

Demand Flexibility Service

Participation Guidance Document V.7

August 2023



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Version Control

Version	Date	Change	Page
V.6	02/02/2023	DFS Winter 22/23	
v.7	29.08.23	DFS Winter 23/24: Updates following Art 18 Consultation.	

1. Introduction

The Demand Flexibility Service (DFS) was introduced in winter 22/23 to allow the ESO to access additional flexibility when the national demand is at its highest, typically during peak winter days. This new innovative service supports suppliers/aggregators, as well as industrial & commercial users, to incentivise end consumers for voluntarily flexing the time when they use their electricity.

The winter 23/24 Demand Flexibility Service will run from 30th October 2023.

This Participation Guidance Document should be read in conjunction with the following documents. For the avoidance of doubt if there is any confusion the below documents take precedence:

- The DFS Procurement Rules;
- The DFS Service Terms; and
- The DFS Communication Principles.

These can be found on the Demand Flexibility Service webpage: <https://www.nationalgrideso.com/industry-information/balancing-services/demand-flexibility-service-dfs>

1.1 Changes to The Demand Flexibility Service for Winter 23/34

Procurement Timescales

ESO will run the procurement of DFS at different lead times this year, aiming to bring this closer to real-time allowing us to understand the impact that different lead times have on the volume of flexibility available.

The ESO plan to use one of three different lead times to publish a DFS service requirement:

- Day Ahead – 14:30
- In Day (morning) – 09:00
- In Day (lunchtime) – 12:00

These act as a guide to the associated time for ESO to publish a Service Requirement which will include the deadline for bid submissions (at least 60 minutes after the Service Requirement is published). ESO will endeavour to then publish results one hour after the bid submission deadline.

Sub-metering (Asset Metering)

Following feedback from industry, we have now incorporated the ability for providers to participate in DFS this year with sub (asset) meters, as well as boundary meters. This is to allow contributions to DFS from assets that they have control over but removing the noise and uncertainty of the other processes/participants that operate behind the same boundary meter. Providers can still choose to participate only at the boundary meter if they prefer.

Conditions for participating with sub-meters:

- The sub-meters are of the same or better standard than a boundary meter (E.g. they adhere to Elexon's Code of Practice (COP) 11 for meter standards);
- The sub meter(s) and associated boundary meter are not participating at the same time;
- Providers must enter all sub meters they have control of behind a boundary meter into the service – this means a collective opt-in or opt-out per event for those sub meters.
- Providers must be able to give us the boundary meter data on request for ad-hoc audit purposes, as well as the sub meter data.

- For the avoidance of doubt any participation via a sub meter, the associated boundary meter must be Half Hourly Settled (HHS).

Due to the inclusion of sub meters, ESO will refer to all meters under the general term 'Unit Meter Point' rather than MPAN where applicable.

Code of Practice 11 (CoP11)

Exelon have introduced a new 'Code of Practice (CoP11) for the Metering of Balancing Services Assets for Settlement Purposes'. This ultimately identifies the minimum BSC requirements for Asset Metering Systems and is only applicable to the Metering Equipment located at an asset level. CoP11 defines the minimum accuracy and functional requirements for an asset meter to be compliant and assures the data used in settlement is of suitable standard.

For further information, please refer to Exelon's website - [New BSC Code of Practice \(CoP11\) sets standards for accuracy of Asset Metering Systems - Exelon BSC](#)

Opt-in and Opt-out

For DFS winter 23/24, providers can offer their end consumers different ways of indicating their intent to participate in a DFS event - they can either "opt-in", or the new option of "opt-out" per DFS delivery period. Previously, each consumer had to opt-in to each DFS event however, with the new alternative, consumers can default opt-in until they choose to opt-out.

How this will impact on settlements:

- "opt-in" - their demand reductions must only be included in settlement if they actively said "yes" to participating in advance of a DFS event. Any demand increases from an "opt-in" consumer can be excluded from settlement.
- "opt-out" - both demand decrease or demand increase must be included in settlement, unless a customer said "no" to participating in advance of the DFS event, in which case both decreases and increase must not be included.

MPAN Duplication Process

Greater clarification has been incorporated into our contractual documents outlining that providers with the latest timestamp for the sign-up of a Unit Meter Point would be deemed to be the sole provider for that end consumer, and that the provider with an older sign-up timestamp would be obliged to de-register the meter from their service.

This was introduced to provide a clear, unambiguous rule to avoid MPAN ownership duplication, which provided challenges in winter 2022/23 to providers, end consumers and the ESO.

ESO are also pleased to have introduced enhanced automation around this process of which we share more information on later in this document and separately on our DFS webpage.

1.2 Demand Flexibility Service Overview

Eligibility for DFS

To participate in the DFS, Registered DFS Participants, and associated DFS Units (and their constituent Unit Meter Points), need to meet the below:

1. Have half-hourly metering.
2. DFS units must be able to respond for a minimum of 30 minutes.
3. Be half-hourly settled for all meters, except providers participating on a domestic boundary meter or where Industrial and Commercial Unit Meter Points are in Profile Classes 3 or 4.
4. Unit Meter Points cannot be allocated to more than one Registered DFS Participant.
5. Cannot form part of a BM Unit (*except a Supplier Base BM Unit*).
6. Cannot be providing any other ESO Balancing Service (including having a Capacity Market Agreement) or any similar service to any third party inclusive of DNO services.
7. 1 MW minimum DFS Unit size, up to 100 MW maximum DFS Unit size. Parties can register multiple units.
8. Be able to respond to an instruction for within-day and/or day-ahead delivery.
9. DFS Units can be aggregated on a national basis.

DFS Requirement

ESO will seek to share an early view of how often the DFS may be required across winter 23/24 based on several forecasted scenarios in a Market Requirements paper similar to winter 22/23. ESO will endeavour to share this view following the publication of our Winter Outlook.

DFS Procurement Documentation

To complete registration via the Single Markets Platform (SMP), providers will be required to accede to the DFS Procurement Documentation through submission of the DFS Declaration and Adherence Form.

The DFS Procurement Documentation consists of:

- DFS Procurement Rules; and the
- DFS Service Terms.

