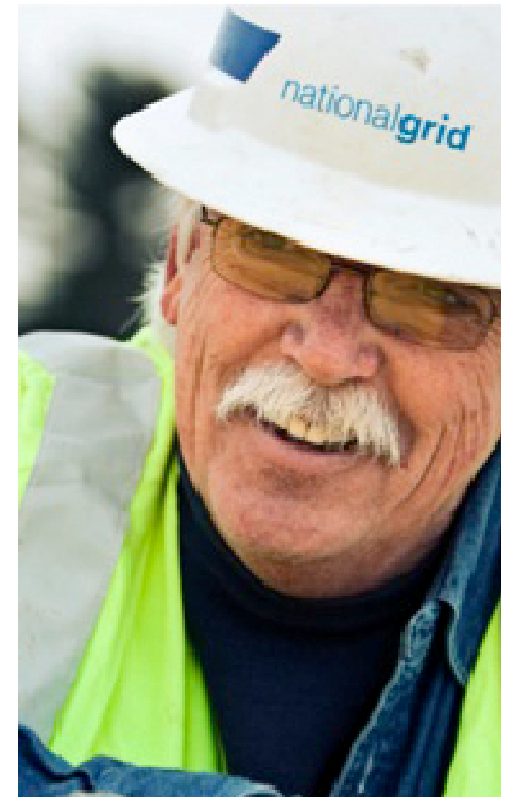
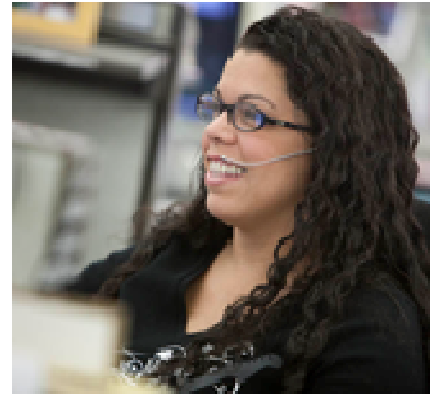


# Transportation Model Update

Gas TCMF Thursday 3<sup>rd</sup> September 2009



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# Changes made to the Transportation Model (1)

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- ◆ We are in the process of updating the Transportation Model to make it more user friendly.
- ◆ Aesthetic updates include:
  - ◆ Moving the calculation buttons to the top of the worksheet so more data is visible on the screen
  - ◆ Colour-coding to make the data easier to interpret
  - ◆ Adding navigation buttons to make the data easier to view
  - ◆ Changing some headings for clarity
  - ◆ Adding a “Clear Results” button to the “Entry Capacity Prices” worksheet to make incremental analysis easier

# Changes made to the Transportation Model (2)

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- ◆ Other changes include:
  - ◆ Updating the calculation buttons so that each button now completes all preceding steps
  - ◆ User-friendly error messages
  - ◆ The addition of a form to allow users to add a new entry or exit point to the Transportation Model easily

# Screen Shot of Exit Capacity Prices Worksheet

The screenshot shows an Excel spreadsheet with the following sections and highlighted elements:

- Navigation Buttons (Top):** A row of buttons including 'Reset Ranges', 'Show / Hide Controls', 'Show / Hide Notes', 'Jump to Unadjusted Prices Table', 'Jump to Administered Exit Prices Table', and 'Add a New Exit Point'. These are circled in orange.
- Notes (Rows 7-16):** A blue-shaded area containing four numbered instructions regarding LRM calculations and pricing.
- Colour Key (Rows 18-27):** A table defining the meaning of different colors used in the spreadsheet.
- Transport Model (Rows 28-31):** A section with a 'Reference Node' dropdown set to 'ABSON' and two buttons: 'Clear LRMCs' and 'Calculate LRMCs'. These are circled in orange.
- Tariff Model - Raw (Unadjusted) Prices (Rows 32-35):** A section with input fields for 'Annuitization Factor' (0.10272) and 'Expansion Constant' (2223 £/GWhkm), and two buttons: 'Reset Adjustment Factor' and 'Calculate Entry Prices'. These are circled in orange.
- Pipe Data (Rows 36-50):** A table with columns: Inlet, Outlet, Length (km), and Flow (GWh).
- Node Data (Rows 51-65):** A table with columns: Node, Supply (GWh), Demand (GWh), and Entry LRM (£/kWh).
- Tariffs - Raw (Unadjusted) Entry and Exit Prices (Rows 66-75):** A table with columns: Entry Point, Entry Flow (GWh), Entry LRM (£/kWh), and Entry Price (£/kWh/day).

Clicking this button will:

- 1) Reset Ranges;
- 2) Clear LRMCs;
- 3) Calculate LRMCs; and
- 4) Calculate Entry Prices

4 Navigation buttons to allow user to jump to results tables

Calculation buttons above the relevant results table

# Screen Shot of User Form

How to use this form:

- 1) Choose to create a new entry point or a new exit point using the tick boxes below.
- 2) Enter the name of the new entry / exit point in the "New Node" box and choose where it will connect to the system using the "Existing Node" drop-down box.
- 3) Populate the remaining highlighted boxes with the relevant information. If you choose to create a new entry point, some default values have been entered for you but these can be overwritten. Please refer to the latest Incremental Entry Capacity Release Methodology Statement on the National Grid website for guidelines on how to calculate the correct number of Incremental Steps and Step Size.
- 4) The form only populates the Transportation Model with the new entry / exit point and does not recalculate prices.

New Entry Point     New Exit Point

New Node:  Existing Node:

Supply:  GWh/d Demand:  GWh/d

Length:  km DN Exit Zone (if applicable):

Obligated Entry Capacity:  GWh/d Number of Incremental Steps:  Step Size:  GWh/d

CV:  MJ/m<sup>3</sup> Minimum Flow:  GWh/d Connection Cost:  £m

Buttons:

Colour	Meaning
Blue Buttons	Calculation Button
Green Buttons	Navigation Button
Purple Buttons	Help Information
Blue Text	User Input
Green Text	Macro Output
Purple Text	Formulae
Black Text	Headings/Labels

Inlet	Outlet
ABERDEEN	CARESTON
ABERDEEN	KIRRIEMUIR
ABERDEEN	KIRRIEMUIR
ABERDEEN	LOCHSIDE
ABERDEEN	LOCHSIDE
ABERDEEN	MOSSIDE
ABERDULAIS	DYFFRYN_CLYDADEEN
ABSON	ILCHESTER
ALBURY_(MRS)	WINKFIELD
ALREWAS_EM	ALREWAS_WM
ALREWAS_WM	AUSTREY

Demand (GWh)	Entry LRM (km)
29.94	780.58
0.00	232.25
0.00	0.00
0.00	213.51
0.00	22.70
87.95	101.87
114.32	101.87
1.06	210.07
2.60	572.12
67.55	145.45
3.22	317.83

User can choose to add a new entry or exit point, which will enable the relevant boxes

User Form is launched via a button

# Going Forward

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- ◆ We welcome any feedback or suggestions for further changes
- ◆ Extensive testing will be carried out prior to release
- ◆ A new user guide will be made available with the release of the new Model