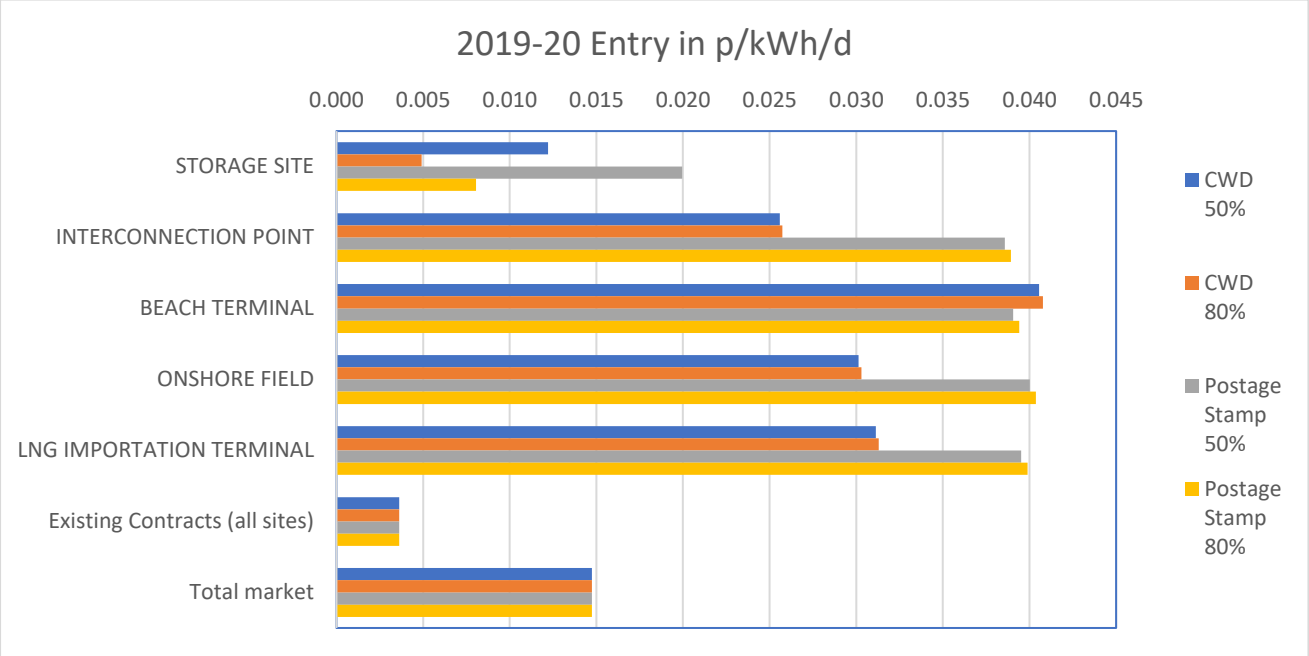
Appendix 4 Supporting Analysis

Charges have been calculated using the same model, FCC input data and booking assumptions provided by National Grid on 15 March. Only charges for 2019/20 have been calculated given the uncertainty of booking behaviour and the different allowed revenue in other years that make year on year comparisons less meaningful.

Average Entry Charges

The graphic below shows the average Entry charges by customer type for the main modification groupings. i.e CWD or Postage Stamp and the size of discount for storage.

