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Managing Inefficient bypass in Charging: National Grid Proposal

NTSCMF/UNC0670R:
11 February 2020

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Agenda

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01

Introduction

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Overview

This is an opportunity to discuss and provide feedback on an initial proposal from National Grid for a new charging mechanism to provide optionality in the Charging Methodology to assist in managing potential inefficient bypass of the NTS

Minded to position for 0678A would mean, without further modification(s) there would be no such product should 0678A be implemented.

For 0670R this is presented for awareness and discussion.

As a modification proposal it would be presented as a new modification separate to 0670R.

This expands on the material of 28 January to provide additional detail and initial analysis to inform our current thinking

Key principles

Focus of the proposed new product is that it be **simple, targeted** and **proportionate.**

Emphasis is placed where it could be considered more likely for potential bypass, with a generic methodology.

The resulting product would have a more **predictable** resulting impact on other charges.

Provides an approach than can be **delivered** for October 2020 and reviewed and updated over time through UNC change process.

Overview of product: Key components

Summary of key components

- Provides a discount to Transmission Services Capacity Reserve Prices (Entry and Exit) for Eligible Quantities
- Transmission Services Revenue Recovery Charges and General Non Transmission Services Revenue Recovery Charges remain payable
- Logarithmic curve to determine the discount based on distance and linked to proportion of revenues effectively being levied on others
  - Shorter the distance the larger the discount
  - Discount collared at 10% (limit linked to interruptible discount)
- Existing Contracts not eligible for discount, these capacity prices are fixed
- Storage points and DN offtakes are not eligible Entry/Exit points for the product
- Limitations on flexibility once route nominated

Overview of product: Key components

Eligible Quantities

- Principle based on minimum of Shipper specific Firm Entry Capacity, Entry Flows, Firm Exit Capacity, Exit Flows at the nominated Entry and Exit point at a starting level.
  - Firm capacity entitlements will need to take into account secondary trades
- There are two Eligible Quantities, one for Entry and one for Exit.
  - Existing Contracts would not be eligible for the capacity discount product. This would therefore only adjust the Entry eligible quantity. Providing there is primary firm capacity for Exit, an Exit discount would be applied.

Overview of product: Key components

Eligibility

- Once applied for, eligibility is enduring (i.e. do not need to reapply).
  - Once selected, if changed or removed, the original route cannot be re-nominated within that gas year.
  - Once selected, can not change the Entry point to the associated Exit point within that gas year.
- Application process ahead of the gas year, using the current SPA (Supply Point Administration) process. Must nominate the route from an Entry point to an Exit point.
- Cannot have multiple Entry points to one Exit point. Can have multiple Exit points from one Entry point.
- If the nominated route (Entry point to Exit point) at the start of the gas year has less discount than lower limit due to a parameter change the route will be removed from product and Shipper informed.

Overview of product: Key components

Accessibility and use

- Available to all within a flexible distance band linked to proportions of revenues that are, in effect, incorporated into other charges
- Would be requested via the SPA process
- Changeability:
  - Once requested expectation for that nomination to remain.
- Use and access to product:
  - If no flows or no capacity bookings at either the specified Entry point or Exit point the no discount will be applied.
- Reasonable nature of product – challenging to build in actual risk of bypass. Takes a reasoned approach to reflect on distances over which it may be used and the potential impact on other charges

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Discount Curve Rationale

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Likelihood of Bypass

- Here we explore the basis of using a curve in the proposal.
- We also expand on how costs are considered in the thinking behind the proposal
- Provide the basis for the discount curve being applied
- Show the equation for the discount

Likelihood of Bypass

1. Using the General Flow Equation; with constants taken from TPD Section Y 2.5.2, current MNEPOR, and Pipeline Distances, a Pipe Diameter for all potential routes was calculated

