

Charging Condition 2: Incremental Cost of Capacity

TCMF

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Patrick Hynes

nationalgrid

Condition 2

- ◆ ‘To review, identify and assess further the technical basis for a range of alternative methods (incl...) of estimating, and reflecting in locational charges, the cost of incremental capacity’.
- ◆ If improvements identified, bring forward modifications for implementation in April 2007.
- ◆ If no improvements publish a report setting out the conclusion to the review.
- ◆ 2 workshops in 2005
- ◆ Discussed in detail at CISG January 2006

Areas reviewed

- ◆ Transparency
- ◆ Forward looking vs. Historic
- ◆ Thermal ratings
- ◆ Spare capacity
- ◆ Cost reflectivity of expansion constant

Transparency

- ◆ Need to ensure users understand the process
 - ◆ Option of bilateral discussions
- ◆ Focus on providing additional information in the methodology
 - ◆ Process
 - ◆ Non-confidential data if possible
 - ◆ Generic example

Forward looking vs. Historic

- ◆ Transcost approach
- ◆ Limiting the historic data used
- ◆ More GB based
- ◆ Initial conclusion is that an entirely forward or limited historical approach would be more subjective and less stable
 - ◆ Dominated by assumption
 - ◆ Recent large schemes
- ◆ Initial conclusion
 - ◆ No explicit changes to the current process
 - ◆ Explain within the methodology the current process

Thermal Ratings

- ◆ Initial conclusions
 - ◆ ACLF too complex
 - ◆ Provide examples for scaling option
- ◆ Given the DCFL output scaling is subjective and complex
- ◆ Initial conclusion
 - ◆ Unity power factor is a sensible simplifying assumption in the context of the model

Spare capacity

- ◆ ICoC is £/MWkm i.e it does not include spare capacity
- ◆ Transport model calculates the unconstrained MWkm
- ◆ Discussed at length during GB charging process
- ◆ Reviewed again as part of condition 2
- ◆ Cost of spare capacity is dealt with in the residual element of the charge.
- ◆ Initial conclusion
 - ◆ current treatment appropriate

Cost reflectivity of ICoC

- ◆ Also cover dis-aggregation
- ◆ Review the element that make up ICoC
 - ◆ Discount rate
 - ◆ Asset life
 - ◆ Excluded elements
 - ◆ e.g. IDC, land costs ...

Elements of ICoC Asset life

- ◆ Asset life
 - ◆ current calculation assumes 50 years
 - ◆ Assets life ranges for different assets
 - ◆ differences between the technical, regulatory life
 - ◆ Assets are used beyond the book life
 - ◆ 50 years is seen as a reasonable approximation
- ◆ 40/50/60 years has little impact on resulting charges
- ◆ Initial conclusion that 50 years appropriate

Discount rate

- ◆ The discount rate used in ICoC calculation is based on National Grid's cost of capital
- ◆ 6.25 (0.066 over 50 years)
- ◆ The Scottish TO have a different cost of capital
 - ◆ 8.7 and 8.9
- ◆ Options
 - ◆ Current
 - ◆ Average GB 0.0683 annuity factor
 - ◆ Zonal application
 - ◆ Post tax

Cost of Capital

- ◆ Initial conclusion
 - ◆ Cost of capacity is a proxy
 - ◆ Explicit zonal application may not be appropriate
 - ◆ GB methodology
 - ◆ Costs applied on a GB basis
 - ◆ Further review on a post tax basis
 - ◆ May be merit in considering average weighted GB

Elements not included in ICoC

- ◆ Elements not included
 - ◆ Interest during construction
 - ◆ Engineering Charges
 - ◆ Associated Equipment
 - ◆ Under grounding
 - ◆ Telecoms
- ◆ Not generally distance driven
- ◆ 2nd order effect, confirm materiality in report
- ◆ Inclusion would be subjective and complex
- ◆ Little value in including

Techniques for increasing capacity

- ◆ The original focus of the condition
- ◆ Three main methods
 - ◆ OHL based
 - ◆ Re profiling
 - ◆ Re conductoring
- ◆ Quad boosters
- ◆ Reactive compensation

OHL based capacity

	Weighting Scenario			
	Cost as a percentage of new build	1	2	3
Re-conductoring	140%	50%	40%	30%
Re-profiling	20%	20%	20%	20%
New build	100%	30%	40%	50%
average		104%	100%	96%

OHL based capacity

- ◆ Refurbishment more expensive on £/MVAkm
- ◆ Re profiling is cheaper
- ◆ Both cost just looking at the conductor costs
- ◆ Other costs could be included
 - ◆ 'right off' costs
 - ◆ additional towers
- ◆ Both techniques have limits
- ◆ On balance new OHL build is considered a reasonable proxy
- ◆ Initial conclusion
 - ◆ current methodology appropriate, but needs to be explained.

Other equipment

- ◆ Equipment that provides additional capacity other than OHL
 - ◆ QBs
 - ◆ SVCs, RSVCs
- ◆ Not km based
- ◆ Subjective capacity
- ◆ Considered
 - ◆ Calculating equivalent km for model
 - ◆ Proxy cost to feed into ICoC calculation
 - ◆ New Zonal charge
- ◆ Complex & subjective
- ◆ CISG generally agreed note issues considered, but no further work

Focus

- ◆ Wide range of diverse issues
- ◆ Need to focus on the original condition
 - ◆ Provide greater transparency
 - ◆ Concentrate on the techniques
- ◆ Initial report March / April 2006
- ◆ Consult on methodology changes Summer 2006
- ◆ Implement changes April 2007