~~Migration Scaling Methodology~~

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Data Communications Company

Migration Scaling Methodology

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In accordance with Clause 4.11 of the Transition and Migration Approach Document (TMAD) Appendix AL of the Smart Energy Code (SEC), the Data Communications Company (DCC) is required to prepare this document~~;~~, ~~T~~the Migration Scaling Methodology~~, which~~ (MSM). The MSM prescribes the allocation of the DCC's system capacity against each Responsible Supplier's Daily Migration Demand where the DCC expects that a capacity constraint will arise.

~~1. In accordance with Clause 4.12 of the TMAD, the DCC is required to consult stakeholders regarding the content of this document and publish the completed document on the DCC's website. Furthermore, following initial publication, this document may only be amended following stakeholder consultation.~~

Capitalised terms in this document have the meaning set out in TMAD or, if not defined in TMAD, the SEC.

2. Context / Background

Many energy suppliers have ~~and are continuing to install~~installed first generation smart devices (known as SMETS1 Device Model Combinations (DMCs)) across Great Britain. ~~However,~~ SMETS1 Devices installed by an energy supplier are not always interoperable with and supported by another energy supplier's systems, therefore if an energy consumer decides to switch suppliers their installation may stop functioning in smart mode. The DCC has developed a plan and designed a solution for the enrolment and adoption of such Devices into its network. It will provide important shared benefits for industry and consumers; particularly the ability for all SMETS1 customers to maintain their smart services following a decision to switch supplier.

The plan to enrol and adopt SMETS1 Devices requires DCC to set out the approach for migrating SMETS1 Installations into the Modified DCC Total System. The detailed technical and procedural requirements of this approach are set out in the TMAD.

The focus of this document is the Migration of Active Meters, it is, however, important to note that the DCC is required to prioritise migration of Dormant Meters ~~over~~before Active Meters in accordance with Clause 4.24 of the TMAD.

Given this requirement, the DCC reasonably envisages that it may have technical constraints on the supply of migration capability for Active Meters such that the aggregate Daily Migration Demand for all Responsible Suppliers may not be satisfied on every day i.e. the Daily Migration Demand Commitment will need to set at a figure lower than the requested Daily Migration Demand for one or more Responsible Suppliers on one or more days.

3. Assumptions

This version of the document applies for all operating capabilities.

Constraints may arise within the ~~Initial Operating Capability (IOC). Consistent with Clause 4.12 of~~DCC system at three key points across the ~~TMAD, DCC will review this document and reflect any~~

~~infrastructure considered necessary for each of the Middle Operating Capability (MOC) and the Final Operating Capability (FOC).~~value chain as presented in Figure 1 below.

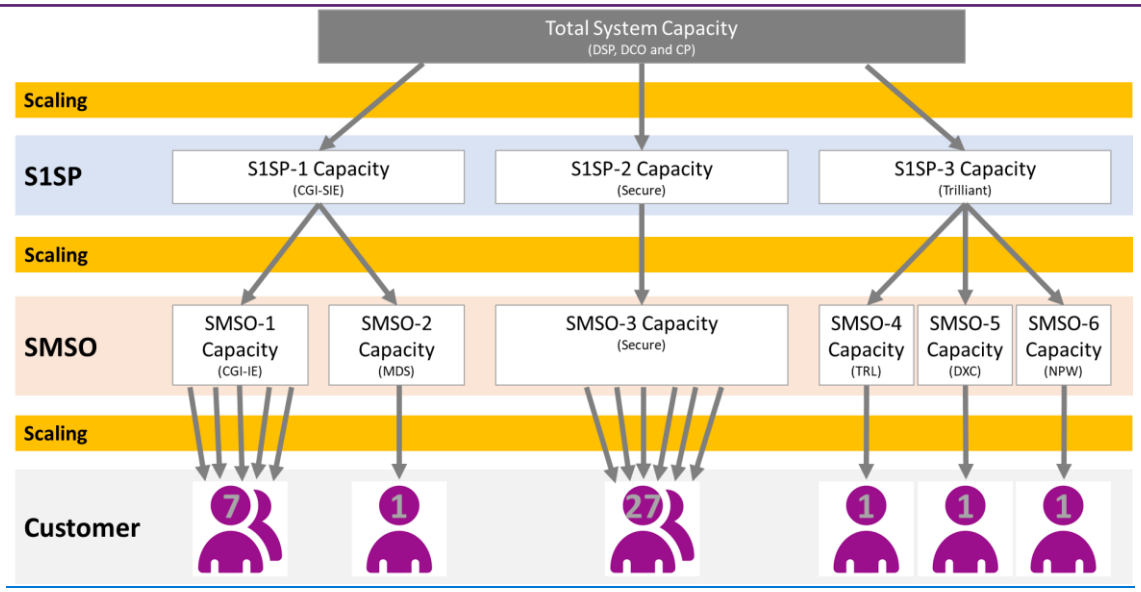


Figure 1 – Migration Service Provider Overview

Each Responsible Supplier may submit a Migration Authorisation (MA) file, related solely to Active Meters to the DCC to identify the ~~Devices~~ SMETS1 Installations to be Migrated. The~~se~~ Devices within each SMETS Installation will be identified by the Meter Point ~~Access~~Administration Number (MPAN) (for the electricity meter) and Meter Point Reference Number (MPRN) (for the gas meter). However, given that the migration needs to be performed on all Devices associated with a single SMETS1 Communications Hub Function (CHF) at the same time (i.e. applied via technical changes to the SIM within the electricity meter), the DCC's approach to these matters is based on SMETS1 Installations. Thus, migration demand is measured in SMETS1 Installations per day and the capacity constraints are assumed to be daily and to apply to SMETS1 Installations.