Other relevant documentation include:

The Communication Principles

The Common Flexibility Service Terms and Conditions:

[https://www.energynetworks.org/assets/images/Resource%20library/ON21-WS1A-P4%20Standard%20Agreement%20for%20procuring%20Flexibility%20Services%20\(Versio%202\)%20\(13%20Aug%202021\).docx](https://www.energynetworks.org/assets/images/Resource%20library/ON21-WS1A-P4%20Standard%20Agreement%20for%20procuring%20Flexibility%20Services%20(Versio%202)%20(13%20Aug%202021).docx)

The Balancing Services Glossary of General Terms and Rules of Interpretation:

<https://www.nationalgrideso.com/document/246716/download>)

DFS Units

A guidance document for how to register DFS Units on the SMP is accessible on our [webpage](#).

Section [3.4](#) outlines how you can structure your DFS Units when submitting DFS Bids and allocating Unit Meter Points to DFS Units.

2. Onboarding

This section explains what steps are required to become a Registered DFS Participant and be ready to participate in the DFS.

2.1 Onboarding steps to participate in DFS

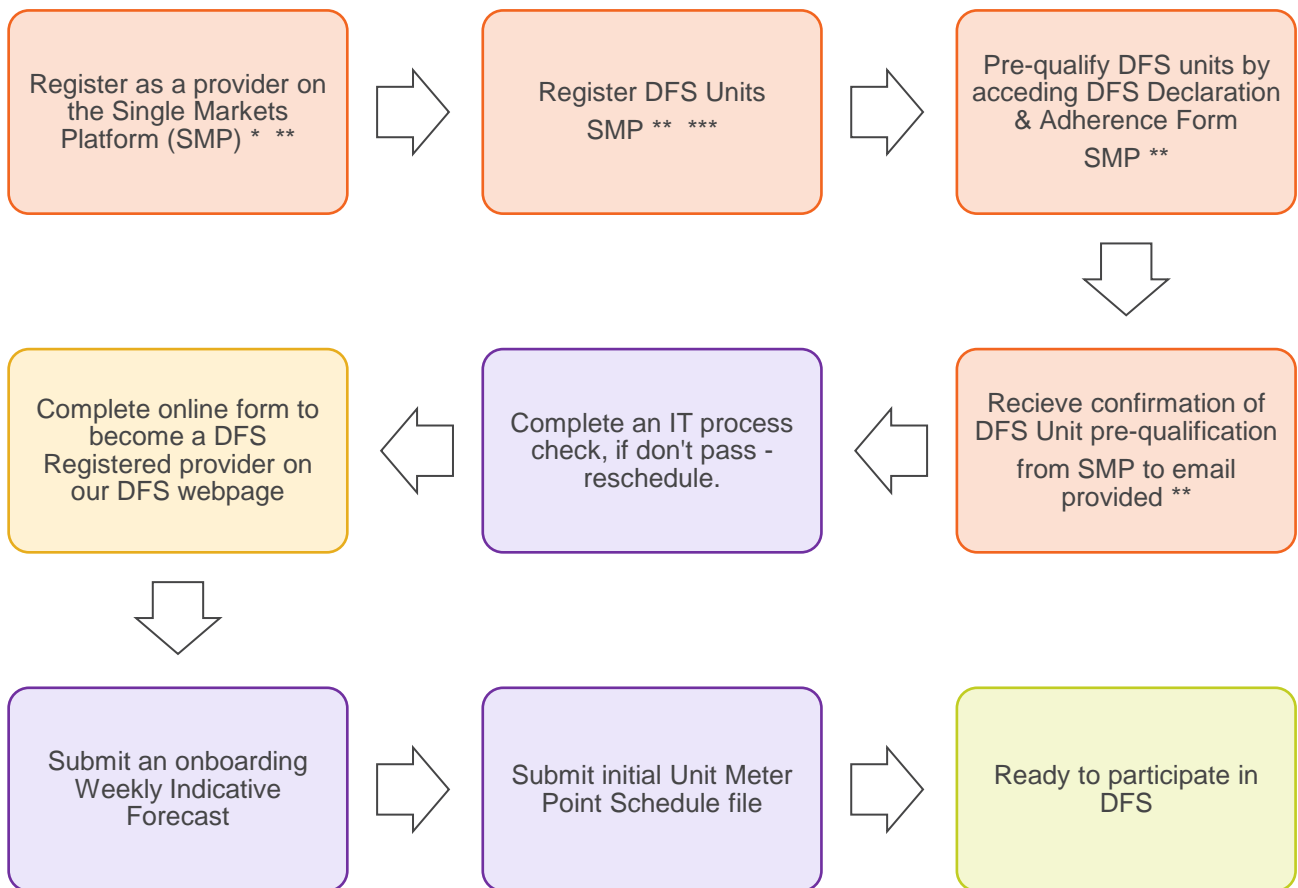
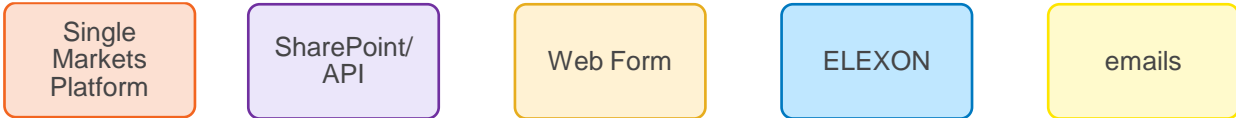
- Register on Single Market Platform:
 1. Register as a provider on the Single Market Platform (SMP) – (skip to step 2 if you are already registered in SMP.)
 2. Register DFS Units – (skip to step 4 if you are a Winter 22/23 Registered DFS Participant and no more DFS Units are required.)
 3. Accede to the DFS Procurement Documentation.
 4. Validate existing approved DFS Units (only for Winter 22/23 Registered DFS Participants with units approved that are likely to be used again).
- Complete DFS IT process check (see section 2.3).
- Submit an [online form](#) to become a 'DFS Registered provider' on our website:
 - Provide details of your campaign and incentive;
 - Confirm completion of all the onboarding steps.
- You are now ready to participate in the Demand Flexibility Service.

Further information on the processes within the steps is shared in section 2. Onboarding.

2.1.1 DFS onboarding process

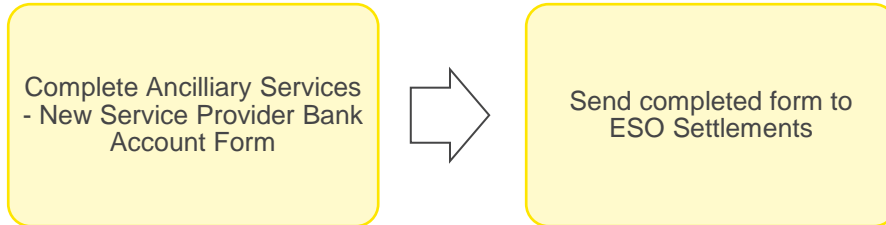
The following flow diagrams show the steps required to onboard with the DFS. Asterisks indicate points in the flow where there are sub-steps or additional steps based on the nature of individual providers. These are detailed in subsequent diagrams. Detailed explanations of all steps are shown on the following pages.