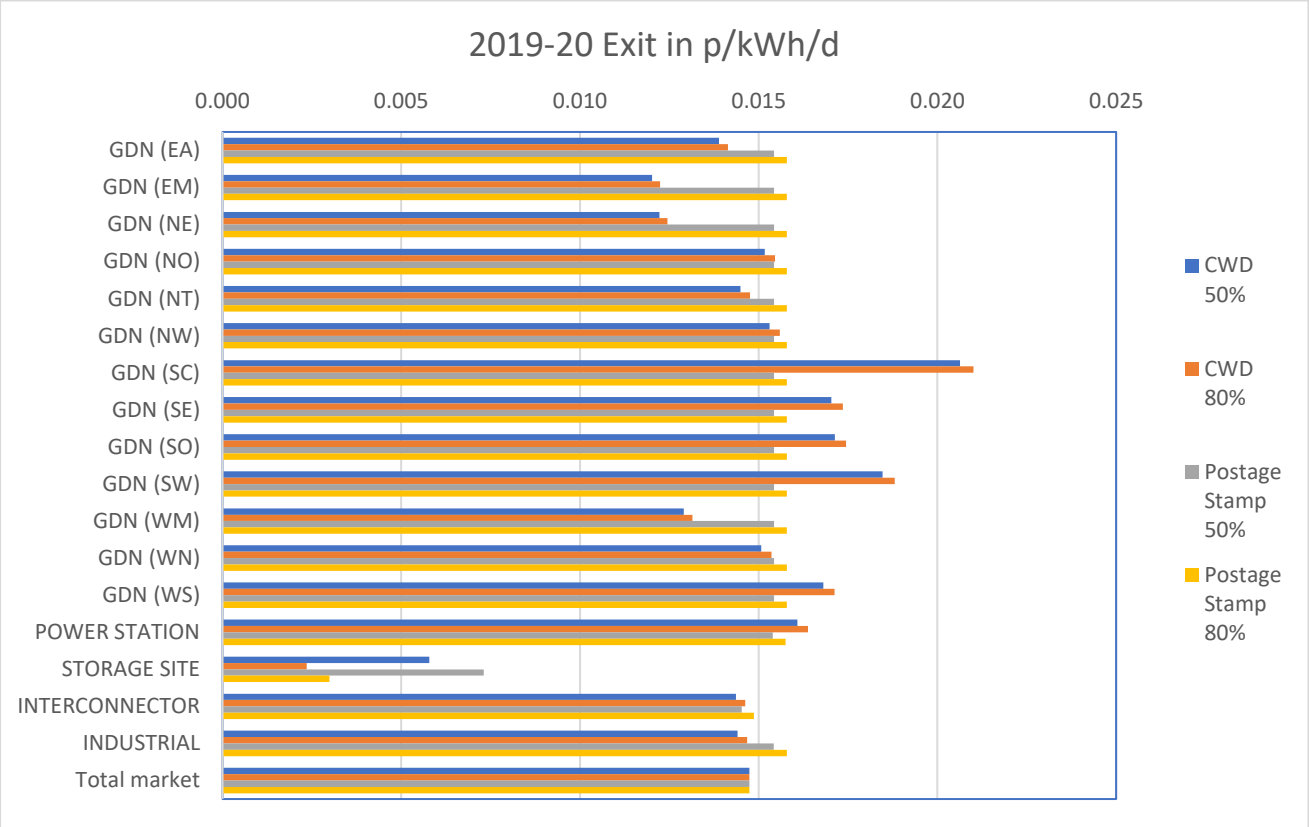
The Entry charges for customer groups for PS are close together whereas CWD penalises Beach terminals. Existing contracts are lower than all future costs. This may be unduely discriminatory and makes the application of RRC to all points,except storage, not only an important point for compliance but also for effective competition.



Average Exit Charges

The graphic below shows the average Exit charges by customer type for the main modification groupings. i.e CWD or Postage Stamp (PS) and the size of discount for storage.