4. Algorithm - Overview

This document sets out ~~a two-stage~~an algorithmic approach to allocating migration capacity in the event that the total Migration Daily Demand exceeds the DCC's available capacity~~.~~, based on the following stages:

- flat scaling up to the minimum; and
- weighted by Supplier demand subject to S1SP and SMSO constraints.

Flat scaling is applied up to a minimum allocation threshold and demand weighted scaling applied for quantities over the minimum allocation threshold. The scaling is a daily process i.e. each day is considered independently. Furthermore, the algorithm is applied ~~separately to each~~across S1SP (y) and SMSO~~.~~ (x).

Allocations up to the minimum allocation threshold are intended to fulfil any Daily Migration Demand for a few SMETS1 Installations, thus supporting migration establishment activities for each Responsible Supplier and not impacting the smallest suppliers with limited numbers of

SMETS1 Installations. The minimum allocation also avoids the situation where a very small Daily Migration Demand is reduced, thereby limiting the scope for any mop-up activities to be interrupted and also providing a degree of protection to any pilot phases. The demand weighted scaling element reduces Daily Migration Demand equitably in proportion to demandby the ratio between overall residual capacity and overall residual demand and scale down will impact Daily Migration Demands equitably based on relative demand. Residual capacity in this context means remaining capacity after accommodating the minimum allocations, and residual demand means total Daily Migration Demand after taking into account the minimum allocations. This scaling is, however, subject to potential further constraints imposed by limitations on individual SMSOs(x) or S1SPs(y).

The algorithm requires DCC to prescribe a minimum allocation threshold parameter, D_{MIN}, measured in SMETS1 Installations. D_{MIN} is a static input which is intended to give an element of priority to Responsible Suppliers with low demand requirements. The minimum allocation threshold (D_{MIN}) is set at 100 SMETS1 Installations per day on this basis this shoulddetermined by DCC based on experience and stakeholder engagement. The value of D_{MIN} is a small integer value as to allow for any expected operational pilots with a restricted quantity to be undertaken on an unhindered basis by Responsible Suppliers. The current value of D_{MIN} is published on the DCC website[1] from time to time.

As per Clause 4.8 of TMAD, each Responsible Supplier expresses their demand to migrate SMETS1 Installations comprising Active Meters operated by a specific SMSO for the relevant week four weeks in the future as an integer value for each day (disaggregated by Electricity Distributor) expressed as Daily Migration Demand in the TMAD. This information is provided by 10:00 hours each Tuesday as per Clause 4.8 (a) of TMAD. Because each SMSO maps to a single S1SP, whilst suppliers submit values of d(x,i) these can be, and are, treated as values of d(y,x,i). Thus, the demand input is d_id(y,x,i), for each Responsible Supplier's requirement, measured in SMETS1 InstallationsSupplier.

> d_id(y,x,i) is the Daily Migration Demand (aggregated across Electricity Distributors) for each Responsible Supplier (i) (identified by its EUI-64 number) for i=1 to n.each SMSO(x) and each S1SP(y).
>
> define the demand for each SMSO(x) related to S1SP(y) (dSMSO(y,x)), and the total demand for each S1SP(y) (dS1Sp(y)) as
>
> $dSMSO(y,x) = \sum_{\forall i} d(y,x,i)$
>
> $dS1SP(y) = \sum_{\forall x \text{ in } y} dSMSO(y,x)$

In the case where a Responsible Supplier has multiple EUI-64 numbers, it will be required to submit a separate Daily Migration Demand requirement in relation to each EUI-64 number that it will subsequently use when submitting Migration Authorisations for the same Migration Week.

For each day on which DCC is considering commencing Migration Authorisations, the DCC determines C_{TOT} the total envisaged capacity of Migration Authorisations that the DCC can

[1] See https://www.smartdcc.co.uk/document-centre/tmad-child-documents/

commence at a daynet of planned migration for Dormant Meters because dormant demand is treated as the priority as described in Clause 4.24 of TMAD. C_{TOT} isn't a fixed value; it will change based on planned Dormant Meter Migrations as well as for changes in system capacity / operational performance experience. In the circumstances that the DCC is fully committed to migrating Dormant Meters on a day then C_{TOT} would be zero. C_{TOT} represents an upper limited on the total of Daily Migration Demand Commitment for all Responsible Suppliers. There is also a need to apply the same approach to determine the capacity to each SMSO and S1SP.

C_{TOT} is DCC's total capacity for Active Meters as determined by DCC.

totSMSO(y,x) is DCC's total capacity for each SMSO(x) associated with S1SP(y)

totS1SP(y) is DCC's total capacity for each S1SP(y)

The objective of the algorithm is to determine ~~c_i~~c(y,x,i) measured in SMETS1 Installations where

~~c_i~~c(y,x,i) is the Daily Migration Demand Commitment (which is not dis-aggregated by Electricity Distributor) allocated by the algorithm to each Responsible Supplier ~~for (i = 1)~~ related to ~~n.~~SMSO(x) and S1SP(y).