Systems Key:

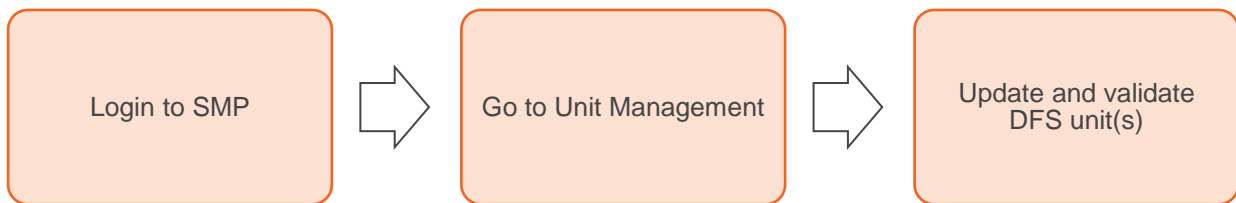


ESO

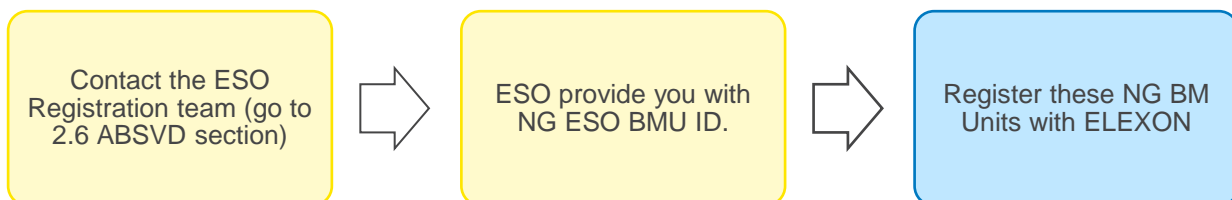
*If you are a new provider to ESO, go to section [2.6](#) for more details on the below required steps:



**If you are a Winter 22/23 DFS participant and want to reuse previously approved DFS Units, you will need to update and validate details for these DFS Units (more details in [section 2.2](#)), completing the following steps:



***If you are representing Domestic consumers whose MPAN is signed up to provide DFS with a supplier or via a supplier representative and ABSVD and the ELEXON BMU ID are not fully registered with ELEXON and/or you do not have a NG ESO BMU ID, go to section [2.6 ABVSD](#), for details on the following required steps:



2.2 Single Market Platform

To participate in the DFS, you need to register on the SMP. This is where you will accede to the DFS Procurement Documentation and register DFS Units for participation in the Demand Flexibility Service.

The SMP can be accessed via this link: <https://portal.nationalgrideso.com/smp/s/login/>

Participants in DFS Winter 22/23

Based on clause 1.3 and Schedule 2 of the latest DFS Procurement Rules any **Registered Service Provider** which was registered as a **Registered DFS Participant** as at March 2023 does not need to re-register for eligibility to submit **DFS Bids**, as it has acceded to the DFS Procurement Documents including latest changes on our DFS webpages.

Where any such **Registered DFS Participant** created **DFS Units** as at March 2023, those **DFS Units** will require reviewing and updating to meet the requirements of the latest **DFS Procurement Rules** and remain valid for submission of **DFS Bids**.

Please contact demandflexibility@nationalgrideso.com to arrange DFS Unit Validation and an IT Process check with the Contracts team.

For the avoidance of doubt, an IT Process check will need to be carried out, even if you have passed one as of March 23 and any **Unit Meter Points** which were validated by **NGESO** for delivery of **DFS** as at March 2023 will need to be resubmitted to **NGESO** for validation for delivery of **DFS** during the **DFS Procurement Period**.

2.3 DFS IT process check

Once you have started registration on the SMP, you will be contacted by our DFS team to arrange an IT process check. You will be provided with the relevant information to complete this, and access to the development area of the DFS Assessment Platform.

The purpose of the IT process check will be to ensure you have access to the correct templates and the required data flows are in place for you to be able to take part in the service. During these checks, we will simulate a DFS Service Requirement.

A DFS IT process check will be completed within a single day (typically between 09:00 – 12:00) but will simulate the normal weekly process for all DFS Service Requirements (including Tests).

The typical steps involved in the IT process check will be:

- Provider to send Weekly Indicative Forecast and Unit Meter Point Schedule files by SharePoint
 - Optional: Provider to send Unit Meter Point Schedule using API
- ESO to send the Anticipated DFS Requirement Notice (via email for IT process check only)
- ESO to send the DFS Service Requirement (via email for IT process check only)
- Provider to send DFS Bids by SharePoint
 - Optional: Provider to send DFS Bids using API
- ESO to notify Provider of DFS Acceptance
- Provider to send Weekly Settlement Submission

The ESO will confirm once you have successfully completed an IT process check and you will then be ready to move on to the next step in the onboarding process to participate in the DFS. If you are notified that the IT

process check was not completed successfully you will be given the reasons why and an appointment to perform a subsequent IT process check will be scheduled.

For the purposes of the IT process check, no payment from ESO will take place as no demand reduction from customers is required at this stage. This checkpoint is to support technical/operational readiness only.

2.4 Register as a DFS provider

The next onboarding step is to submit a form to become a DFS registered provider. Once completed and verified, we'll add you to our DFS Registered Provider Page.

The Registered DFS Participant must be registered in SMP, have uploaded the signed DFS Declaration and Adherence Form, and have successfully completed an IT process check to be listed as an approved DFS provider.

If you are a third party participating via an aggregator, you must have a signed contract with the 'Registered DFS Participant'. The 'Registered DFS Participant' must confirm the contracts have been signed and also notify us in writing of your participation by emailing demandflexibility@nationalgrideso.com.

Once verified, your information will be uploaded to the ESO website in 10 working days.

Please complete this Microsoft form to notify us you have been completed steps above and we will add you as an approved DFS provider (Registered DFS Participant) to our website:

[Request to become a DFS Registered Provider 2023/2024 \(office.com\)](#)

2.5 Onboarding submission of Weekly Indicative Forecast and Unit Meter Point Schedule

After completing DFS IT process check, you will be provided with access to the production area of the DFS Assessment Platform (further information on the DFS Assessment Platform is contained within appendix 1).

