.

Option 2 or 3 'ASEPs within local vicinity' and 'All ASEPs'

14. If Option 2 or 3, 'All ASEPs' and 'ASEPs within local vicinity', for determining the donor ASEP(s) is adopted then it is likely that more than one donor ASEP will be available to transfer capacity to the recipient ASEPs.
- a. The example below demonstrates how this would work with 2 donor ASEPs for 1 recipient ASEP.
 - b. In this instance, to facilitate the allocation process, a single exchange rate would be required to account for the cost of the transfer of capacity from the 2 donor ASEPs to the recipient ASEP
 - c. This would incorporate the levels of transferable capacity available from the donor ASEPs and the associated forecast costs. The determination of which order the capacity is available for transfer would be done on a unit cost basis, with the lowest cost capacity available first.

Donor ASEP 1		Donor ASEP 2	
Capacity Available for	Cumulative Cost of	Capacity Available for	Cumulative Cost of

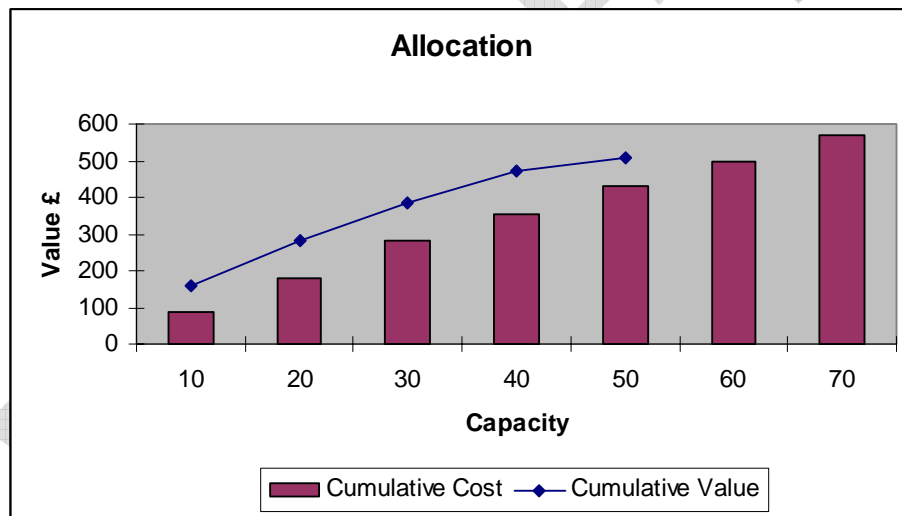
transfer from donor ASEP	transfer (£000s)	transfer from donor ASEP	transfer (£000s)
10	85	10	100
20	180	20	175
30	285	30	250
40	460	40	320
50	525	50	390
Combined Exchange rate			
Capacity available for transfer from donor ASEPs	Cumulative Cost of transfer (£000s)	Donor ASEP	
10	85	1	
20	180	1	
30	280	2	
40	355	2	
50	430	2	
60	500	2	
70	570	2	
80	675	1	
90	850	1	
100	915	1	

- d. This example of an allocation process involving more than one donor ASEP is for indicative purposes. In the event that capacity was transferred to the recipient ASEP from both donor ASEPs then the exchange rates would need to be adjusted during the allocation process to reflect the changing level of capacity at the recipient ASEP.
- e. This combined exchange rate would then be used to assess the bids received for the capacity at the recipient ASEP.

Capacity available for transfer from Donor ASEPs	Cumulative Cost of transferring capacity from Donor ASEPs (£000s)	Capacity demand at recipient ASEP	Bid value for capacity at recipient ASEP (highest bid price first, £000s)	Cumulative Bid value for capacity at recipient ASEP (£000s)
10	85	10	160	160
20	180	20	120	280

30	280	30	105	385
40	355	40	85	470
50	430	50	40	510
60	500	60	-	-
70	570	70	-	-

- f. In this example 50 units would be allocated as the net value of the capacity exceeds the net forecast costs. This is demonstrated in the graph below;



- g. In the event that there are competing demands (from more than one recipient ASEP) for the capacity from the donor ASEPs then the release of the transferable capacity would be based on the value of the bid, with the highest priced allocated first.

COMMERCIAL FRAMEWORK AMENDMENTS

15. These proposals would require changes to the existing framework.

16. UNC amendments

- a. Amendments to facilitate 'new' AMTSEC auction and allocation process.

17. Licence amendments

- a. Amendment to change the obligation to release baselines and/or clearing allocation obligation.

TREATMENT OF COSTS AND REVENUES

18. In the event that these proposals were implemented it would generate revenues through the sale of the non-obligated entry capacity and costs through any constraints caused by the transfer of capacity.
19. It is proposed that both the revenues and costs would be managed within the existing buy back incentive.

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