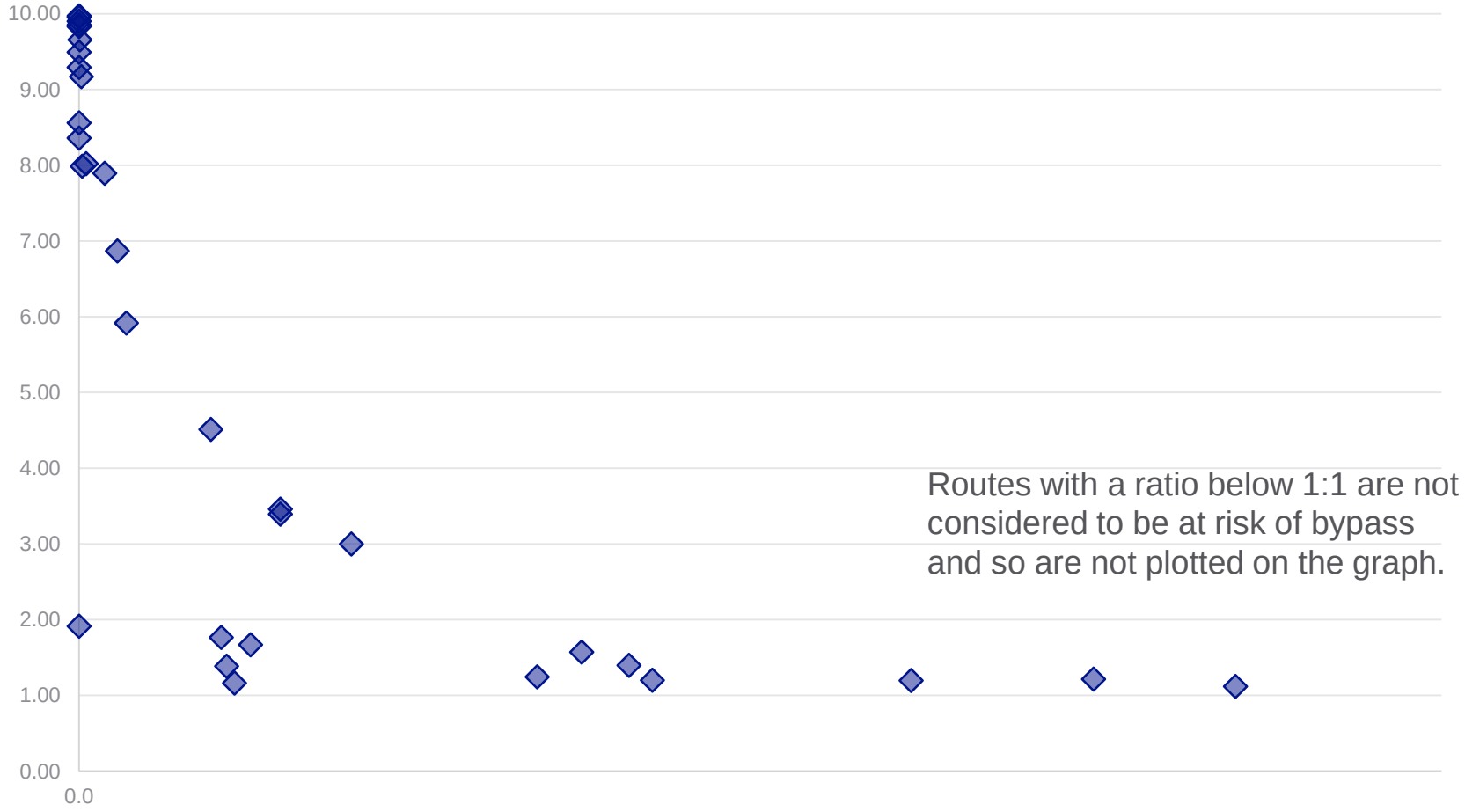
2. Using a formula published by the Council of European Energy Regulators in paper "*PROJECT CEER-TCB18 - Pan-European cost-efficiency benchmark for gas transmission system operators – 17.07.2019*", pipeline costs have been calculated based on Pipeline Distance and Pipe Size

Likelihood of Bypass (cont.)