The penultimate onboarding step is to submit (via SharePoint) your onboarding Weekly Indicative Forecast. The data contained within the Weekly Indicative Forecast will help ESO schedule Tests and outline how much demand flexibility volume we potentially have access to. Alongside this you will be required to submit (via API or SharePoint) a list of participating Unit Meter Points to the ESO for validation, using the Unit Meter Point Schedule file template. ESO will check this for any duplications across Registered DFS Participants. More information on these files is contained within the appendices.

Please ensure your Weekly Indicative Forecast is as accurate as possible as any inaccuracies could have adverse effects for planning DFS tests and operational planning.

Unit Meter Point Duplication

Under the Procurement Documentation, it is the responsibility of the Registered DFS Participant to ensure that their customers are only signed up to DFS once, as per clause 4.4 and 13.1.2 (d) of the Procurement Rules. Registered DFS Participants should clearly state this to their customers, and it should form part of the contractual agreement/terms and conditions with the end customer.

If a Unit Meter Point is found to be duplicated as part of the registration or Unit Meter Point submissions, ESO will look for the date and time that this meter was signed up by each participant. The meter will be allocated to the participant that has the latest time stamp.

ESO encourage providers to make it very clear to their customers they can only sign up to one provider at a time and the consequences. Parties should also ensure it is easy and clear for customers to both register and de register from a Registered DFS Participant as outlined in our Communication Principles.

The Unit Meter Point Schedule file will require you to identify the Type of each Unit Meter Point.

There are two types of DFS Initiation Measures (known as Type in Unit Meter Point Data file): Manually Initiated and Directly Instructable.

“Directly Instructable” – the facility made available to a Registered DFS Participant by the owner and/or occupier of a Unit Meter Point during the DFS Procurement Period for the Registered DFS Participant to initiate delivery of DFS from a Unit Meter Point by communicating directly with the Unit Meter Point (which may be by an appropriate signal to the on-site **Metering Equipment**).

“Manually Initiated” – the initiation of delivery of DFS from a Unit Meter Point by an action on the part of the owner and/or occupier of the premises associated with that Unit Meter Point in response to a communication from the Registered DFS Participant.

For audit purposes, you will be required to keep evidence of instructions sent to Directly Instructable Unit Meter Points, and acceptances from the consumer for Manually Initiated Unit Meter Points, for each relevant Contracted Settlement Period.

2.6 Settlement and Registration process requirements

2.6.1 New provider: bank registration details

The final onboarding step is to register bank details for settlement. If you are a new provider to ESO, we will need to set up your bank details in our settlement systems. Please complete the “[Ancillary Services - New Service Provider Form](#)” or contact demandflexibility@nationalgrideso.com or settlement.queries@nationalgrideso.com to receive more support.

Please send completed and signed form, on company headed paper and PDF copy to demandflexibility@nationalgrideso.com and settlement.queries@nationalgrideso.com

More information about New Provider guidance could be found [here](#). Existing providers do not need to complete this final step, you will already be registered in our settlement systems.

2.6.2 Applicable Balancing Services Volume Data (ABSVD)

As part of settlement, Applicable Balancing Services Volume Data (ABSVD) process will apply to Half Hourly(HH) Settled volumes:

Industrial and Commercial (I&C)

ABSVD process will apply to HH Settled I&C consumer via P354 'Use of ABSVD for non-BM Balancing Services at the MPAN level'. If a Boundary Meter which is Industrial & Commercial shall be Half-Hourly Settled (unless the boundary meter is in Profile Class 3 or 4),

More detailed information about P354 process and requirements is explained in P354_FMR_D_Business Requirements_v3 (1) available in <https://www.elexon.co.uk/mod-proposal/p354/>

For further information regarding profile class classification please refer to BSCP516: Allocation of Profile Classes and SSCs for Non-Half Hourly Metering System Registered in SMRS - Elexon Digital BSC.

For the avoidance of doubt Profile Class 3 &4 will be able to participate in DFS and its volume will not be ABSVD. Profile classes 5-8 are not HHS and therefore any Unit Meter points under these classifications cannot participate.

DFS registered Participants must provide the following for ABSVD purposes:

- a. Within Unit Meter Point Schedule:
 1. **Import MPAN** (core 13 MPAN digits)
 2. Associated **Export MPAN** must be provided if it exists, if not leave blank (core 13 MPAN digits)
 3. MPANs Effective From: the date from which the DFS Participant may provide MPAN Pair Delivered Volumes in relation to this MPAN Pair
 4. MPANs Effective To: the last date which the DFS Participant may provide MPAN Pair Delivered Volumes in relation to this MPANs
 5. MPANs Customer Consent whether the Customer has consented to the Supplier receiving MPANs (Import/Export) ABSVD
 6. Consent Effective From: Customer Consent Effective From
 7. Consent Effective To: Customer Consent Effective To

Please note requirements a.3-a.7 will not be required for I&C Unit Meter Points that are not HH Settled i.e. Profile Class 3 and 4 exception.

- b. Within Settlement file
 1. **Import MPAN** (core 13 MPAN digits)

2. Associated **Export MPAN** must be provided if it is existent, if not leave blank (core 13 MPAN digits)
3. Date of delivery
4. Delivery start time
5. Delivery End time
6. Delivered kWh

Domestic

For consumers whose Unit Meter point is signed up to provide DFS with a supplier or via a supplier representative, ABSVD process applies via the BMU ID.

BMU ID registration is relevant:

1. If consumer is Domestic
2. If DFS Participant is the supplier of electricity or representative of the supplier of electricity authorised under contractual arrangement with the consumer to participate in DFS.
3. you must apply ABSVD via BMU ID.

If the ELEXON BMU ID is not fully registered with ELEXON and does not have a NG ESO BMU ID, providers are required to:

Complete the registration form and send to ESO Registration team bmu.registration@nationalgrideso.com.

ESO provide NG ESO BMU ID.

Providers register these NG BM Units with ELEXON by completing the BSCP15/4.1 **form** or via ELEXON Kinnect Platform, setting the FPN to 'Yes' and associating the NG BM Unit with the settlement ID.

For the avoidance of doubt, any Domestic Unit Meter Points that are not signed up to provide DFS with a supplier or via a supplier representative, ABSVD process will not apply and must complete on the Unit Meter Point Schedule HH Settled field as "False" and leave ELEXON BMU ID blank.