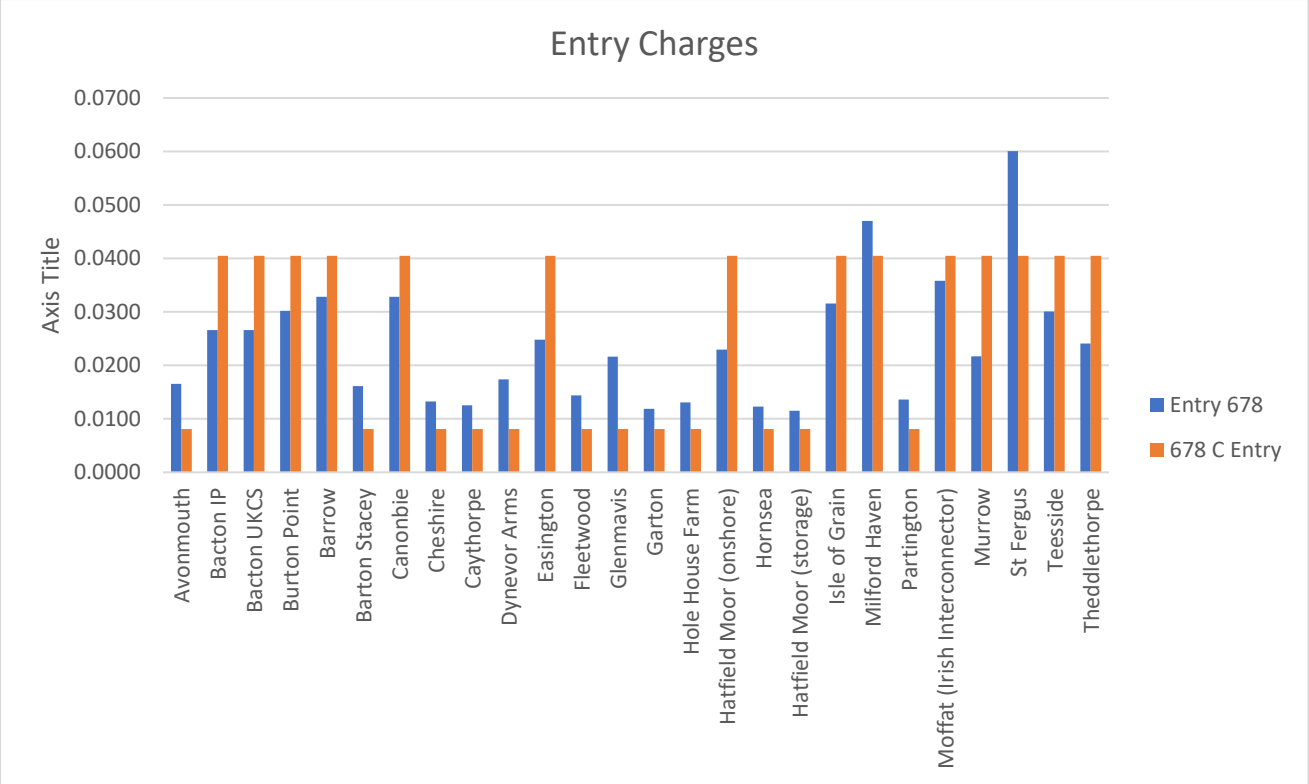
The Exit charges for customer groups for PS are close together whereas CWD has higher charges for DN customers in Scotland and SW. Given higher usage costs given climatic conditions in Scotland it might be considered unfair to ask customers to pay more for Transportation charges which are not cost reflective given the high percentage of GB gas landed at St Fergus.



Specific Entry Charges

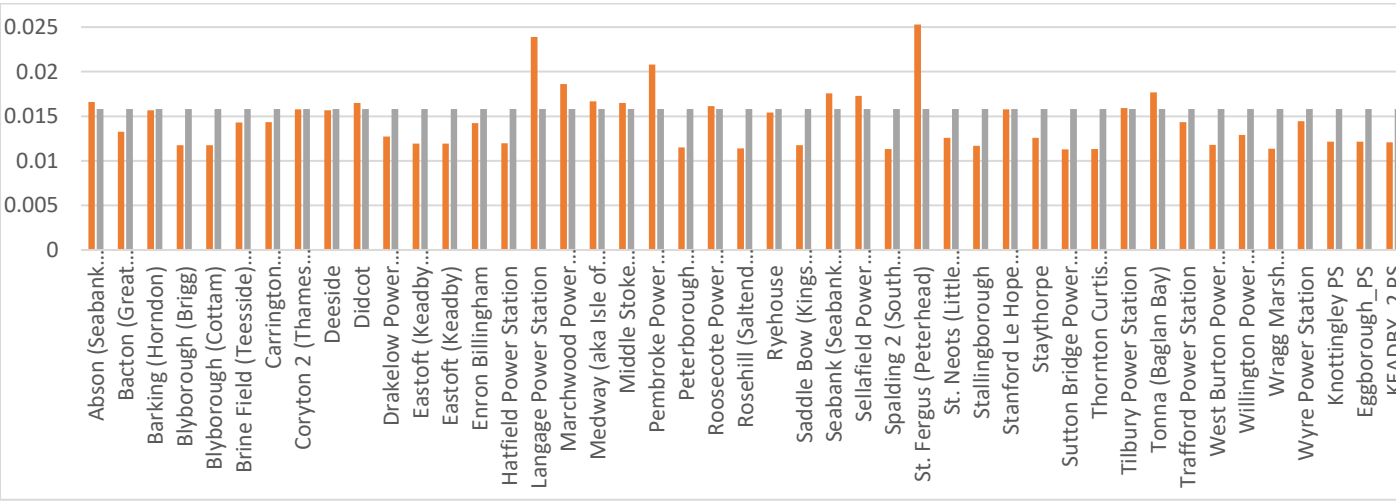
SSE's concern is the impact of an RPM which is not cost reflective and the subsequent distortive impacts on wholesale markets. NG will always recover allowed revenue but the increase in costs arising to customers from distortions to wholesale markets can be material. The PS will always minimise these distortions and is therefore preferable. As expected, averages in the above graphics can be misleading for individual points and therefore the next 2 graphics provide more detail for individual points with consequences for wholesale prices and increased costs to customers.

