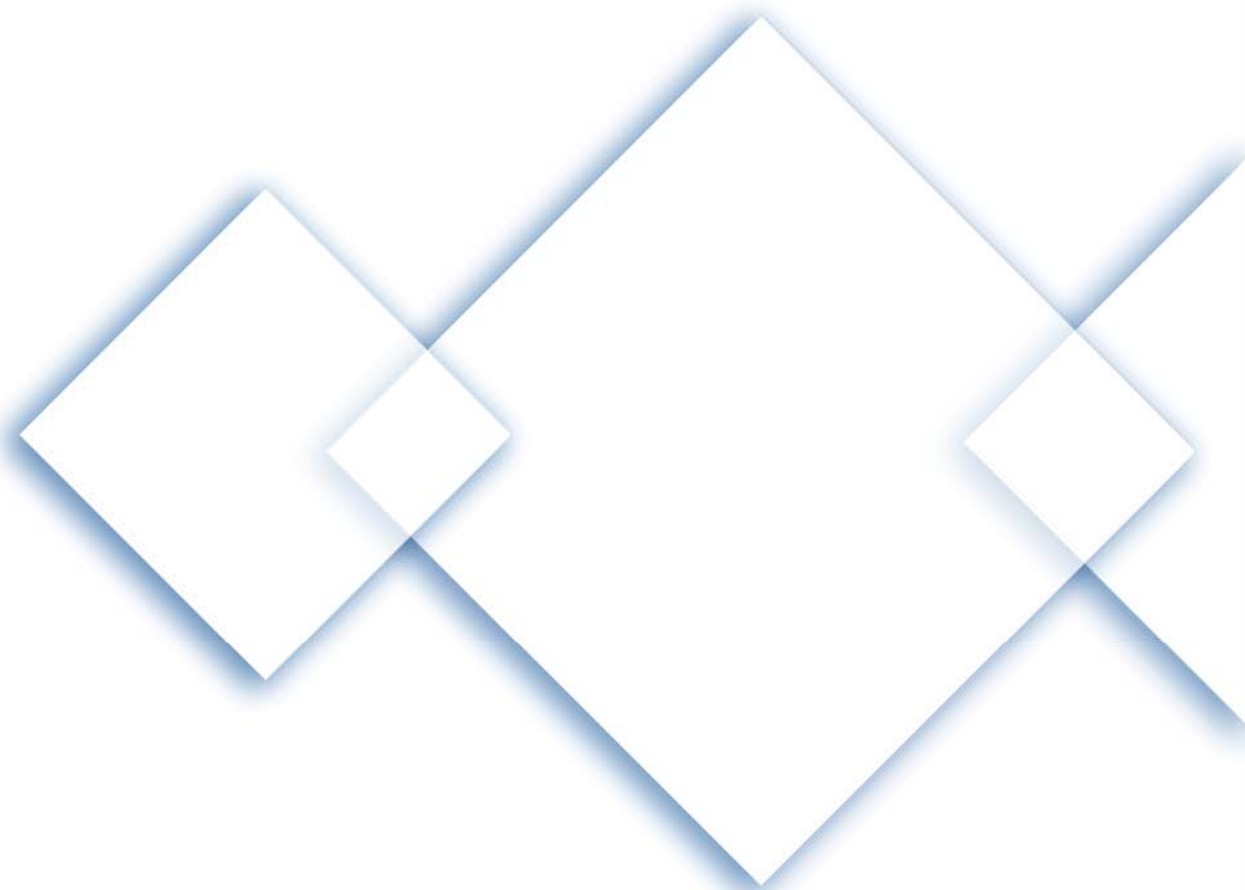


Constraint Management Update

Agenda

- ◆ Background
- ◆ Changes considered to manage constraints
 - Ofgem consultation – addressing market power concerns
- ◆ Progress on options taken forward
 - Category 5 System to Generator Operational Intertripping Scheme
 - Progress on Locational BSUoS
 - TO incentives
 - Administered BM prices
- ◆ Feedback on our review
- ◆ Summary