Within each week, the DCC will calculate the daily total of Daily Migration Demand and determine days where the total demand exceeds the DCC's expected total capacity for all Daily Migration Demand Commitment.

In circumstances where the daily total of Daily Migration Demand is less than total capacity, then no scaling is required and thus no further action is required. For days where demand exceeds capacity, the DCC will perform the necessary calculations and provide a Daily Migration Demand Commitment to each Responsible Supplier by 10:00 hours each Tuesday as per Clause 4.8 (b) of TMAD.

The DCC will also provide a summary report by 17:00 hours each Tuesday as per Clause 4.8 (c) of TMAD.

5. Algorithm - Detail

5.1. Constraints

There are a number of constraints in relation to the capacity allocation as set out in the following sub-sections.

5.1.1. DCC Capacity

Allocation to must not exceed overall DCC capacity.

$\sum_{\forall y,x,i} c(y,x,i) \leq C_{TOT}$

5.1.2. S1SP Capacity

Allocation for each S1SP must not exceed their capacity

∀y, cS1SP(y) ≤ totS1SP(y)

where cS1SP(y) = $\sum_{\forall x \text{ in } y}$ (cSMSO(y,x)

5.1.3. SMSO Capacity

Allocation for each SMSO related to a particular S1SP must not exceed their capacity

∀x,y, cSMSO(y,x) ≤ totSMSO(y,x)

where cSMSO(y,x) = $\sum_{\forall i}$ c(y,x,i)

5.1.4. Demand requirements

Allocation must not exceed demand for each Responsible Suppler

∀i, c(y,x,i) ≤ d(y,x,i)

~~5.1.~~5.2. No Scaling

If supply exceeds demand and none of the constraints in Section 5.1 are breached, then no scaling is needed. Each supplier is allocated a level of Daily Migration Demand Commitment equal to their Daily Migration Demand and no further algorithmic processing is required i.e.

~~If~~

~~$\sum_{i=1...n}(d_i) \leq C_{TOT}$~~

~~Then~~

~~$c_i = d_i$~~

∀y,x,i , c(y,x,i) = d(y,x,i)

~~5.2.~~5.3. Flat Scaling Stage

~~The~~ If scaling is required, the first stage of the algorithm allocates capacity equally to each Responsible Supplier (i) up to the ~~minimum allocation threshold parameter equally.~~ D_{MIN} value.

fc(y,x,i) is the capacity allocated to Responsible Supplier (i) for SMSO (x) and S1SP (y) from the flat scaling stage.

In the circumstances that there is insufficient supply such that all ~~suppliers~~Responsible Suppliers can't be allocated up to the minimum allocation threshold parameter (D_{MIN}) then ~~the minimum~~their allocation ~~threshold parameter~~ is scaled down equally for the day ~~to an adjusted minimum allocation threshold parameter (AD_{MIN}) each supplier allocated the lower~~via the following steps.

FS Step (1) ∀y,x,i , set the value of ~~their demand, and the adjusted minimum.~~fc(y,x,i) to zero

~~If~~

~~$\sum_{i=1...n}(\min(d_i, D_{MIN})) > C_{TOT}$~~

~~Then set AD_{MIN} at~~ Increase the ~~maximum integer~~ value ~~that satisfies this equation~~

~~$\sum_{i=1...n}(\min(d_i, AD_{MIN})) \leq C_{TOT}$~~

FS Step (2) ~~and fc_i is the capacity allocated to~~ of fc(y,x,i) by 0.1 for each Responsible Supplier ~~i from the flat scaling stage for i=1 to n as~~(i) where:

a. ~~fc_i =~~the increase will not lead to any constraints in Section 5.1 being breached; and

~~a.~~b. fc(y,x,i) ≤ min(~~d_i, AD_{MIN}~~d(y,x,i), D_{MIN})

~~else~~

~~fc_i is the capacity allocated to Responsible Supplier i from the flat scaling stage for i=1 to n as~~

~~$fc_i = \min(d_i, D_{MIN})$~~

FS Step (3) ~~Demand~~ repeat FS Step (2) until no further increments are possible.

NB these increment steps do not stop when a constraint is first breached for any Responsible Supplier (i), rather they are repeated excluding any Responsible Supplier already at a constraint.

~~5.3.~~5.4. Weighted ~~Scaling Stage~~Allocation by Supplier

For the ~~second~~final stage of the algorithm, the total remaining capacity is calculated following adjustment for any allocation from the flat ~~scaling~~ stage~~.~~ as wc(y,x,i).

