Allocation of reserve option fees to cashout

Libby Glazebrook

Current Reserve Option Fee Allocation

- Option fee and utilisation fee
  - Option fee currently charged through BPA
  - Utilisation via offer acceptance
- Option fee sunk at time contract struck
  - Not considered in offer price
- STOR allocated on basis of historic use
- BM start up allocated on basis of expected use

Reserve allocation requirements

- Well signalled
- Reflect use
- Allow prompt price reporting

Ways of allocating option fees

- Historic use (as now)
- Modify offer price
- Actual use
- Expected use

Ways of allocating option fees

- Modify offer price
  - NG considers option fee in offer price
  - Would require expectation of use
  - Would STOR ever be used?
  - Security of supply issues?
- Actual use
- Expected use

Ways of allocating option fees

- Modify offer price
- Actual use STOR
  - Ex post adjustment to cashout price every time STOR BM unit called
  - Unexpected price spikes
- Actual use BM start up
  - £100,000 start up price, 4hr MOT, 200MW SEL
  - Cost of £125/MWh added to offer price at SEL
  - What if operates above SEL? – Cost falls
  - Is this the right signal if more MW needed?
- Expected use

Ways of allocating option fees

- Modify offer price
- Actual use
- Expected use
  - Allocated when used (ex-post)
  - Allocated in advance (ex-ante)

Ex-post STOR allocation

- Expectation that a STOR contract would be used X times per year
- Charge option fee/X each time it is called
- Would create a timely price signal
- However….
  - If option never exercised then no allocation of cost
  - Assumption on use
  - Creates unexpected price spikes
  - Usage not necessarily correlated with peak demand
    - Fixed price standing reserve used in preference to other offers
- Utilisation based signal inappropriate

Ex-ante allocation

- Allocate reserve option fees to periods of intended use at time contract is struck
- Consistent with current treatment of BM start up

Ex-ante allocation example

- SO procures 1GW reserve from 4 providers, available for 4,500 hrs over year
  - Provider A has lowest option fee/highest strike price so will be used least often
  - Provider D has highest option fee/lowest strike price so will be used most often
- Year is divided into blocks, for example
  - [100] super peak hours
  - [400] peak hours
  - [1000] shoulder hours
  - [3000] remaining hours

Top 100 super peak hours

Annual hours of SR	4500			
Total MW	1000			
Assume four tranches of reserve:-	A	B	C	D
Option fee (£m)	0.5	1	2	4
Annual expected use (hours)	50	200	500	2000
Volume available (MW)	250	250	250	250
Expected use over 'super peak' 100 hours	50	70	80	100
Proportion of total ute in peak	100%	35%	16%	5%
Allocated option fee in top 100 hours	0.5	0.35	0.32	0.2
Total option fee allocated to top 100 (£m)				1.37
Total MWh in top 100				100000
Adder in top 100 hours (£/MWh)				**13.7**

Next 400 peak hours

Annual hours of SR	4500			
Total MW	1000			
Assume four tranches of reserve:-	A	B	C	D
Option fee (£m)	0.5	1	2	4
Annual expected use (hours)	50	200	500	2000
Volume available (MW)	250	250	250	250
Expected use over 'peak' 100 hours	0	130	400	400
Proportion of total ute in peak	0%	65%	80%	25%
Allocated option fee in top 100 hours (£m)	0	0.65	1.6	1
Total option fee allocated to next 400 hours (£m)				3.25
Total MWh in next 400				400,000
Adder in next 400 hours (£/MWh)				**8.13**

Summary of options

	Prompt price reporting	Well signalled	Reflect use
NG considers option fee	√	X	X
Actual use	X	X	√
Expectation of use (ex-post)	√	X	X
Expectation of use (ex-ante)	√	√	X