Background

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Ofgem letter

Requests National Grid to conduct an urgent review to consider whether changes are required to existing commercial and charging arrangements for access to the GB transmission system

Ofgem letter

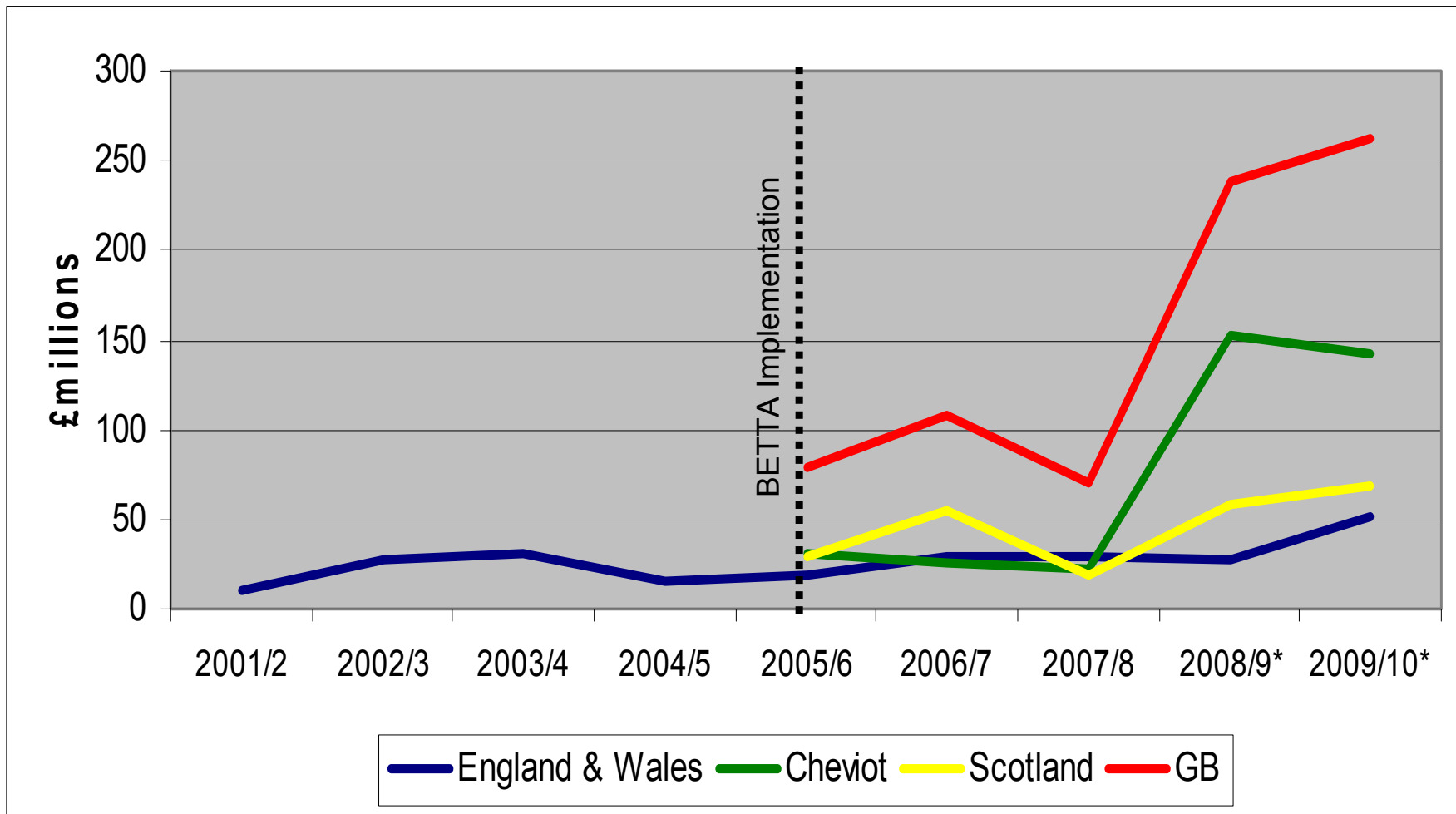
◆ Timelines for the review

- Raise any proposals by the end of February 2009; or
- Publish a report explaining why we consider the current arrangements and forecast level of constraints costs are consistent with all of our relevant statutory and licence obligations