The total remaining capacity is then allocated on a demand weighted basis based on remaining demand share~~.~~ (i.e. subtracting fixed allocation from demand) such that

~~If~~

~~$\sum_{\forall y,x,i=1...n}(fc_i) \leq C_{TOT}$~~

WA Step (1) ~~Then~~ , set ~~wc_i as~~ the ~~capacity allocated~~value of wc(y,x,i) to zero

WA Step (2) Increase the value of wc(y,x,i) by 0.1 × FACTOR(y,x,i) ÷ ($\sum_{\forall y,x,i}$ FACTOR(y,x,i)) for each Responsible Supplier ~~i from the demand weighted scaling element for i=1~~(i) where:

a. FACTOR(y,x,i) = (d(y,x,i) – fc(y,x,i)) ÷ ($\sum_{\forall y,x,i}$ d(y,x,i) – fc(y,x,i)) ; and

~~a.~~b. the increase will not lead to ~~n calculated as~~ any constraints in Section 5.1 being breached; and

~~$wc_i = (C_{TOT} - \sum_{i=1...n}(fc_i)) \times (d_i - fc_i) \div (\sum_{i=1...n}(d_i - fc_i))$~~

~~NB each wc_i should be rounded down to an integer value.~~

~~Else, set wc_i as the capacity allocated to Responsible Supplier i from the demand weighted scaling element for i=1 to n as~~

~~$wc_i = 0$~~

WA Step (3) repeat WAS Step (2) until no further increments are possible.

NB these increment steps do not stop when a constraint is first breached for any Responsible Supplier (i), rather they are repeated excluding any Responsible Supplier already at a constraint.

~~5.4.~~5.5. Overall Allocation

~~Where~~Once scaling ~~is~~has been applied, the Daily Migration Demand Commitment for each Responsible Supplier~~, c_i, is~~ (i) related to S1SP(y) and SMSO(x) is , c(y,x,i), calculated as the flat capacity (fc(y,x,i)) plus the scaled capacity ~~for i=1 to n~~(wc(y,x,i)). NB c(y,x,i) is rounded down to an integer value.

~~$c_i = fc_i + wc_i$~~

$c(y,x,i) = fc(y,x,i) + wc(y,x,i)$

6. Worked Examples

~~Three~~Four illustrative scenarios are present for differing levels of capacity against the same demand from the Responsible Suppliers for a single day based on a minimum allocation threshold of ~~100~~50 SMETS Installations per day without a breakdown by Electricity Distributor or SMSO.

The first scenario has no constraints and demand is fully met. The ~~constraint increases~~constraints increase in the ~~second and third scenario~~subsequent scenarios and thus demand commitment is scaled appropriately.

6.1. No Scaling

The first scenario is presented in Figure 12 below, setting out a base case where no scaling is required because capacity is sufficient to meet the aggregated demand from all Responsible Suppliers.

D_{MIN} -Minimum demand threshold parameter				100			
C_{TOT} - DCC's Total Capacity (excluding Dormant Demand)				1,200			
Total Demand				1,100			
Shortfall?				NO			
AD_{MIN} - Adjusted Minimum				100			
Total Remaining Capacity				-			
Allocated Demand Total				1,100			
Responsible Supplier	1	2	3	4	5	6	7
d_i - Energy suppliers' demand	640	294	1	150	2	6	7
fc_i - Flat Scaling Allocation	**100**	**100**	**1**	**100**	**2**	**6**	**7**
Remaining Demand	540	194	0	50	0	0	0
wc_i - Demand Weighted Allocation	**540**	**194**	**0**	**50**	**0**	**0**	**0**
c_i - Total Commitment Allocation	**640**	**294**	**1**	**150**	**2**	**6**	**7**
Percentage of reduction	0%	0%	0%	0%	0%	0%	0%

NB all numbers are "***SMETS1 Installations***". The data is illustrative and has some adjustments for rounding.

D_{MIN} -Minimum demand threshold parameter				**50**			
Total Demand				730			
Allocated Demand Total				730			
C_{TOT} - DCC's Total Capacity (NB excluding Dormant Demand)	**1000**						
S1SP (y)	1			2			
totS1SP(y) - S1SP capacity	**500**			**500**			
SMSO(x)	1		2	3		4	
totSMSO(x) - SMSO capacity	**250**		**250**	**500**		**500**	
Responsible Supplier (i)	1	2	3	4	5	6	7
d(y,x,i) - Energy suppliers' demand	**152**	**30**	**75**	**172**	**77**	**99**	**125**
fc(y,x,i) - Flat Scaling Allocation	**50**	**30**	**50**	**50**	**50**	**50**	**50**
wc(y,x,i) - Demand Weighted Allocation	**102**	**0**	**25**	**122**	**27**	**49**	**75**
c(y,x,i) - Total Commitment Allocation	**152**	**30**	**75**	**172**	**77**	**99**	**125**
Percentage of reduction	0%	0%	0%	0%	0%	0%	0%

NB all numbers are "***SMETS1 Installations***".
The data is illustrative and has some adjustments for rounding.

Figure 2 – SCENARIO 1 - Base Case - No Scaling

6.2. DCC Reduced Capacity

Figure 23 presents a second scenario where there is sufficient capacity such that each Responsible Supplier can be allocated the minimum level but some scaling is required above the minimum.