2.6.3 Settlement Calendar

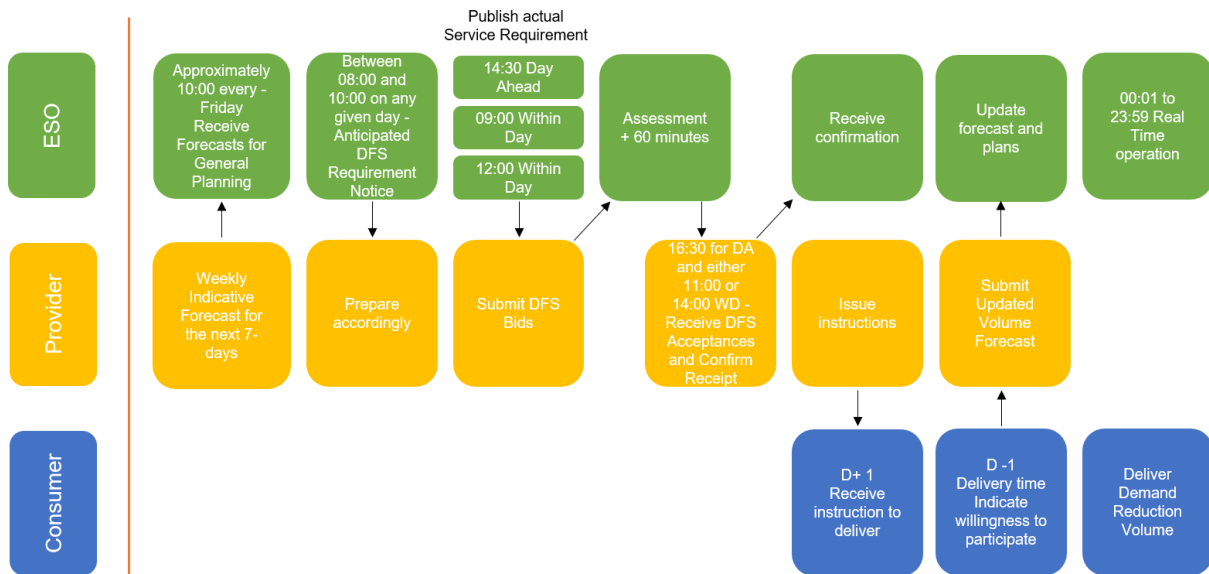
The DFS Service Terms outline the provisions and processes required for payment with regards to settlement of the Demand Flexibility Service. The payment calendar that the ESO Settlement team follow can be found [here](#).

3 Participation in DFS

Once you have completed the onboarding process you will be able to participate. This section outlines the processes and requirements involved with participating in the DFS.

3.1 DFS high-level weekly process

This is the weekly process for the DFS, section 3.2 explains this in further detail.



1. On a rolling weekly basis Registered DFS Participants will submit a Weekly Indicative Forecast, at or around 10:00 hours each Friday. DFS Participants can submit updates to their Unit Meter Points daily for an ad-hoc check, with a cut off time of 11:00 hours for the daily duplicate check.
2. Between 08:00 and 10:00 on any given day, depending on whether it is for a day-ahead or within-day procurement event, ESO may publish an Anticipated DFS Requirement Notice to notify industry of a potential requirement via the ESO Data Portal. This shall be non-binding and not commit ESO to issue a Service Requirement. This will be a BMRS System Message and a Data Portal update. You can register for text updates for both BMRS and ESO Data Portal. See register for updates below
3. At or around 14.30 hours for the Day Ahead procurement timeframe and 09:00 or 12:00 hours for Within Day, ESO may issue a DFS Service Requirement.
4. By no later than 60 minutes following issue (dependant on the above procurement timescale) Registered DFS Participants may submit DFS Bids.
5. At or around 16.30 for Day Ahead and 11:00 or 14:00 hours for Within Day, ESO shall notify all Registered DFS Participants who submitted DFS Bids whether each DFS Bid was accepted or rejected via a publication on the Data Portal. ESO may in addition notify via email.
6. ESO will publish a DFS Utilisation Report to the ESO Data Portal and/or its website to summarise the accepted and rejected bids.
7. Providers arrange with end consumers to reduce demand (via either a direct instruction to an asset or a communication to the end-consumer with an acceptance received back depending on their opt-in or opt-out status).
8. Demand Reduction Volume is delivered by end-consumers.

9. Registered DFS Participants retain and store the relevant Performance Data set out in the Service Terms.
10. Providers submit Settlement Data for each DFS Acceptance received during any calendar week ending midnight Sunday, no later than 10.00 hours on the second Monday after expiry of that calendar week.

3.2 Communications between Registered DFS Participants, industry and the ESO

There are several communications between the Registered DFS Participant, industry and the ESO. This section explains what these are, where they are shared, who sends the information, the frequency of the interactions and also the time frames.

ESO Data Portal and BMRS communications

The ESO has created an area on the Data Portal to share updates on the Demand Flexibility Service, this can be accessed via this link: <https://data.nationalgrideso.com/data-groups/dfs>. There will be one section for this year to consolidate all DFS data, with information related to DFS Tests and for DFS Live Events clearly indicated.

Certain updates on the DFS will also be shared via the BMRS site, on the System Warnings webpage, which can be accessed via this link: <https://www.bmreports.com/bmrs/?q=transmission/systemwarning>.

Industry can register to receive updates from these webpages to know when information on the DFS has been published.

To register for SMS updates from the Data Portal, this webpage explains how to set this up and subscribe for Data Portal notifications: <https://data.nationalgrideso.com/registration-and-subscription#sms>

To register for updates from BMRS, follow these steps:

1. Go to <https://www.elexonportal.co.uk/>
2. Register for an account, and then follow activation link
3. Once logged in to your ELEXON account, go to <https://www.elexonportal.co.uk/systemwarnings> and click “subscribe”.

DFS file transfers

There are several required file transfers and communications between the Registered DFS Participant and the ESO. The ESO has developed the DFS Assessment Platform for the DFS for these file transfers. Additionally, some files (Unit Meter Point Schedule and DFS Bids) can be submitted to ESO via a special purpose API. Further detail on submitting these files, and the requirements to follow, can be found in the appendices.

This table shows each communication, who it is from and to, when and how the communication will be sent, and its frequency.