◆ A link to our response to the letter can be found at

<http://www.nationalgrid.com/uk/Electricity/Balancing/operationalforum/2009/>

Trend in constraint costs

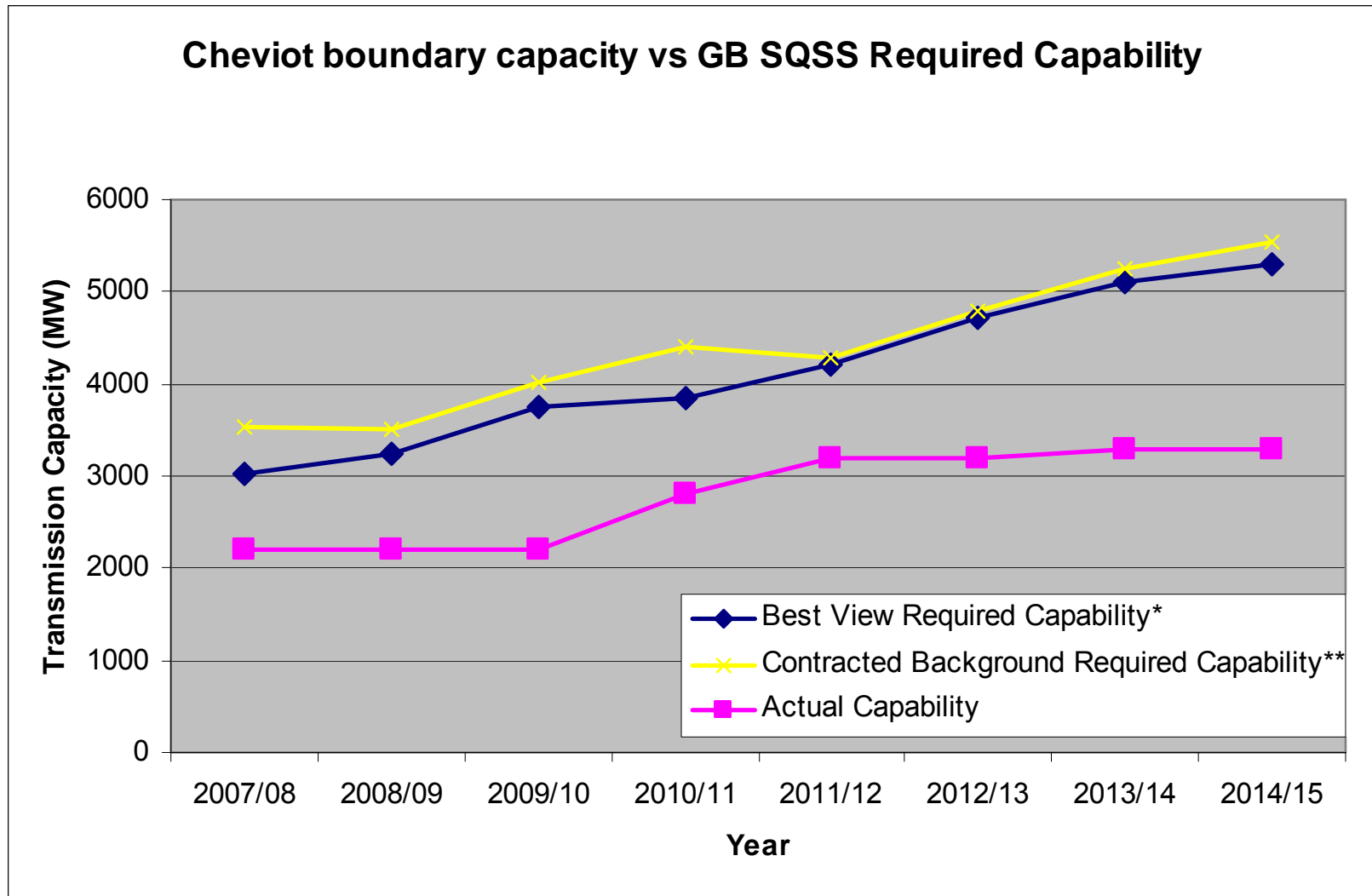


* Forecast information

Historical trend in constraint costs

- ◆ What is driving the recent increase?
 - Outages associated with new investment/connections
 - Outages associated with asset replacement
 - Derogation of B6 or 'Cheviot' boundary for requirement to comply with Security and Quality of Supply Standards (SQSS)

Forecast of capacity shortfall



Derogated boundaries

- ◆ Why is non-compliance with SQSS a specific issue?