D_{MIN} -Minimum demand threshold parameter					100		
C_{TOT} - DCC's Total Capacity (excluding Dormant Demand)					800		
Total Demand					1,100		
Shortfall?					YES		
AD_{MIN} - Adjusted Minimum					100		
Total Remaining Capacity					484		
Allocated Demand Total					800		
Responsible Supplier	1	2	3	4	5	6	7
d_i - Energy suppliers' demand	640	294	1	150	2	6	7
fc_i - **Flat Scaling Allocation**	**100**	**100**	**1**	**100**	**2**	**6**	**7**
Remaining Demand	540	194	0	50	0	0	0
wc_i - **Demand Weighted Allocation**	**333**	**120**	**0**	**31**	**0**	**0**	**0**
c_i - **Total Commitment Allocation**	**433**	**220**	**1**	**131**	**2**	**6**	**7**
Percentage of reduction	(32%)	(25%)	0%	(13%)	0%	0%	0%

NB all numbers are "***SMETS1 Installations***". The data is illustrative and has some adjustments for rounding.

D_{MIN} -Minimum demand threshold parameter					**50**		
Total Demand					730		
Allocated Demand Total					500		
C_{TOT} - **DCC's Total Capacity** (NB excluding Dormant Demand)	**500**						
S1SP (y)	1			2			
totS1SP(y) - S1SP capacity	**500**			**500**			
SMSO(x)	1		2	3		4	
totSMSO(x) - SMSO capacity	**250**		**250**	**500**		**500**	
Responsible Supplier (i)	1	2	3	4	5	6	7
d(y,x,i) - Energy suppliers' demand	**152**	**30**	**75**	**172**	**77**	**99**	**125**
fc(y,x,i) - Flat Scaling Allocation	**50**	**30**	**50**	**50**	**50**	**50**	**50**
wc(y,x,i) - Demand Weighted Allocation	**44**	**0**	**11**	**53**	**12**	**21**	**32**
c(y,x,i) - Total Commitment Allocation	**94**	**30**	**60**	**102**	**61**	**71**	**82**
Percentage of reduction	(38%)	0%	(20%)	(41%)	(21%)	(28%)	(34%)

NB all numbers are "***SMETS1 Installations***".
The data is illustrative and has some adjustments for rounding.

Figure 3 – SCENARIO 2 ~~- Scaling above~~ – DCC Reduced Capacity

6.3. S1SP Reduced Capacity

Building on the ~~Minimum Allocation~~

The second scenario the third scenario within Figure 34 has very limitedreduced S1SP capacity and the minimum allocation is reduced down from 100 to 78.for S1SP(1).

D_{MIN} -Minimum demand threshold parameter					100		
C_{TOT} - DCC's Total Capacity (excluding Dormant Demand)					250		
Total Demand					1,100		
Shortfall?					YES		
AD_{MIN} - Adjusted Minimum					78		
Total Remaining Capacity					0		
Allocated Demand Total					250		
Responsible Supplier	1	2	3	4	5	6	7
d_i - Energy suppliers' demand	640	294	1	150	2	6	7
fc_i - Flat Scaling Allocation	**78**	**78**	**1**	**78**	**2**	**6**	**7**
Remaining Demand	562	216	0	72	0	0	0
wc_i - Demand Weighted Allocation	**0**	**0**	**0**	**0**	**0**	**0**	**0**
c_i - Total Commitment Allocation	**78**	**78**	**1**	**78**	**2**	**6**	**7**
Percentage of reduction	(88%)	(73%)	0%	(48%)	0%	0%	0%

NB all numbers are "***SMETS1 Installations***". The data is illustrative and has some adjustments for rounding.

D_{MIN} -Minimum demand threshold parameter					**50**		
Total Demand					730		
Allocated Demand Total					500		
C_{TOT} - DCC's Total Capacity (NB excluding Dormant Demand)	**500**						
S1SP (y)	1				2		
totS1SP(y) - S1SP capacity	**75**				**500**		
SMSO(x)	1		2		3		4
totSMSO(x) - SMSO capacity	**250**		**250**		**500**		**500**
Responsible Supplier (i)	1	2	3	4	5	6	7
d(y,x,i) - Energy suppliers' demand	**152**	**30**	**75**	**172**	**77**	**99**	**125**
fc(y,x,i) - Flat Scaling Allocation	**25**	**25**	**25**	**50**	**50**	**50**	**50**
wc(y,x,i) - Demand Weighted Allocation	**0**	**0**	**0**	**101**	**22**	**41**	**62**
c(y,x,i) - Total Commitment Allocation	**25**	**25**	**25**	**151**	**72**	**90**	**112**
Percentage of reduction	(84%)	(17%)	(67%)	(12%)	(6%)	(9%)	(10%)

NB all numbers are "***SMETS1 Installations***".
The data is illustrative and has some adjustments for rounding.

Figure 4 – SCENARIO 3 - Minimum Allocation Reduced

6.4. SMSO Reduced Capacity

The final scenario within Figure 5 also includes a reduced SMSO capacity for SMSO(4).

