

**centrica**

# Centrica plc

UNC Modification 0653 Workgroup

1 August 2018



# UNC Modification 0653 - Background

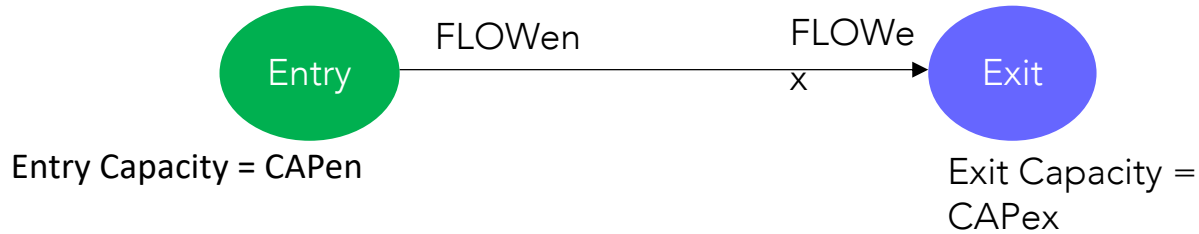
- Aims to replace the current Optional Commodity Charge with an Optional Capacity Charge
- Proposed implementation date: 1 October 2019
- Originally raised as an alternative to UNC mod proposal 0636
- Xoserve estimate 45 weeks required to develop systems solution
- Aiming to send the draft workgroup report to the September 2018 UNC Panel

# Key Features of the Proposal

- Identify the Applicable Quantity (AQ) to which the Optional Capacity Charge will apply
- Levy discounted entry and exit capacity reserve charges on the AQ quantity
- Disapply SO entry and exit commodity charges for the AQ quantity
- Apply the TO entry and exit commodity charges on all gas flows
- Conventional charges will apply to non-AQ quantities

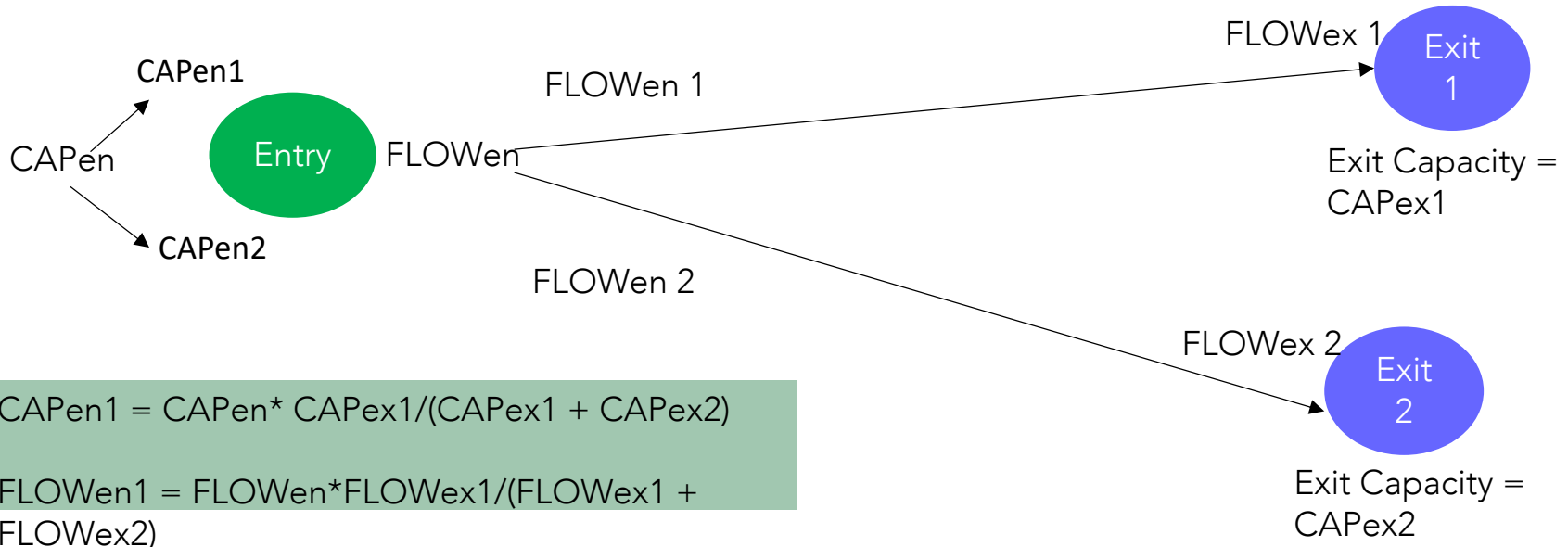
# Establishing the Applicable Quantity (AQ)

$$AQ = \text{Min} \{CAP_{\text{En}}, CAP_{\text{Ex}}, FLOW_{\text{En}}, FLOW_{\text{Ex}}\}$$