 - Significant action required during intact network conditions
 - Removes flexibility to schedule outages during generator outages
 - Use of intertrips (where economic) is a necessity rather than an occasional tool to maximise flows across the boundary

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Managing Constraints Costs

- ◆ Volume

- Clear issue on non-compliant boundary

- ◆ Price

The options we proposed to take forward

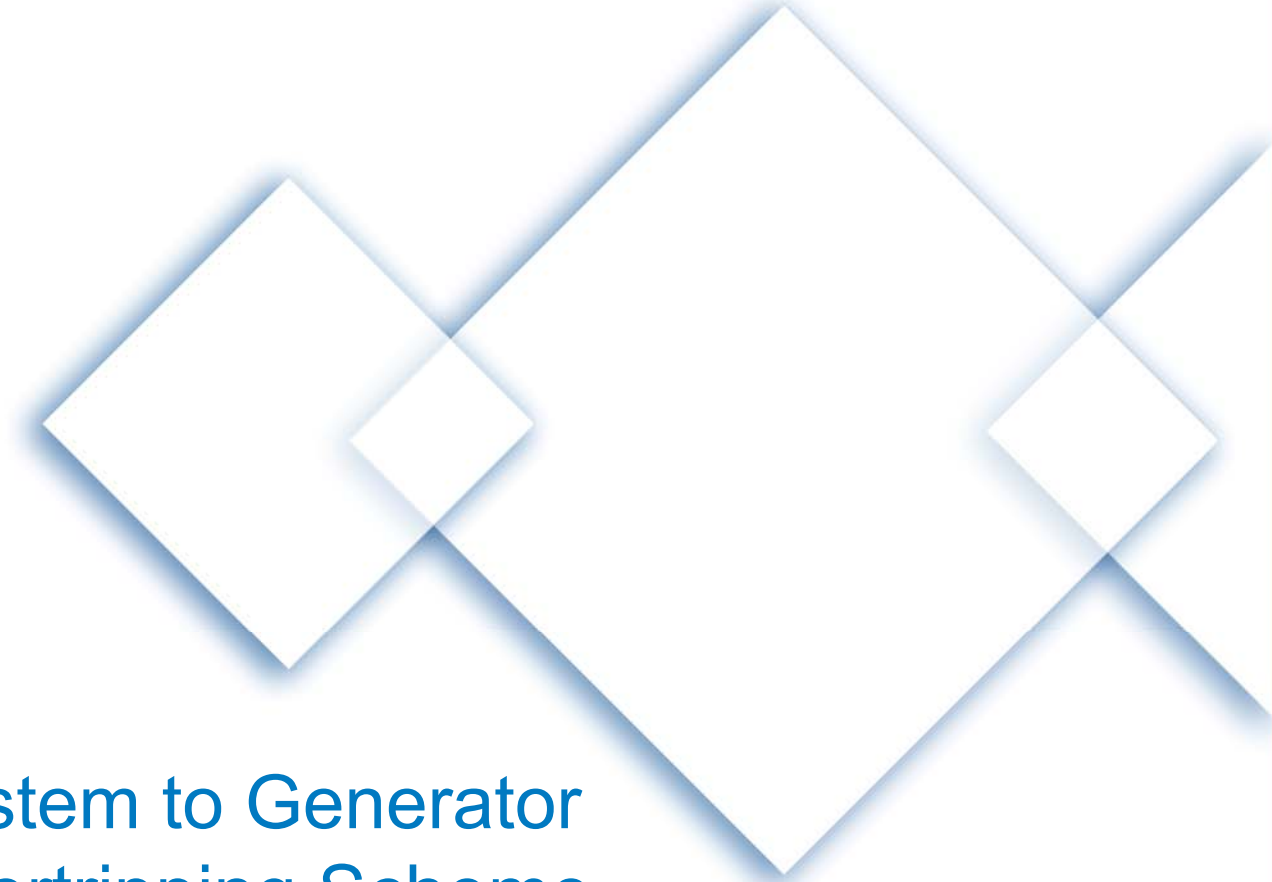
- ◆ On derogated boundaries
 - Locational BSUoS
 - Administered prices for intertrips
- ◆ SO-TO aligned incentives
- ◆ For further consideration
 - Administered Balancing Mechanism prices during constraints