1. Using timescales inferred from the PARCA process, construction timelines have been estimated for each route based on Pipeline Distance and Pipe Size.
2. Costs of using the NTS during construction period were calculated, based on Entry & Exit FCC and Standard 2020/21 0678A Reserve Prices.
3. Construction and NTS usage costs are combined and split evenly across a 10 year period to create an averaged annual cost of bypass construction.
4. Annual NTS usage costs estimated based on Entry & Exit FCC and Standard 2020/21 0678A Reserve Prices.
5. Ratio of annualised Bypass construction costs vs. Annual NTS costs calculated.

Likelihood of Bypass vs Distance

Ratio of Bypass construction costs vs. Annual NTS costs calculated, plotted against Distance (km)



Likelihood of Bypass

1. Graph demonstrates a curve and suggests a correlation between distance and likelihood of bypass based on the construction costs
2. Highest calculated Ratio of bypass costs against NTS usage costs is at 0km, the ratio is 9.973:1
3. This implies the most likely bypass user, over a ten year period could achieve an 89.97% reduction on NTS Transmission costs. We have rounded this to 90%.

The resulting equation

$$PCD_r = \left(\left(\frac{1}{IFERROR\left(e^{1.6094*(CSLy\ \hat{}\ -1)}, 1\right)} \right) \wedge SLDr \right) - \left(1 - \left(\frac{MDAy}{100}\right)\right)$$

Where:

PCD = Provisional Conditional Discount

CSL = Cross Subsidy Limitation

MDA = Maximum Discount Available

SLD = Straight Line Distance

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Sensitivities / Impacts

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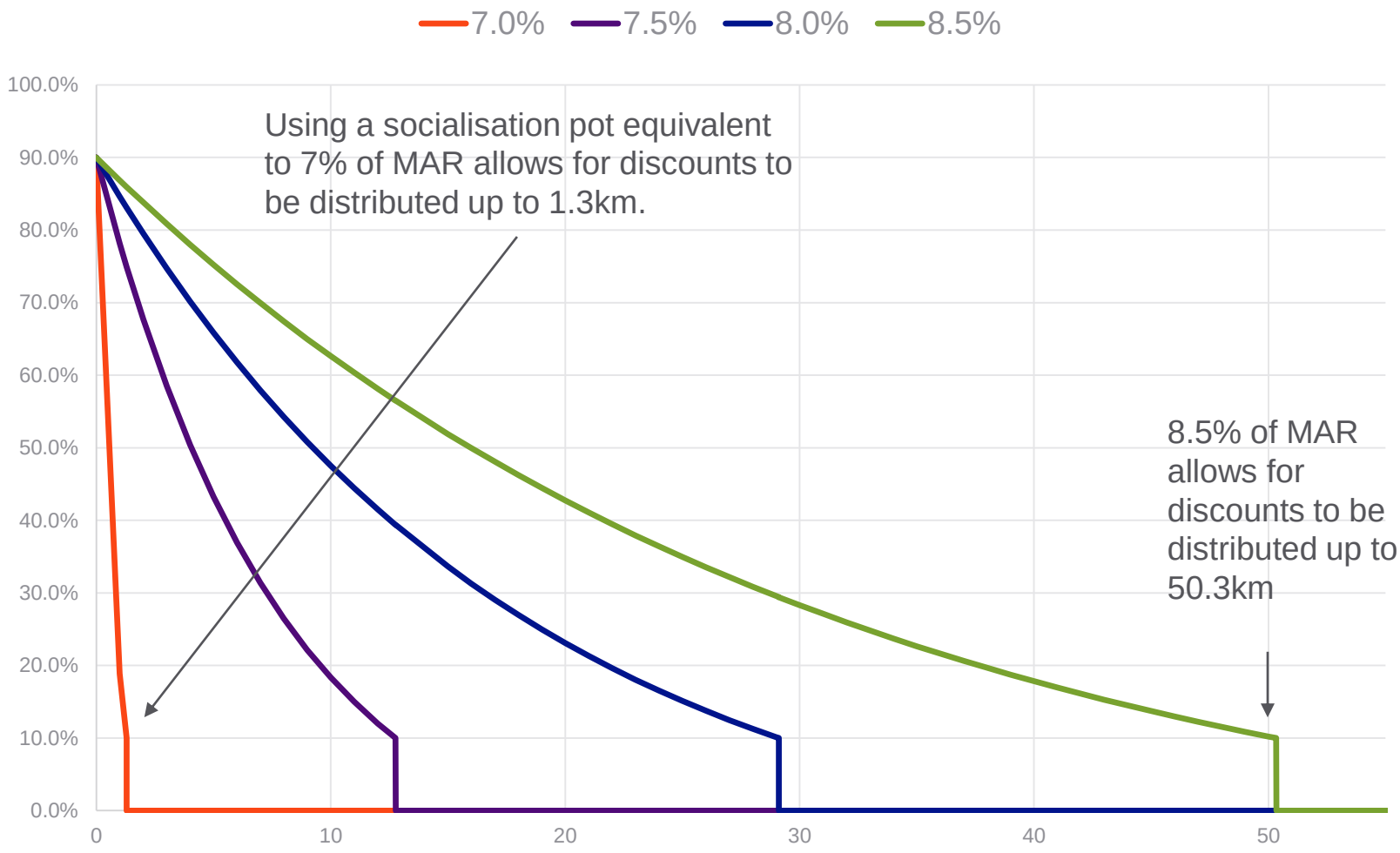
Sensitivities / Impacts on the Discount Curve