# Establishing the Applicable Quantity (AQ)

$$AQ1 = \text{Min} \{CAPen1, CAPex1, FLOWen1, FLOWex1\}$$



$$CAPen1 = CAPen * CAPex1 / (CAPex1 + CAPex2)$$

$$FLOWen1 = FLOWen * FLOWex1 / (FLOWex1 + FLOWex2)$$

# Optional Capacity Charge

Entry Point Reserve Price =  $P_{en}$ ; Exit Point Reserve Price =  $P_{ex}$

Optional Charge (straight-line distance) =  $D$

Entry Point Weighted Average Distance =  $CWD_{en}$ ; Exit Point Weighted Average Distance =  $CWD_{ex}$

Entry Capacity Entitlement Weighted Av. Price =  $WAP_{en}$ ; Exit Capacity Entitlement Weighted Av. Price =  $WAP_{ex}$

| Charge           | Applicable Quantity     | Non-Applicable Quantity |
|------------------|-------------------------|-------------------------|
| Entry Cap Charge | $P_{en} * D / CWD_{en}$ | $WAP_{en}$              |
| Exit Cap Charge  | $P_{ex} * D / CWD_{ex}$ | $WAP_{ex}$              |
| SO Commodity     | Not Payable             | Payable                 |
| TO commodity     | Payable                 | Payable                 |

# Example: ASEP to Single Exit Point

## Site Characteristics

|   | Entry      | Exit       |
|---|------------|------------|
| Capacity Entitlement (kWh/d)              | 50,000,000 | 20,000,000 |
| Flow on Day (kWh)                         | 25,000,000 | 18,000,000 |
| Applicable Quantity -AQ (kWh)             | 18,000,000 | 18,000,000 |
| Non-OCC Capacity (kWh/d)                  | 32,000,000 | 2,000,000  |
| Non-OCC Flow (kWh)                        | 7,000,000  | 0          |
| OCC Distance (km)                         | 70         | 70         |
| Capacity Weighted Distance (km)           | 280        | 320        |
| OCC Multiplier                            | 0.250000   | 0.218750   |
| OCC Capacity Discount                     | 75%        | 78%        |
| Capacity Reserve Price (p/kWh/d)          | 0.0488     | 0.0062     |
| TO entry commodity charge (p/ kWh)        | 0.0427     | n/a        |
| TO exit commodity charge (p/kWh)          | n/a        | 0.0203     |
| SO entry commodity charge (p/kWh)         | 0.0089     | n/a        |
| SO exit commodity charge (p/kWh)          | n/a        | 0.0089     |
| Capacity WAP (assume 20% int @ zero cost) | 0.03904    | 0.00496    |

## Daily Charges without OCC (£)

|                   | Entry  | Exit  |
|-------------------|--------|-------|
| Capacity: non-OCC | 19,520 | 992   |
| Capacity: OCC     | n/a    | n/a   |
| TO commodity      | 10,675 | 3,654 |
| SO commodity      | 2,225  | 1,602 |
| Total             | 32,420 | 6,248 |

----- Full capacity entitlement and WAP

## Daily Charge with OCC (£)

|                   | Entry    | Exit    |
|-------------------|----------|---------|
|                   | -        | -       |
| Capacity: non-OCC | 12,492.8 | 99.2    |
| Capacity: OCC     | 2,196.0  | 244.1   |
| TO commodity      | 10,675.0 | 3,654.0 |
| SO commodity      | 0        | 0       |
| Total             | 25,363.8 | 3,997.3 |

----- Non-OCC capacity and WAP

----- Applicable Quantity, Cap reserve price and OCC multiplier

|                  |       |       |
|------------------|-------|-------|
| OCC saving (£) = | 7,056 | 2,251 |
|                  | 22%   | 36%   |