File number	File name	From	To	How	Frequency	When	Period
1	Weekly Indicative Forecast	Provider	ESO	DFS Assessment Platform	Weekly (also at the onboarding stage)	Friday at or around 10:00 Can be updated daily	7 days (Sat - Fri)
2	Unit Meter Point Schedule	Provider	ESO	DFS Assessment Platform or API	At most daily. Only needed if there are changes to portfolio	Daily, before 11 am	7 days (Sat - Fri)

File number	File name	From	To	How	Frequency	When	Period
3	Anticipated DFS Requirement Notice	ESO	Provider	BMRS, ESO Data Portal & DFS Assessment Platform	Day ahead or within day	Endeavour between 08:00 and 10:00, depending on whether it is for a day-ahead or within-day procurement event	NA
4	Service Requirement	ESO	Provider	BMRS, ESO Data Portal & DFS Assessment Platform	Day ahead or within day	At or around 14:30 for Day Ahead and 09:00 or 12:00 for Within Day	NA
5	DFS Bids	Provider	ESO	DFS Assessment Platform or API	Day ahead or within-day	Within 60 minutes of a Service Requirement	NA
6	DFS Utilisation Report (DFS Acceptance)	ESO	Provider & Industry	DFS Assessment Platform and ESO Data Portal	Post assessment	At or around 16:30 for Day Ahead and 11:00 or 14:00 for Within Day	NA
7	DFS Utilisation Report Summary	ESO	Industry	ESO Data Portal	Post assessment	As soon as possible following DFS Acceptances	
8	Weekly Settlement Submission	Provider	ESO	DFS Assessment Platform	Weekly	Monday after the end of the DFS service week	7 days (Mon- Sun)

3.3 DFS Tests

Registered DFS Participants will be invited to participate in a series of tests throughout Winter 2023/24. These tests are designed to make DFS commercially viable for providers and end-consumers and build confidence and operational learning around the Service.

The ESO intend to run 12 DFS test events between November 2023 and March 2024.

ESO will use reasonable endeavours to carry out 6 DFS Tests during the period ending 31 December 2023. For any Tests that remain to be carried out by the end of this period, the shortfall will be carried forward to the remainder of the DFS Procurement Period. Those DFS Test(s) carried forward will not be treated as a Competitive Test.

The first 6 tests will be accompanied by a Guaranteed Acceptance Price (GAP). The latter 6 DFS Tests will either be: a) accompanied by a non-zero Guaranteed Acceptance Price b) “competitive” Tests, with a GAP of £0/MWh and the requirement will be set to engineer competition between Registered DFS Participants. The

conditions underpinning the latter 6 DFS Tests are subject to the total volumes participating in DFS as of 1st January 2024.

The DFS **Procurement Rules** (10.7) commit the ESO to running 6 DFS Tests and whilst the ESO anticipate running a further 6 test events from January 2024. The latter 6 tests may be subject to change should opportunities to schedule these test events be significantly impacted by live service activation.

For Live DFS Events, the Guaranteed Acceptance Price (GAP) will be set to £0/MWh. The DFS bids we accept will be determined by the published service requirement volume, with the bids accepted in merit order, from lowest to highest price until the volume requirement is met.

For further information on the GAP and tests, please see our DFS webpage where we will publish DFS Market Information Reports and any subsequent updates.

To manage the impact of DFS Tests on efficient system operation, Registered DFS Participants may be assigned to dispatch groups and instructed to deliver their contracted volume in separate or overlapping Settlement Periods. This is so the change in system demand can be shaped to limit the magnitude of frequency fluctuations. The DFS Service Requirements, as specified on the Data Portal, will indicate if “staggered” dispatch is being carried out and which service delivery windows each Registered DFS Participant is eligible to submit DFS bids for.

3.4 Submitting DFS Bids

This section covers how you submit your DFS Bids.

Key information on submitting DFS Bids:

- Bids can be submitted by SharePoint or API.
- Bids need to be submitted, within one hour of the Service Requirement publication unless otherwise noted in the Service Requirement.
- Each individual bid needs to:
 - Be for a specific DFS Unit.
 - Be for a single Settlement Period.
 - Have only one volume (an integer between 1MW and 100MW) and what is expected to be delivered if accepted.
 - Have only one Utilisation Price (£/MWh).
- Registered DFS Participants **can**:
 - Submit multiple bids for different DFS Units for the same Settlement Period;
 - Submit multiple bids for the same DFS Unit for different Settlement Periods.
- Registered DFS Participants **cannot**:
 - Submit multiple bids for a single DFS Unit for the same Settlement Period;
 - Link bids or have mutually exclusive bids. (The ESO will accept DFS Bids in cost order, if all of your bids are accepted you must be able to deliver all of the Demand Reduction Volume).

At the point of submitting DFS Bids, Registered DFS Participants decide how they wish to allocate Unit Meter Point volume between DFS Units and must keep a record of this for audit purposes.

If the Registered DFS Participant wants to create multiple price bands for the same Unit Meter Point, then the same Unit Meter Point has to be in more than one DFS Unit.

Providers are free to submit different volumes in different periods. If you are unable to sustain delivery across all requirement periods (e.g. you could do full volume for one Settlement Period, or part volume for three Settlement Periods), we would encourage you to profile your bids proportionally to the requirement. For

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example, if we have a requirement for 100MW in SP34, 200MW in SP35 and 100MW in SP36, we would like you to profile your delivery on a 25%, 50%, 25% or proportional 1MW:2MW:1MW split.

Note that on some occasions we may indicate the period that you have to bid in for the test. This is to manage operational requirements. The DFS Service Requirement file will clearly indicate if you are eligible or not to submit bids for each service window.

3.5 Paying for Delivered Demand Reduction

Registered DFS Participants are required to calculate the operational baseline, using the agreed industry methodology based on P376 (note: ESO have removed the within day adjustment for the baseline methodology compared to winter 22/23), for each of their Unit Meter Points and then use this to calculate the Delivered Demand Reduction Volume of their DFS Units following a DFS Test or DFS Live event. This is submitted to the ESO via the Weekly Settlement File and details of this file are outlined within the appendices.

The ESO will pay for the Delivered Demand Reduction Volume. If a Registered DFS Participant has split Unit Meter Points into different DFS Units, for bidding using price bands, they must put any under or over delivery proportionally across the DFS Units containing the same Unit Meter Point so that the average cost per MW the ESO pays stays the same as it was when the bids were accepted. If a DFS Unit that was not accepted delivers a Demand Reduction this will not be paid for by ESO and cannot be included for settlement.

For example, let's assume that a Registered DFS Participant is invited to submit bids for a specific settlement period, and they submit a bid of 2 MW from DFS Unit A01 at 3,000 £/MWh and another of 1 MW from Unit A02 at 4,000 £/MWh, as indicated in Table 1. In this example, the same boundary meter is present in both DFS Units.