	D_{MIN} -Minimum demand threshold parameter					50	
	Total Demand					730	
	~~Allocated Demand Total~~					~~334~~	
C_{TOT} - DCC's Total Capacity (NB excluding Dormant Demand)	500						
S1SP (y)	1			2			
totS1SP(y) - S1SP capacity	75			500			
SMSO(x)	1		2	3		4	
totSMSO(x) - SMSO capacity	250		250	500		10	
Responsible Supplier (i)	1	2	3	4	5	6	7
d(y,x,i) - Energy suppliers' demand	152	30	75	172	77	99	125
fc(y,x,i) - Flat Scaling Allocation	25	25	25	50	50	5	5
wc(y,x,i) - Demand Weighted Allocation	0	0	0	122	27	0	0
c(y,x,i) - Total Commitment Allocation	25	25	25	172	77	5	5
Percentage of reduction	(84%)	(17%)	(67%)	0%	0%	(95%)	(96%)

NB all numbers are "***SMETS1 Installations***".
The data is illustrative and has some adjustments for rounding.

Figure 5 – SCENARIO 3 - Minimum Allocation Reduced

7. Implementation

This Section sets out the regime for the submission of the Daily Migration Demand to the DCC and the reporting of the Daily Migration Demand Commitment to the Responsible Supplier.

Each week each Responsible Supplier can submit a Daily Migration Demand for each relevant SMSO by uploading a Comma Separated Value (CSV) file, specified in Section 8, to DCC SharePoint Folder: <SEC Parties>/SMETS1 Migration/ Notifications/Outbox by 10:00 each Tuesday.

Where a Daily Migration Demand request cannot be processed due to errors (e.g. invalid EUI-64 Number), DCC shall use the submission from the previous Migration Week pertaining to that Responsible Supplier consistent with Clause 4.9 of the TMAD. For clarity, if the Responsible Supplier has not previously submitted a Daily Migration Demand for the previous Migration Week, then that Responsible Supplier shall not be allocated with any Daily Migration Demand Commitment capacity for the Migration Week in question.

If a supplier does not wish to Migrate any SMETS1 Installations in a Migration Week, the supplier should submit a zero Daily Migration Demand request for the Migration Week in question. If not DCC shall use the submission from the previous Migration Week pertaining to that Responsible Supplier consistent with Clause 4.9 of the TMAD.

The CSV file can be prepared; either by using the Excel Macro Enabled Workbook accompanying this document or exported from an internal system within the Responsible Supplier's information technology landscape. The CSV specification has been defined in Section 8 of this document.

The DCC does not require the submitted CSV files to be digitally signed.

Only the latest version of CSV file will be processed, should the Responsible Supplier make multiple submissions for the same processing week.

Submissions made after 10:00 on Tuesday will be ignored, the DCC will revert to the latest submission made prior to 10:00 or if no new submission has been made, to processing the previous submission as per Clause 4.9 of the TMAD.

Upon receipt of the data the DCC will apply the allocation algorithm, as described above and produce the output files.

The DCC will upload the Migration Demand Commitment CSV file, referred to in Section 9, to <SEC Parties>/SMETS1 Migration/ Notifications/Inbox by 10:00 on the following Tuesday.

8. Macro Enabled Microsoft Excel Workbook

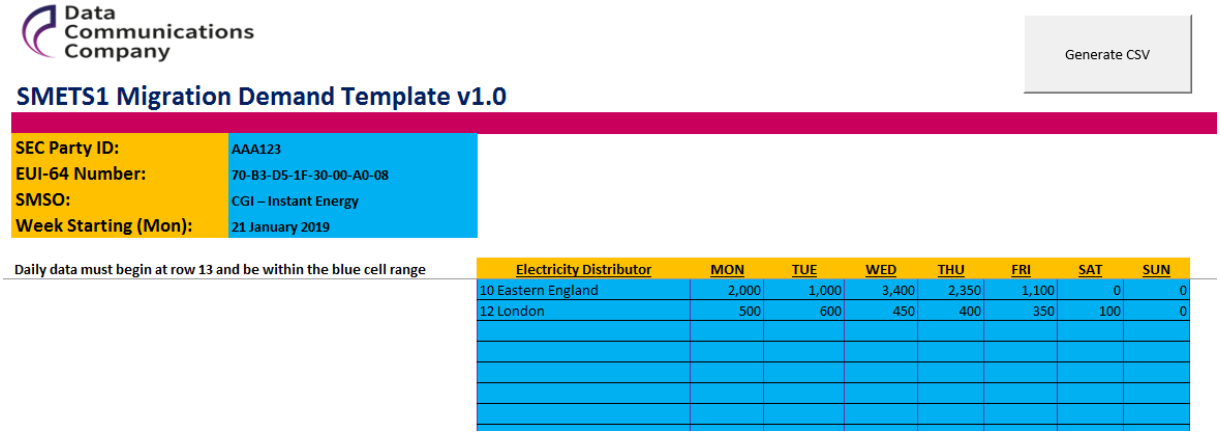
The solution created for the provision of Daily Migration Demand is a Macro Enabled Microsoft Excel Workbook titled SMETS1 Migration Demand Template v1.0.xlms, which accompanies this document as a separate Excel file.

A workbook should be completed for each Responsible Supplier's SMSO.

When using this spreadsheet solution, the Responsible Supplier will need to enable macros with Microsoft Excel to permit it file to operate as designed.

The following instructions, with appropriate screenshots, describe how to complete the Daily Migration Demand template for a Migration Week.

Open workbook with macros enabled and input data into blue coloured cells, as in the example shown below. Note, the SEC Party ID, EUI-64 number, week starting date and SMSO are mandatory. You may submit up to a maximum of twenty-five rows for each Electricity Distributor demand, as appropriate.