# Example 1 cont.

| <u>Site Characteristics</u>               |              |                   |
|---|--------------|-------------------|
|   | <u>Entry</u> | <u>Exit</u>       |
| Capacity Entitlement (kWh/d)              | 50,000,000   | 20,000,000        |
| Flow on Day (kWh)                         | 25,000,000   | 18,000,000        |
| Applicable Quantity -AQ (kWh)             | 18,000,000   | 18,000,000        |
| Non-OCC Capacity (kWh/d)                  | 32,000,000   | 2,000,000         |
| Non-OCC Flow (kWh)                        | 7,000,000    | 0                 |
| OCC Distance (km)                         | 70           | 70                |
| Capacity Weighted Distance (km)           | 280          | 320               |
| OCC Multiplier                            | 0.250000     | 0.218750 = 70/320 |
| OCC Capacity Discount                     | 75%          | 78%               |
| Capacity Reserve Price (p/kWh/d)          | 0.0488       | 0.0062            |
| TO entry commodity charge (p/ kWh)        | 0.0427       | n/a               |
| TO exit commodity charge (p/kWh)          | n/a          | 0.0203            |
| SO entry commodity charge (p/kWh)         | 0.0089       | n/a               |
| SO exit commodity charge (p/kWh)          | n/a          | 0.0089            |
| Capacity WAP (assume 20% int @ zero cost) | 0.03904      | 0.00496           |



**Min. value = AQ**

| <u>Daily Charges without OCC (£)</u> |               |              |
|--------------------------------------|---------------|--------------|
|                                      | <u>Entry</u>  | <u>Exit</u>  |
| Capacity: non-OCC                    | 19,520        | 992          |
| Capacity: OCC                        | n/a           | n/a          |
| TO commodity                         | 10,675        | 3,654        |
| SO commodity                         | 2,225         | 1,602        |
| <b>Total</b>                         | <b>32,420</b> | <b>6,248</b> |

| <u>Daily Charge with OCC (£)</u> |                 |                |
|----------------------------------|-----------------|----------------|
|                                  | <u>Entry</u>    | <u>Exit</u>    |
| Capacity: non-OCC                | 12,492.8        | 99.2           |
| Capacity: OCC                    | 2,196.0         | 244.1          |
| TO commodity                     | 10,675.0        | 3,654.0        |
| SO commodity                     | 0               | 0              |
| <b>Total</b>                     | <b>25,363.8</b> | <b>3,997.3</b> |

|                         |              |              |
|-------------------------|--------------|--------------|
| <b>OCC saving (£) =</b> | <b>7,056</b> | <b>2,251</b> |
|                         | <b>22%</b>   | <b>36%</b>   |



# Example 1 cont.

| <u>Site Characteristics</u>               | <u>Entry</u> | <u>Exit</u> |
|---|--------------|-------------|
| Capacity Entitlement (kWh/d)              | 50,000,000   | 20,000,000  |
| Flow on Day (kWh)                         | 25,000,000   | 18,000,000  |
| Applicable Quantity -AQ (kWh)             | 18,000,000   | 18,000,000  |
| Non-OCC Capacity (kWh/d)                  | 32,000,000   | 2,000,000   |
| Non-OCC Flow (kWh)                        | 7,000,000    | 0           |
| OCC Distance (km)                         | 70           | 70          |
| Capacity Weighted Distance (km)           | 280          | 320         |
| OCC Multiplier                            | 0.250000     | 0.218750    |
| OCC Capacity Discount                     | 75%          | 78%         |
| Capacity Reserve Price (p/kWh/d)          | 0.0488       | 0.0062      |
| TO entry commodity charge (p/ kWh)        | 0.0427       | n/a         |
| TO exit commodity charge (p/kWh)          | n/a          | 0.0203      |
| SO entry commodity charge (p/kWh)         | 0.0089       | n/a         |
| SO exit commodity charge (p/kWh)          | n/a          | 0.0089      |
| Capacity WAP (assume 20% int @ zero cost) | 0.03904      | 0.00496     |

| <u>Daily Charges without OCC (£)</u> | <u>Entry</u>  | <u>Exit</u>  |
|--------------------------------------|---------------|--------------|
| Capacity: non-OCC                    | 19,520        | 992          |
| Capacity: OCC                        | n/a           | n/a          |
| TO commodity                         | 10,675        | 3,654        |
| SO commodity                         | 2,225         | 1,602        |
| <b>Total</b>                         | <b>32,420</b> | <b>6,248</b> |