- In this section we demonstrate how, in combination with the other inputs (max discount, min discount, etc) interact with the amounts paid and, by default, are socialised.
- This is to illustrate the sensitivities of changing certain inputs such as % Revenues, Transmission Services and Non Transmission Services, curve versus straight line discount.
- Using one set of inputs we also summarise the results in the table form presented under previous analysis.

Discount vs Distance (km)

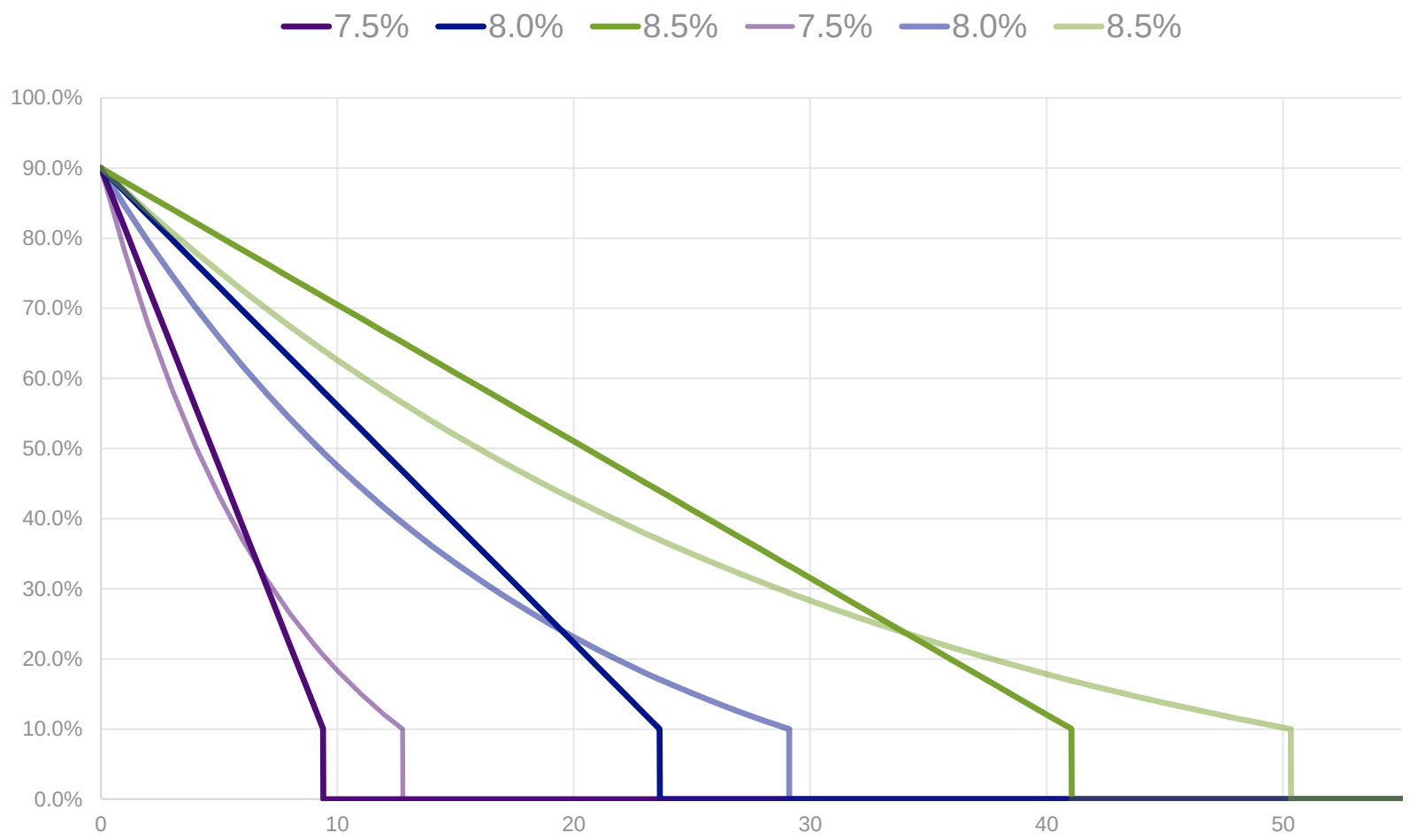
Based on a level of socialisation as a % of MAR