Ofgem consultation – addressing market power concerns

- ◆ Launched 30 March 2009
- ◆ Responses by 8 May 2009
- ◆ Considers three broad approaches to tackling issue of undue exploitation of market power
 - Licence condition;
 - Price capping; or
 - Divestment
- ◆ Preferred mechanism - licence condition

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Category 5 System to Generator Operational Intertripping Scheme

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Background

- ◆ National Grid proposing to introduce a new category of System to Generator Operational Intertripping Scheme
- ◆ Requires amendment to CUSC, Grid Code and Procurement Guidelines
- ◆ CUSC Amendment Proposal 170
 - Urgent status
 - <http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/consultationpapers/>
- ◆ Grid Code Amendment Proposal B/09
 - Followed timelines of CAP170
 - <http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/currentamendmentproposals/>
- ◆ Procurement Guidelines
 - 28 day consultation
 - <http://www.nationalgrid.com/uk/Electricity/Balancing/consultations/>

Issue being addressed

At a non-compliant transmission boundaries

- ◆ The need to take action to manage constraints is more onerous than at a compliant transmission boundary
- ◆ As such the use of intertrips (where economic) is a necessity rather than an occasional tool to maximise the flows across the boundary
- ◆ Administering prices would offer a useful means to limit potential constraint costs

Next steps

- ◆ CUSC & Grid Code Amendment Reports submitted to authority 25th March
- ◆ Procurement Guidelines consultation closes 9th April
- ◆ Note Ofgem have stated they intend to do a Regulatory Impact Assessment



Locational Balancing Services Use of System (BSUoS)