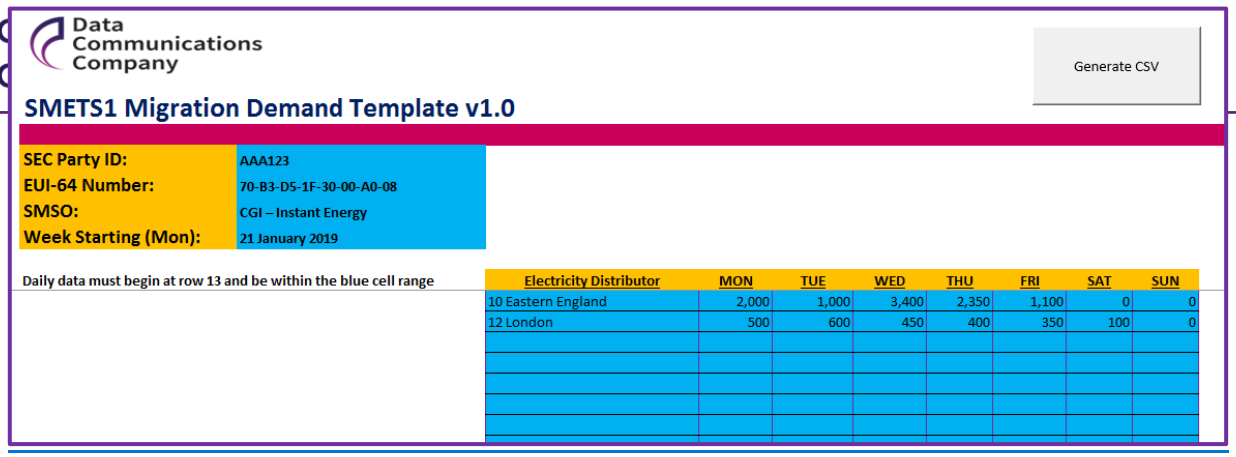
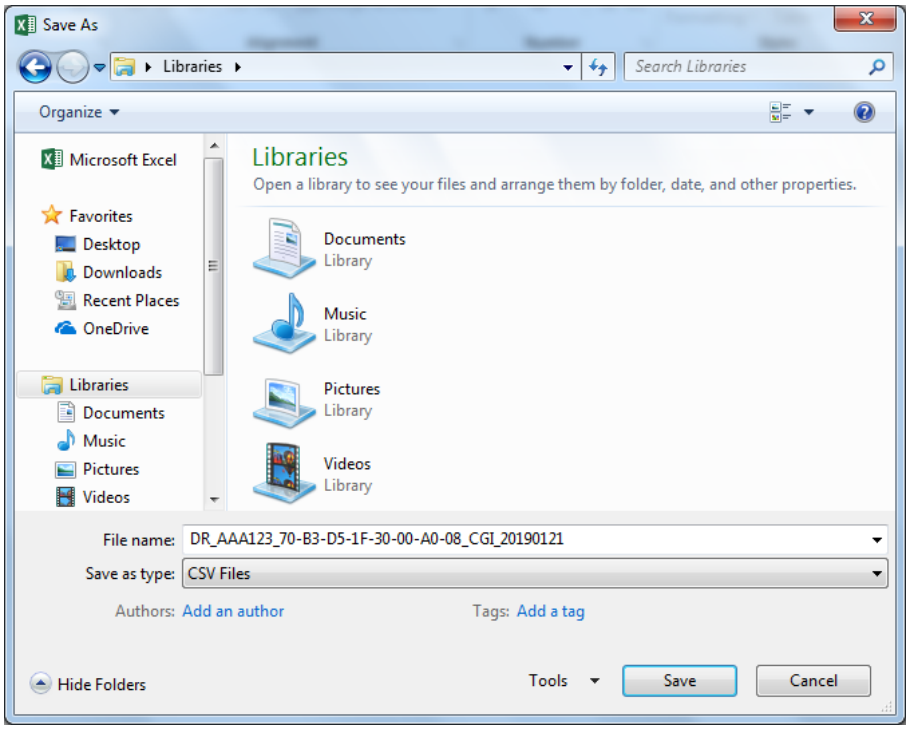


Figure 4 – SCREENSHOT 1 – Migration Excel Template

On completion of data input click Generate CSV file button. Provided data passes internal validation you will be provided with standard Excel file save dialog box. Use this to navigate to the folder you want to save output CSV file to (see below). Note, the CSV file name is automatically created, which should not be altered (see Figure 5 and paragraph 46 for file naming convention). For clarity, if the Daily Migration Demand is submitted to DCC with an invalid CSV file name, the whole file will be rejected.