TABLE 1

DFS Unit ID	DFS Volume MW	Utilisation Price GBP per MWh
A01	2	3,000
A02	1	4,000

Let's further assume that both bids are Accepted and the measurements at the boundary meter level are as shown in Figure 1.

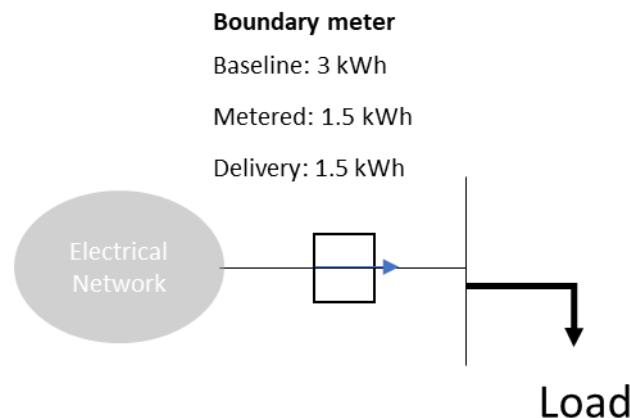


FIGURE 1

The correct way to report the above boundary meter performance in the Settlements File is by keeping the same proportions in the delivery as those in the accepted bid's volume. This would ensure that the DFS delivery would

be apportioned between the DFS Units in line with the assessment expectations and would avoid assigning a larger share of the delivery to the DFS Unit with higher accepted bid price.

In this case Unit A01 has been accepted for twice the volume of Unit A02, therefore, the reported baseline, metered and delivery for the boundary meter that is present in both units should be double in Unit A01 than Unit A02.

Table 2 shows the apportion of delivery in line with accepted bid volume.

TABLE 2

DFS Unit ID	Import MPAN	Baseline kWh	Metered kWh	Delivered kWh	Accepted Utilisation Price GBP per MWh
A01	000123	2	1	1	3,000
A02	000123	1	0.5	0.5	4,000
Total	000123	3	1.5	1.5	

Unit Meter Points – further information

- Registered DFS Participants must calculate the Operational Baseline for all Unit Meter Points and keep a record of this for each Unit Meter Point that was submitted as delivering Demand Reduction in the Weekly Settlement Submission for audit purposes.
- DFS Initiation Measures evidence must be captured, as described in section 2.3.
 - Registered DFS Participants must get an acceptance/confirmation from each Unit Meter Point to say that that Unit Meter Point will participate in the specific Contracted Settlement Periods the Registered DFS Participant had accepted from their DFS Bids
 - Example: if Registered DFS Participant submits a bid for tomorrow at 16:00 to 16:30, and the bid is accepted at D-1 16:30, the Registered DFS Participant MUST get confirmation between D-1 16:30 when the bid was accepted and the delivery time D 16:00 to say that that Unit Meter Point will participate in that Contracted Settlement Period if they were selected as Opt In. This MUST be kept as a record for auditing. If the Manually Initiated Unit Meter Point does not confirm during this time, this Unit Meter Point CANNOT be included within the Weekly Settlement calculation. For Unit Meter Points where the reduction is Directly Instructable, the instruction sent to the Unit Meter Point is considered the confirmation. Again, this instruction must be kept as a record and the Unit Meter Point can be used for the Weekly Settlement calculation.
- For Unit Meter Points that are considered as having given confirmation (either via an acceptance or an instruction) for the Contracted Settlement Period, the baseline methodology is followed to calculate Delivered Demand Reduction Volume. For any Unit Meter Points that have confirmed participation via the 'opt-in' method, only reductions are considered and any demand increases, can be excluded from settlement. Both reductions and increases are considered for those who instructed participation via the 'opt-out' method and these must be included in settlement. If at any point they have said "no" to participating in advance of the DFS event, both decreases and increases must not be included and providers should keep a record of this opt out confirmation. Registered DFS Participants are not penalised for over or under delivery. Further information on the baseline calculation is contained within Appendix 5.
- If the ESO identifies the Unit Meter Point as a duplicate with another Registered DFS Participant, the duplicate Unit Meter Point may not be entered for any volume for settlement of DFS until it is accepted as part of a Registered DFS Participant's portfolio via the Unit Meter Point Schedule. Please see section 2.5: Unit Meter Point duplication for further information on how Unit Meter Point duplications can be resolved.

3.6 Contact details

If you need to contact the Demand Flexibility Team with any queries regarding onboarding, service design or other general queries, please email demandflexibility@nationalgrideso.com

Appendices

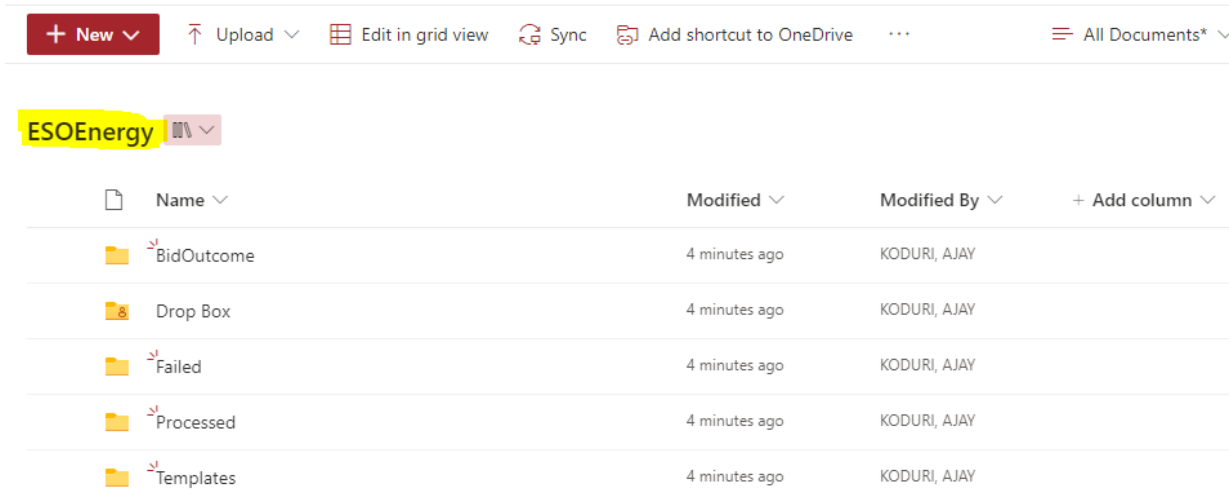


Appendix 1 – General information on file submissions

This appendix contains general information for submitting the required files via the DFS Assessment Platform.