| <u>Daily Charge with OCC (£)</u> | <u>Entry</u>    | <u>Exit</u>    |
|----------------------------------|-----------------|----------------|
| Capacity: non-OCC                | 12,492.8        | 99.2           |
| Capacity: OCC                    | 2,196.0         | 244.1          |
| TO commodity                     | 10,675.0        | 3,654.0        |
| SO commodity                     | 0               | 0              |
| <b>Total</b>                     | <b>25,363.8</b> | <b>3,997.3</b> |

|                         |              |              |
|-------------------------|--------------|--------------|
| <b>OCC saving (£) =</b> | <b>7,056</b> | <b>2,251</b> |
|                         | <b>22%</b>   | <b>36%</b>   |

# Example: 2 Exit Points matched with one ASEP

| <u>Site Characteristics</u>               |              |               |               |
|---|--------------|---------------|---------------|
|   | <u>Entry</u> | <u>Exit 1</u> | <u>Exit 2</u> |
| Capacity Entitlement (kWh/d)              | 50,000,000   | 20,000,000    | 15,000,000    |
| OCC Entry Capacity Apportionment (kWh/d)  |              | 28,571,429    | 21,428,571    |
| Flow on Day (kWh)                         | 25,000,000   | 18,000,000    | 10,000,000    |
| OCC Entry Flow Apportionment (kWh)        |              | 16,071,429    | 8,928,571     |
| Applicable Quantity for Exit 1-AQ (kWh)   | 16,071,429   | 16,071,429    | n/a           |
| Applicable Quantity for Exit 2-AQ (kWh)   | 8,928,571    | n/a           | 8,928,571     |
| Non-OCC Capacity (kWh/d)                  | 25,000,000   | 3,928,571     | 6,071,429     |
| Non-OCC Flow (kWh)                        | 0            | 1,928,571     | 1,071,429     |
| OCC Distance (km)                         | 70           | 70            | 40            |
| Capacity Weighted Distance (km)           | 280          | 320           | 290           |
| OCC Multiplier                            | 0.250000     | 0.218750      | 0.137931      |
| OCC Capacity Discount                     | 75%          | 78%           | 86%           |
| Capacity Reserve Price (p/kWh/d)          | 0.0488       | 0.0062        | 0.014         |
| TO entry commodity charge (p/kWh)         | 0.0427       | n/a           | n/a           |
| TO exit commodity charge (p/kWh)          | n/a          | 0.0203        | 0.0203        |
| SO entry commodity charge (p/kWh)         | 0.0089       | n/a           | n/a           |
| SO exit commodity charge (p/kWh)          | n/a          | 0.0089        | 0.0089        |
| Capacity WAP (assume 20% int @ zero cost) | 0.03904      | 0.00496       | 0.0112        |

| <u>Daily Charges without OCC (£)</u> |               |               |              |
|--------------------------------------|---------------|---------------|--------------|
|                                      | <u>Entry</u>  | <u>Exit 1</u> | Exit 2       |
| Capacity: non-OCC                    | 19,520        | 992           | 1,680        |
| Capacity: OCC                        | n/a           | n/a           | n/a          |
| TO commodity                         | 10,675        | 3,654         | 2,030        |
| SO commodity                         | 2,225         | 1,602         | 890          |
| <b>Total</b>                         | <b>32,420</b> | <b>6,248</b>  | <b>4,600</b> |

| <u>Daily Charge with OCC (£)</u> |                 |                |                |
|----------------------------------|-----------------|----------------|----------------|
|                                  | <u>Entry</u>    | <u>Exit 1</u>  | Exit 2         |
| Capacity: non-OCC                | 9,760.0         | 194.9          | 680.0          |
| Capacity: OCC                    | 3,050.0         | 218.0          | 172.4          |
| TO commodity                     | 10,675.0        | 3,654.0        | 2,030.0        |
| SO commodity                     | 0               | 0              | 0.0            |
| <b>Total</b>                     | <b>23,485.0</b> | <b>4,066.8</b> | <b>2,882.4</b> |
| <b>OCC saving (£) =</b>          | <b>8,935</b>    | <b>2,181</b>   | <b>1,718</b>   |
|                                  | <b>28%</b>      | <b>35%</b>     | <b>37%</b>     |