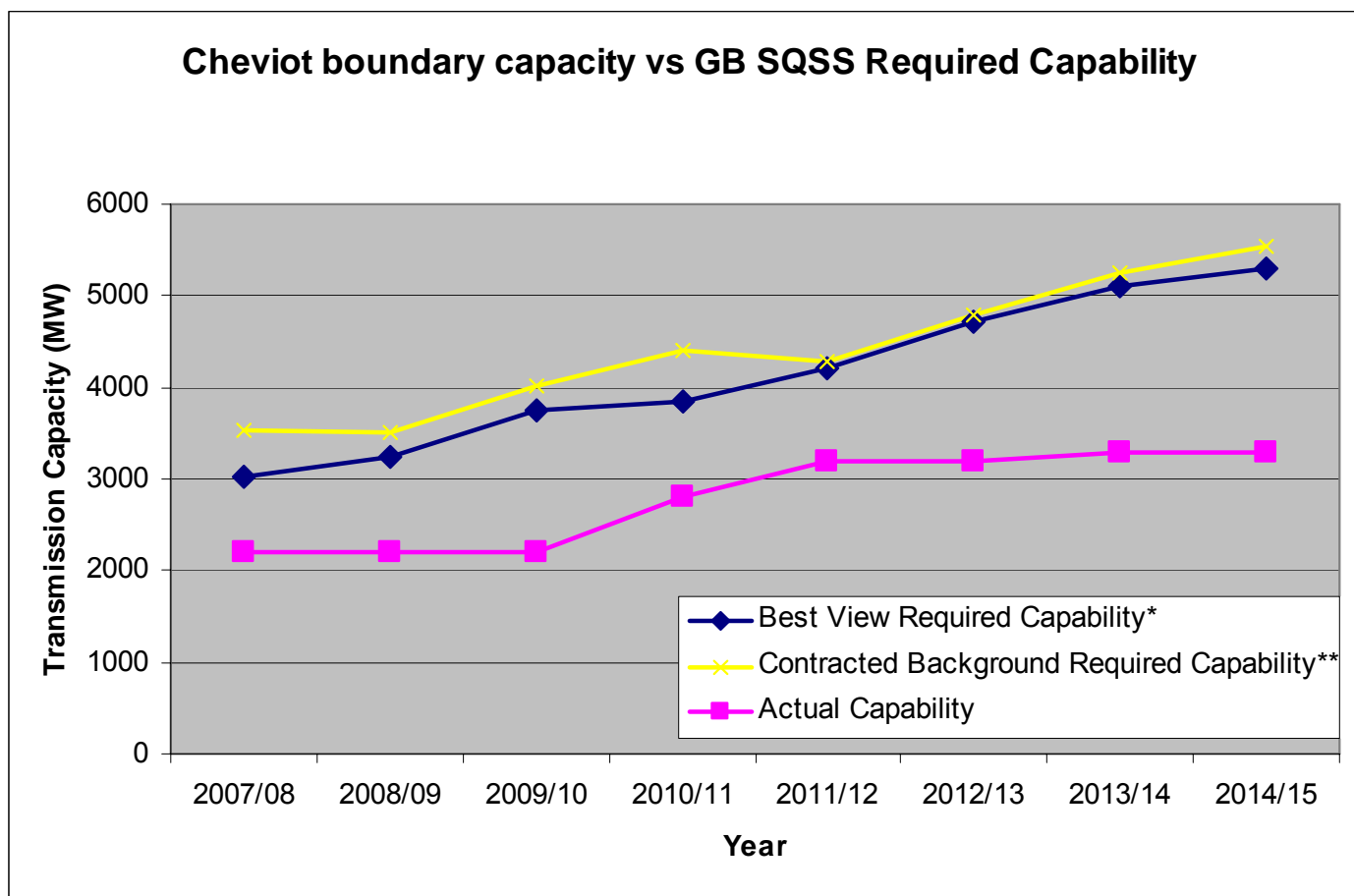
Charging Methodology Proposal

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Initial Thinking

- ◆ TNUoS : Proxy for the long run cost of Transmission Access
 - Assumes SQSS compliance (assets have been built)



Initial Thinking

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 - Assumes SQSS compliance (assets have been built)
- ◆ BSUoS : Constraint costs
 - Should reflect the efficient level of build on a Compliant Network
 - Proxy for short run costs of transmission access for non complaint capacity

Initial Thinking

- ◆ TNUoS : Proxy for the long run cost of Transmission Access
 - Assumes SQSS compliance (assets have been built)
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 - Should reflect the efficient level of build on a Compliant Network
 - Proxy for short run costs of transmission access for non complaint capacity

However

- ◆ If enduring Short Run Cost (SRC) > Long Run Cost (LRC)
 - TNUoS does not equal cost of transmission Access
- ◆ BSUoS: Currently “Postage Stamp” charging
- ◆ Does Postage Stamp BSUoS + TNUoS correctly signal cost of Access?

Locational BSUoS: Proposal

- ◆ **BSUoS charges: two component parts;**
 - Locational element reflecting the costs of constraints incurred through derogated boundary non compliance; and
 - A residual element incorporating the remaining costs.