Straightline distances – 90% discount applied only to Transmission Charges



Curve vs. Straight Discount Formula

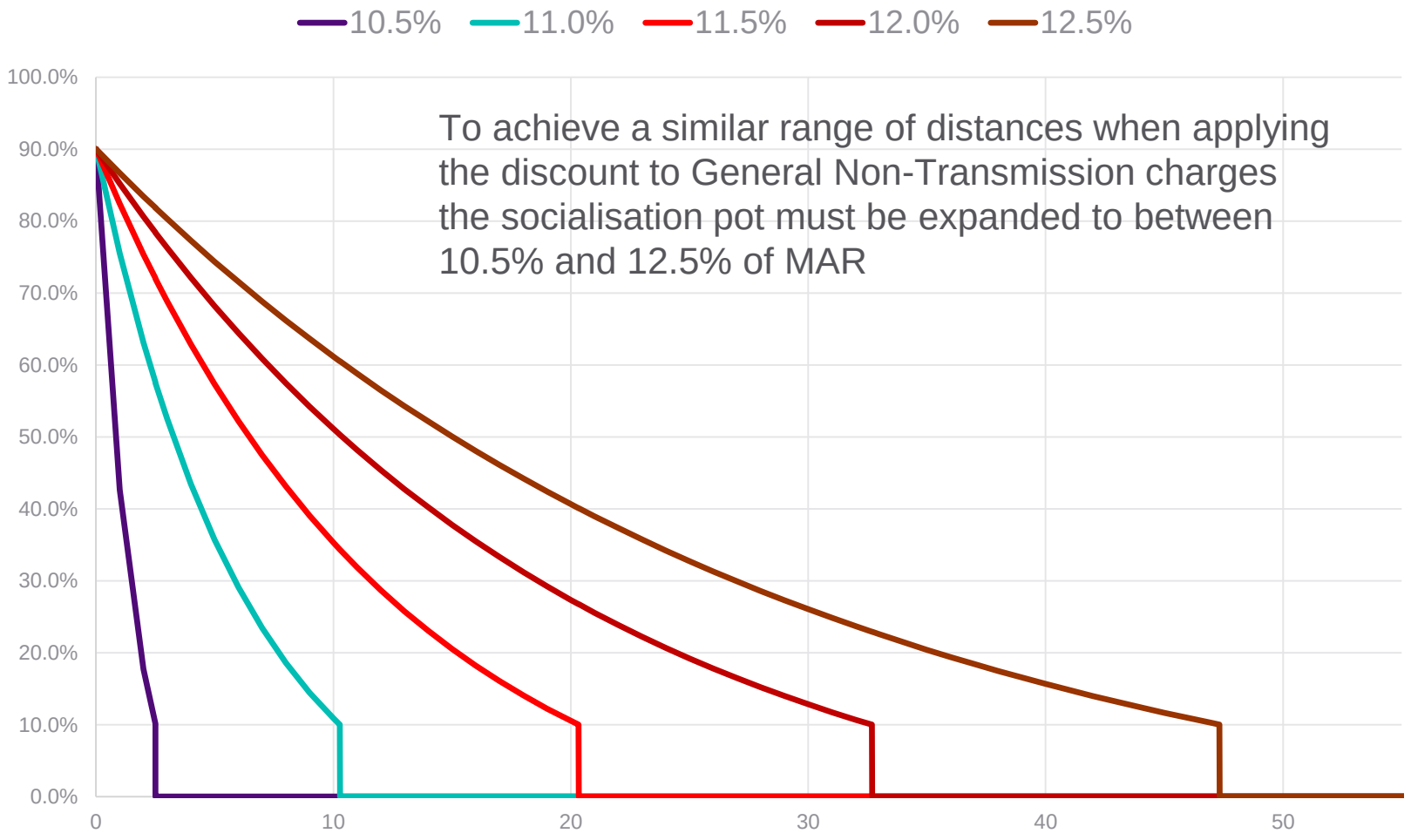
Based on a level of socialisation as a % of MAR
Straightline distances – 90% discount applied to Transmission Charges



Discount vs Distance (km)