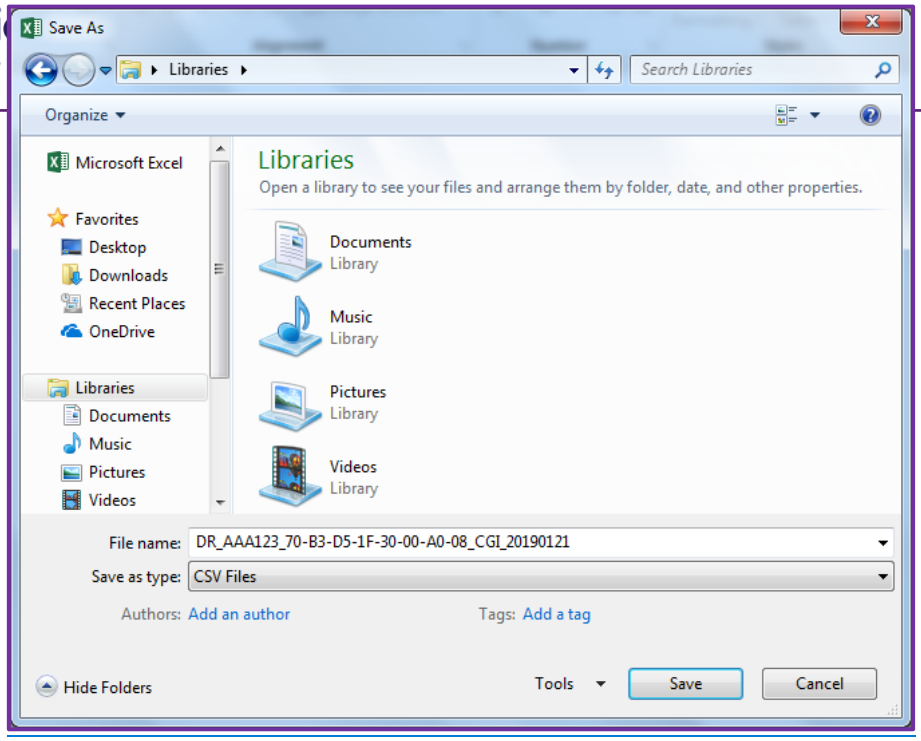


Figure 5 – SCREENSHOT 2 – Migration Excel Template

For Responsible Suppliers who prefer to create their own CSV files a file specification is given below.

A CSV file is created by each Responsible Supplier, containing a row for each Electricity Distributor, as required. The file specification is given in the following text and file layout table below.

RECORD/FIELD NAME	OPTIONALITY	FIELD TYPE	FIELD LENGTH	DESCRIPTION
File type Indicator	Mandatory	Char	2	Set to 'DR' indicates this file contains demand requirement data.
SEC Party ID	Mandatory	Text	6	6-characters value. "AAA123"
EUI-64 Number	Mandatory	Text	23	Must be a valid EUI-64 number for the Responsible Supplier in EUI-64 format with hyphen in between. "A1-B2-C3-D4-E5-F6-A7-B8"
SMSO	Mandatory	Char	3	BRG – British Gas CGI – Instant Energy DXC – DXC Technology EDM – EDMI

RECORD/FIELD NAME	OPTIONALITY	FIELD TYPE	FIELD LENGTH	DESCRIPTION
				MDS – Morrison Data Services SCM – Secure Meters TRL – Trilliant
Week starting (Mon)	Mandatory	Date	8	Must be valid Monday date. date format YYYYMMDD
Electricity Distributor	Mandatory	Integer	2	Valid values: 10 to 32 inclusive and 35.
Mon	Optional	Integer	MAX 8	Blank or zero or positive integer
Tue	Optional	Integer	MAX 8	
Wed	Optional	Integer	MAX 8	
Thu	Optional	Integer	MAX 8	
Fri	Optional	Integer	MAX 8	
Sat	Optional	Integer	MAX 8	
Sun	Optional	Integer	MAX 8	
Creation Date	Mandatory	Date	8	System date of file creation. Format: YYYYMMDD
Creation Time	Mandatory	Time	8	System time of file creation. Format: hh:mm:ss
New line				

Figure 6 – CSV Input File Specification

Output CSV files are named according to the following convention:

(file type indicator)_(SECPartyID)_(EUI64 number)_(SMSO)_(week starting date (YYYYMMDD)).csv

e.g. **DR_AAA123_70-B3-D5-1F-30-00-A0-08_CGI_20190121.csv**

An example CSV file DR_AAA123_70-B3-D5-1F-30-00-A0-08_CGI_20190121.csv accompanies this document and represents a supplier with two Electricity Distributors demand requests.

9. Migration Demand Commitment File

The Daily Migration Demand files provided by Responsible Suppliers to DCC are consumed by the migration allocation process. On completion a Migration Demand Commitment file is created for each valid Daily Migration Demand file supplied, detailing the allocation made by DCC for each day of the Migration Week being considered and for each SMSO.

The CSV file name for the Migration Demand Commitment shall be identical to the Daily Migration Demand CSV file name, as specified in paragraph 46 above, except the first two characters is set to 'DC' to indicate demand commitment data.

The format of the Migration Demand Commitment file is identical to the Daily Migration Demand file, as specified in paragraph 45 above, except the Attribute 'File Type Indicator' is set to 'DC' to indicate demand commitment data and the data is aggregated by Electricity Distributor.

In addition, and to create an audit trail, the aggregate value of the original demand requirement data is also output in the Migration Demand Commitment file and has the Attribute 'File Type Indicator' set to 'DT' to indicate the Demand Total.

An example of a Migration Demand Commitment file accompanies this document: DC_AAA123_70-B3-D5-1F-30-00-A0-08_CGI_20190121.csv.