Locational BSUoS: Proposal

- ◆ BSUoS charges: two component parts;
 - Locational element reflecting the costs of constraints incurred through derogated boundary non compliance; and
 - A residual element incorporating the remaining costs.
- ◆ **Locational element is allocated to**
 - all BMUs located behind the derogated boundary who are exporting in the period in question or
 - had ceased generating as part of System Operator constraint management action;

Determination of Volume Due to Non Compliance

**Commercial
Boundary
Requirement**

A

B

C

**SQSS
Compliant
Boundary
Capability**

D

E

**Physical
Boundary
Capability**

**Bids
included
within
Locational
BSUoS
Charge

(X MWh
value of Non
Compliance)**

**Bids
included
within
Residual
BSUoS
Charge**

**Least
Attractive
to SO**

**Sell
Actions
Are in
spread
price order**

**Most
Attractive
to SO**

TNUoS Implications

- ◆ TNUoS: proxy for the Long Run cost of transmission access
- ◆ Locational Element of BSUoS: proxy for the Short Run cost of transmission access
- ◆ If Parties exposed to both BSUoS and TNUoS for all capacity effectively charged twice for non compliant proportion of access.
- ◆ TNUoS charges in charging zones behind non compliant boundary will be scaled back to level of TEC that could be accommodated under a compliant network