The Postage Stamp Entry costs are the same for storage and non- storage user groupings and therefore no distortion occurs. Whereas the costs differentials and subsequent distortions under CWD are much higher, St Fergus is the highest by 50% compared with PS. Given that St Fergus is key to GB gas supply this will lead to an increase in NBP gas price for CWD compared with PS of 0.02 p/kwh or 0.6 p/th. If St Fergus sets the marginal price of supply on each day (supporting information below) then wholesale costs to customers will increase by 0.6p/th * 33 bn therms /yr = £193 m/yr or £10/year/customer.



Specific Exit Charges

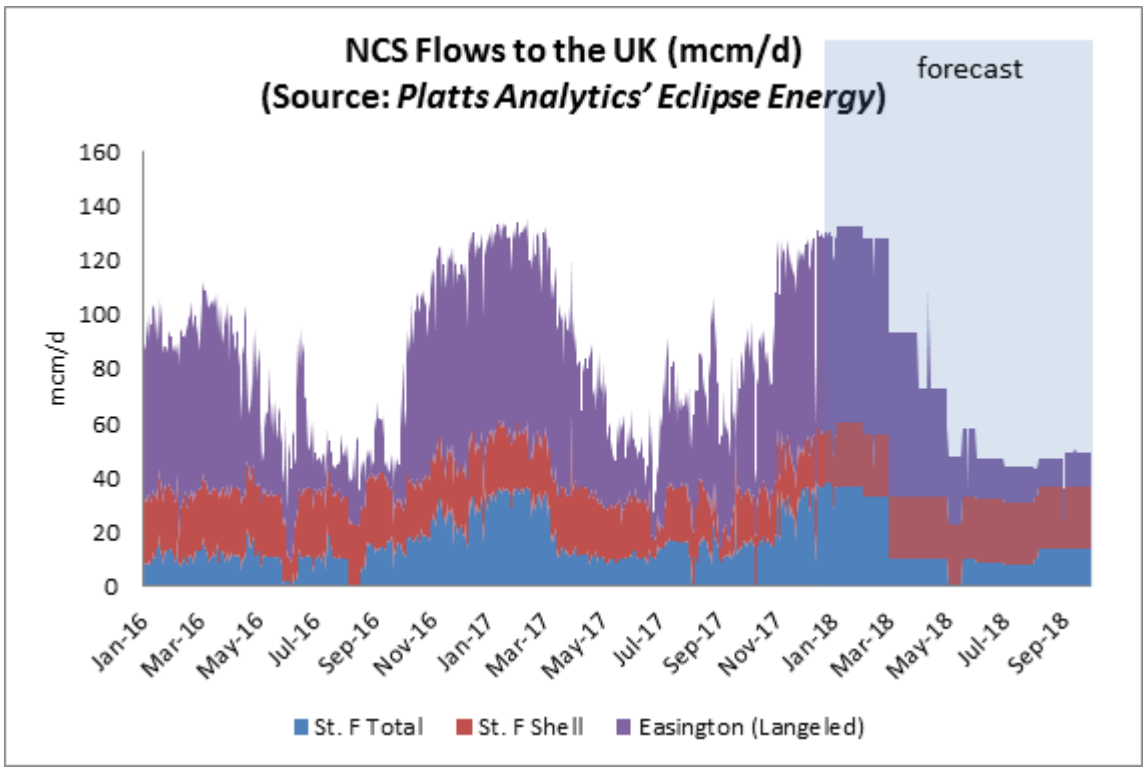
The Postage Stamp Exit costs are the same for all power stations and therefore no distortion to the wholesale electricity market occurs. Whereas the costs differentials and subsequent distortions under CWD are much higher, Peterhead is the highest by 60% compared with PS and results in an increase in cost of 0.025-0.0154 p/kwh/d which equates to £2.3 /kW based on 73 GWh/day. If this plant were marginal and set the clearing price in the Capacity Mechanism auction then, all else being equal, the increase in cost across a typical 50 GW auction volume would be £117m/year charged to and paid by increases to customer bills.