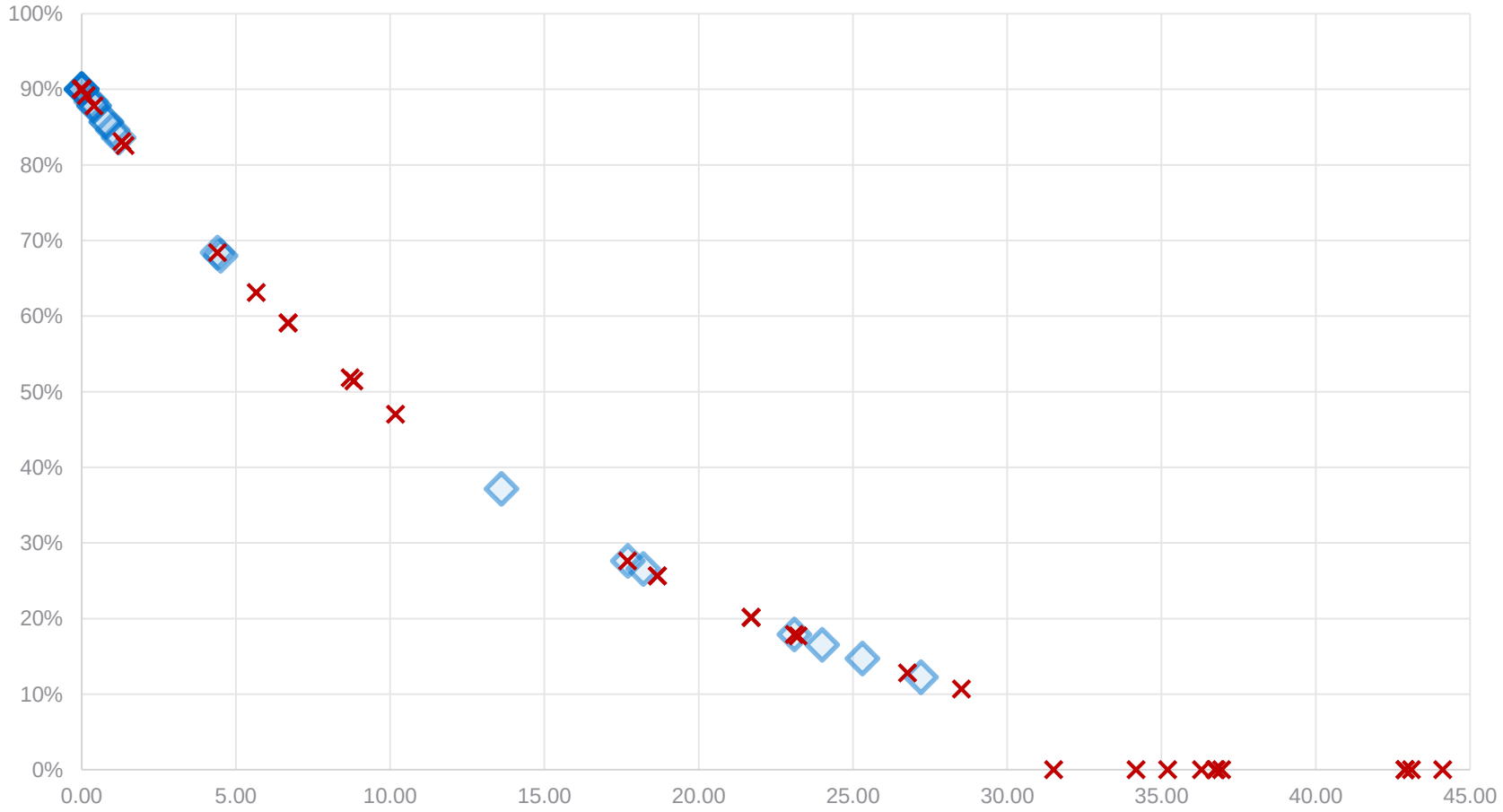
Based on a level of socialisation as a % of MAR

Straightline distances – 90% discount applied to Transmission & General Non-Transmisson Charges



Discount vs Distance (km)

Current Straight-line Distances
Transmission Discounted only. RRC and General Non-Transmission charges remain payable
8% MAR Socialised
Calculated Limitation for discount is 29.11km



Analysis

All based on Straight line distances.

NGG Proposal provides a 90% Discount to Transmission Charges only.

	Prevailing OCC	0678H/J	FCC into Stage 1	NGG Proposal
OCC Contribution (£)	£28,695,987.33	£16,993,934.00	£13,612,172.74	£57,355,899.36
Potential TS Socialisation (£)	£91,588,511.59	£65,207,293.37	£60,920,174.44	£60,848,400.34
Gen Non-TS Socialisation	£55,509,882.68	£42,648,739.22	£39,072,506.45	£0.00
Socialisation as % of MAR	19.4%	14.3%	13.2%	8.0%
Routes Considered	18	14	12	21
Max Effective Rate Discount	99.1%	97.6%	95.7%	62.7%
Longest Route Considered	244.0	53.0	27.0	27.0

Note:

TS refers to Transmission Services

General Non-TS refers to General Non-Transmission Services

Longest route considered only includes options where Firm capacity can be procured for Entry and Exit

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Contact details

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Contact National Grid

For any queries, comments, or more information please contact:

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