----- Non-OCC capacity and WAP  
 ----- Applicable Quantity, Cap reserve price and OCC multiplier

# Example 2 cont.

| <u>Site Characteristics</u>               |              |               |               |
|---|--------------|---------------|---------------|
|   | <u>Entry</u> | <u>Exit 1</u> | <u>Exit 2</u> |
| Capacity Entitlement (kWh/d)              | 50,000,000   | 20,000,000    | 15,000,000    |
| OCC Entry Capacity Apportionment (kWh/d)  |              | 28,571,429    | 21,428,571    |
| Flow on Day (kWh)                         | 25,000,000   | 18,000,000    | 10,000,000    |
| OCC Entry Flow Apportionment (kWh)        |              | 16,071,429    | 8,928,571     |
| Applicable Quantity for Exit 1-AQ (kWh)   | 16,071,429   | 16,071,429    | n/a           |
| Applicable Quantity for Exit 2-AQ (kWh)   | 8,928,571    | n/a           | 8,928,571     |
| Non-OCC Capacity (kWh/d)                  | 25,000,000   | 3,928,571     | 6,071,429     |
| Non-OCC Flow (kWh)                        | 0            | 1,928,571     | 1,071,429     |
| OCC Distance (km)                         | 70           | 70            | 40            |
| Capacity Weighted Distance (km)           | 280          | 320           | 290           |
| OCC Multiplier                            | 0.250000     | 0.218750      | 0.137931      |
| OCC Capacity Discount                     | 75%          | 78%           | 86%           |
| Capacity Reserve Price (p/kWh/d)          | 0.0488       | 0.0062        | 0.014         |
| TO entry commodity charge (p/ kWh)        | 0.0427       | n/a           | n/a           |
| TO exit commodity charge (p/kWh)          | n/a          | 0.0203        | 0.0203        |
| SO entry commodity charge (p/kWh)         | 0.0089       | n/a           | n/a           |
| SO exit commodity charge (p/kWh)          | n/a          | 0.0089        | 0.0089        |
| Capacity WAP (assume 20% int @ zero cost) | 0.03904      | 0.00496       | 0.0112        |

| <u>Daily Charges without OCC (£)</u> |              |               |               |
|--------------------------------------|--------------|---------------|---------------|
|                                      | <u>Entry</u> | <u>Exit 1</u> | <u>Exit 2</u> |
| Capacity: non-OCC                    | 19,520       | 992           | 1,680         |
| Capacity: OCC                        | n/a          | n/a           | n/a           |
| TO commodity                         | 10,675       | 3,654         | 2,030         |
| SO commodity                         | 2,225        | 1,602         | 890           |
| Total                                | 32,420       | 6,248         | 4,600         |

| <u>Daily Charge with OCC (£)</u> |              |               |               |
|----------------------------------|--------------|---------------|---------------|
|                                  | <u>Entry</u> | <u>Exit 1</u> | <u>Exit 2</u> |
| Capacity: non-OCC                | 9,760.0      | 194.9         | 680.0         |
| Capacity: OCC                    | 3,050.0      | 218.0         | 172.4         |
| TO commodity                     | 10,675.0     | 3,654.0       | 2,030.0       |
| SO commodity                     | 0            | 0             | 0.0           |
| Total                            | 23,485.0     | 4,066.8       | 2,882.4       |

|                         |       |       |       |
|-------------------------|-------|-------|-------|
| <b>OCC saving (£) =</b> | 8,935 | 2,181 | 1,718 |
|                         | 28%   | 35%   | 37%   |

# Transition Rules

- Shipper-Lite.
- National Grid Provides “current” OCC shippers with new OCC rates to apply from 1 October 2019 and a one-off option to be actively removed by National Grid from the OCC effective from 1 October 2019 (150 days notice – “run-in period”)
- Shippers intending to set up a new OCC within the 150-day run-in period will continue to receive supply point offers as per now and will receive additional information notifying the OCC rates from 1 October 2019. Such OCC arrangements may only be cancelled or changed via normal Supply Point Administration transactions (re-nominations/ re-confirmations). This also applies for shippers who are in possession of OCC supply point offers at the commencement of the run-in period.