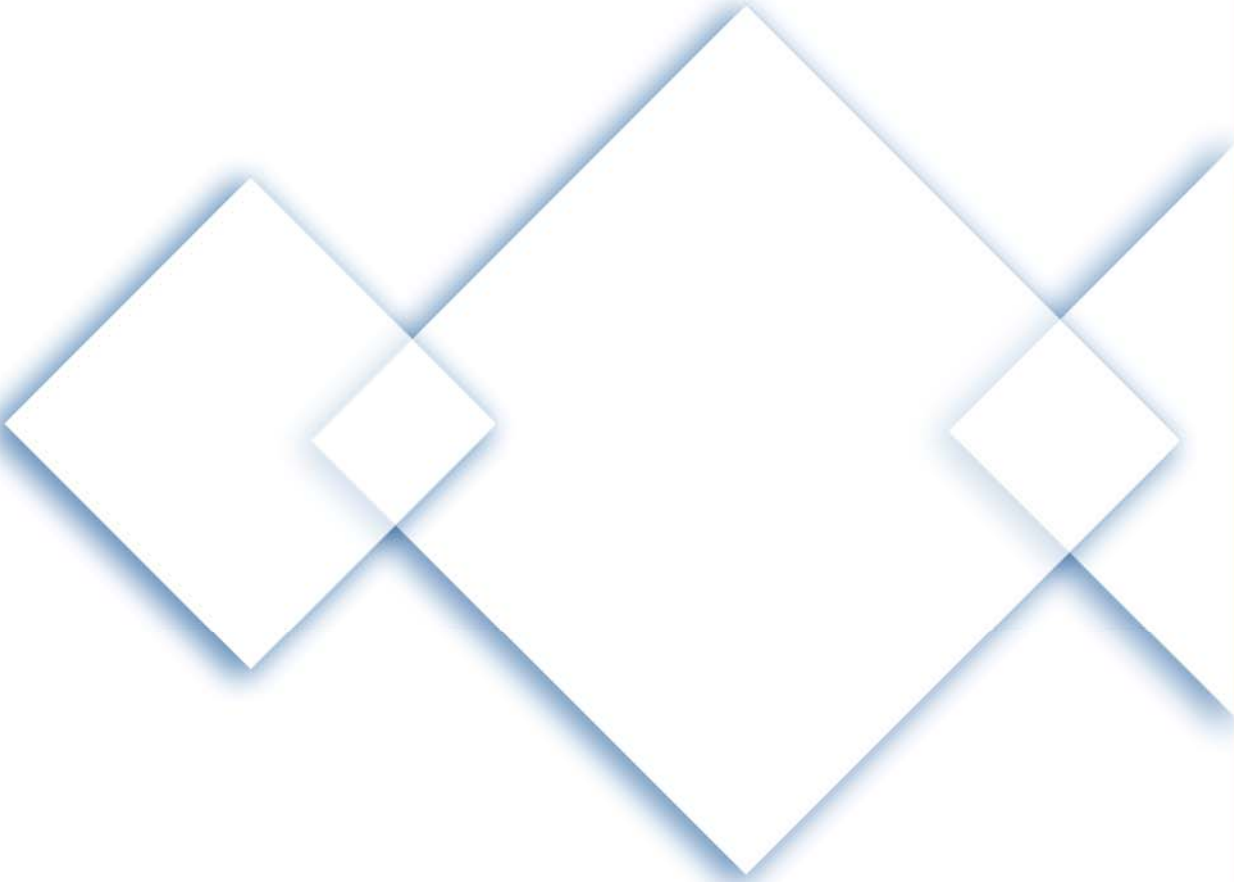
Comments requested

- ◆ A few key areas we specifically would welcome views on
 - What impact do you feel Locational BSUoS will make on constraint costs?
 - What do you see as to the benefits and/or consequences of this proposed change (e.g. in respect of new generation connecting)?
 - Do you agree with National Grid's assessment of the proposal against our relevant licence objectives?

Timeline

- ◆ Responses to the consultation requested by no later than close of play on 20 April 2009 (date extended following explanatory note)
- ◆ Offering to meet bilaterally to discuss further

<http://www.nationalgrid.com/uk/Electricity/Charges/modifications/uscmc/>



TO Incentives

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SO-TO aligned incentives

Efficient alignment of TO and SO financial drivers should help to reduce constraint costs over the medium and long term (1-7 years) by encouraging efficient and timely investment.

In addition, such alignment should also lead to:

- ◆ Improvements in the way the TOs plan outages to reduce overall cost in their medium term plans,
- ◆ With further re-optimisation in the short-term (within year) as short-term factors impact cost.

SO-TO aligned incentives – greater focus

Long Term (5-7 years) and Medium term (1-5 years):

- ◆ Outage alignment
- ◆ Outage duration and timing
- ◆ Outage innovation
- ◆ Outage stability
- ◆ Capacity increases (short-term and enduring)

Short term (within year):

- ◆ Re-optimisation

Capability incentive

Capability incentive on key boundaries/circuits

- ◆ Medium term incentive to maximise transmission capacity
- ◆ TOs rewarded for making additional capacity available

National Grid – Proposed Way Forward

- ◆ Further work required
 - To select all key boundaries and circuits
 - To devise financial incentive
 - Expect to complete this in next few weeks
- ◆ In discussions with TOs and Ofgem on best way forward
 - TO licence amendment
 - SO-TO Code amendment
- ◆ Ofgem also requesting feedback on TO incentives as part of 'Market Power Concerns' consultation



Latest thoughts on administered BM prices

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Ofgem consultation

- ◆ Ofgem consultation on 'Market Power Concerns' looks wider than just administering BM prices
- ◆ Considers alternatives to pay-as-bid mechanism such as marginal cleared price
- ◆ Considers ex-ante regulation mechanism (e.g. due to constrained regions)
 - Mechanism to cap prices
 - Comparison to other bids post event
- ◆ National therefore minded not to further investigate this route at this stage
 - Views welcome

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Feedback on our review

- ◆ Concerns have been highlighted by some industry parties on the:
 - Lack of transparency in relation to services required and costs
 - Not seeking new and more innovative ways of managing these costs
- ◆ In relation to transparency we agree there are issues as highlighted by CAP170
 - Significant improvements to Monthly Balancing Service Summary
- ◆ Innovation has been seen in respect of
 - Constraint Management service
 - Synchronous compensation agreements
 - New intertrip provision and contracting strategies
 - Use of Moyle interconnector
- ◆ To seek industry views a workshop is being arranged
 - Further details to follow

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Summary

- ◆ Increasing trend in constraint costs
- ◆ Volume issue on derogated boundaries
- ◆ Ofgem consulting on market power concerns
 - Not minded to progress administered BM prices at this stage
- ◆ Administered prices for CAT 5 intertrips raised and with Ofgem
- ◆ Locational BSUoS consultation closes on 20 April
- ◆ TO incentive work continuing
- ◆ Proposing workshop to look at constraint management transparency and innovation