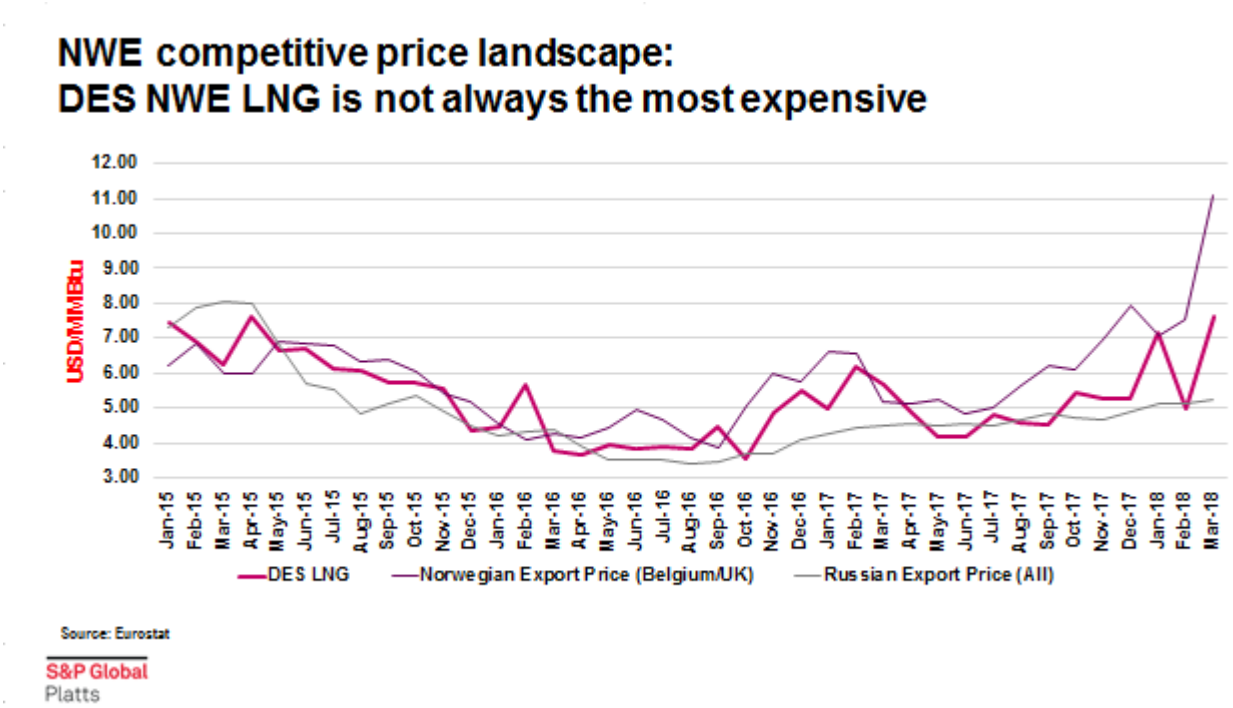
A table is included at the end of this appendix to show the amount of revenue collected by each customer grouping by main modification type.

St Fergus Setting Marginal Price for GB NBP

1. GB receives a material amount of gas from Norway and indigenous production through St Fergus, making it a key supply point and price setter for NBP price. St Fergus currently receives gas every day from the Norwegian Continental Shelf (NCS) as shown below

2. 

3. Additionally, the chart below shows that Norway has been the marginal supplier in 2018 with the highest price. It is therefore reasonable to expect any future costs associated with delivering gas from Norway to GB/EU to be passed through to the NBP price.



4.

5. In the future, if Norwegian flows into St Fergus are incremental and discretionary on the day, then all else being equal, one can expect the marginal capacity cost to feed into the cost of wholesale gas at the NBP.

6. The link from the ACER publication below, shows on page 57, figure 31 the cost of transiting gas around Europe. https://acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Market%20Monitoring%20Report%202016%20-%20GAS.pdf

7. It shows that the cheapest option to flow gas from Norway to GB is direct and not via Europe. Therefore, if we are to continue to receive gas on any day from the NCS, any increase in entry capacity costs at St Fergus will directly feed through into GB gas price.