DFS Assessment Platform (ESO DFS SharePoint Site)

- Each Provider will have their respective SharePoint Area allocated where they can see the following folders as shown in the figure (using “ESOEnergy” as an example provider).



- All files are uploaded to the “Drop Box” folder and then validation checks take place. Further information on the validation checks undertaken can be found in Appendix 2.
- The “Templates” folder contains templates of the required files (explained further in Appendix 2) and Sample Example files as a reference.
- The “Bid Outcome” folder will be loaded with your DFS Utilisation Report (DFS Acceptances) containing information on your accepted and rejected bids as soon as the assessment is complete for a DFS Service Requirement, around 60 minutes after the DFS Bid Submission Time. You will be notified via email when this happens. Please note it is the Data Portal publications that are legally binding and form any DFS acceptance.
- NOTE: If your submitted file moves from the “Drop Box” folder to the “Failed” folder you will receive an email detailing the reason for the failure, an example of this is shared in Appendix 2. Only files that move from the Drop Box folder to the Processed folder have been successfully submitted.

Using and understanding the templates

Accepted files and naming conventions

PLEASE NOTE ESO will only accept files where:

- the correct file naming convention is used, and
- the file must be sent with .CSV extension.

Please do not add in additional columns or information to the templates or they will not upload correctly to the DFS Assessment Platform (ESO DFS SharePoint area).

File names follow this convention: “Provider_ProviderName_FileName_ddmmyyyy.csv”

- Provider** – Don’t change this
- ProviderName** – Change this to the name of the Registered DFS Participant (E.g., ESOEnergy)
- File name** – E.g., WeeklyIndicativeForecast, don’t change this

- **ddmmyyyy** – Change this to either the first date of the file (e.g., Saturday, if for the Weekly Indicative Forecast) or delivery date (e.g., the next day if it is for a day ahead event, if for DFS Bids)

Further information on the different data validation checks that will be completed can be found in Appendix 2, below examples the file validations that will be completed.

File validations:

These are validations that will be completed on each file uploaded to the “Drop Box” folder. If files fail these validations they will be moved to the “Failed” folder and if they pass, they will be moved to the “Processed” folder. Note that similar validations will be performed to files submitted via the API.

File Name	Each part split by (_) underscore (Example: Provider_ESOEnergy_WeeklyIndicativeForecast_15102023.csv) Should be 4 parts after split 3rd Part should be WeeklyIndicativeForecast (or relevant file name) 4th Part should be the relevant date depending on the file
File Headers	<ul style="list-style-type: none"> • Trim spaces from File Headers and it should exactly match the predefined headers – as shown in the File Template • No special characters allowed in File Headers • Order of Headers should also be same.

File column headings and their descriptions

TABLE 3 FILE HEADERS AND DESCRIPTIONS

Header	Description
Delivery Date	Date of Delivery – e.g., for the Weekly Indicative Forecast dates of all the 7 days in dd/mm/yyyy format.
Registered DFS Participant	Company name of the Registered DFS Participant i.e., the supplier or aggregator. This needs to be the same name across all the files explained in Appendix 2. As per your SMP registration
DFS Unit ID	The ID given by ESO for the DFS Unit that is allocated to offer delivery of the Demand Reduction Volume. Please be aware this may change from the unit ID parties populate initially. This ID will be provided within the SMP and will follow this structure XXXXXX## (3 – 6 characters relating to the Registered DFS Participant’s company name and two digits numbering the DFS Unit registered under this Registered DFS Participant for the DFS.
DFS Volume MW	The Demand Reduction Volume in MW that is offered to be reduced by that DFS Unit in the relevant Settlement Period for the relevant DFS Bid. This must be a number between 1MW and 100MW.
From	Time at which the Demand Reduction Volume starts – this is in GMT format and given as HH:MM
To	Time at which the Demand Reduction Volume ends – this is in GMT format and given as HH:MM
Utilisation Price GBP per MWh	The Utilisation Price (£/MWh) that is offered to provide the Demand Reduction Volume on that DFS Unit in the relevant Settlement Period.
Guaranteed Acceptance Price GBP per MWh	The price (£/MWh) published by NGENSO from time to time with respect to DFS Tests; If participants bid at or below this price for a specific period, then they will be accepted for that period.

GSP Group 14 Zones + Other + Total	Breakdown of the Demand Reduction Volume in MW of each DFS Unit per GSP Zone and Other column include any Demand Reduction Volume not in any of the GSP Zones. The Total column is the maximum aggregate Demand Reduction Volume (in MW) of each DFS Unit across the GSP Zones, should be equal to DFS Volume (in MW) that is offered.
Status	This is the status for the DFS Bids submitted by the Registered DFS Participant and outlines whether they were Accepted or Rejected as shown in the DFS Utilisation Report (DFS Acceptances).
Baseline kWh	This is the DFS Operational Baseline for each Unit Meter Point and for each Contracted Settlement Period, in kWh. ¹
Metered kWh	This is the aggregate Half-Hourly Metered Data for each Unit Meter Point for each Contracted Settlement Period, in kWh. ¹
Delivered kWh	This is the Delivered Demand Reduction Volume, the difference between the metered data and the baseline data, in kWh. ¹
Accepted Utilisation Price GBP per MWh	Utilisation Price that ESO accepted and will pay for the delivered Demand Reduction Volume allocated to each Unit Meter Point and for the relevant period, in £/MWh.
Elexon BMU ID	This is the Supplier's Elexon Base BMU ID for settlement purposes. Elexon BMU ID is the settlement ID allocated to the market participants who are registered as suppliers with Elexon. This is a unique ID provided by Elexon to the Base Supplier, this normally starts with "2_". More detail available in the ABSVD section of this document.
Import MPAN	The unique reference number allocated to the Registered DFS Participant for the relevant period to identify an import Boundary Meter. The MPAN has to be the core 13 digits without spaces. This is described further on the Elexon website: https://bscdocs.elexon.co.uk/guidance-notes/msid-mpan-guidance . The 13-digit number is made up of the combination of items 4, 5 and 6 (Distribution Identifier, Unique Reference Number, Check Digit), described on the Elexon link. This MPAN number is used throughout systems and processes as the reference or key to a particular Metering Point.
Export MPAN	The unique reference number allocated to the Registered DFS Participant for the relevant period to identify an export Boundary Meter. The MPAN must be the core 13 digits without spaces. More detail available in the ABSVD section of this document.
MPANs Effective From	The date from which the DFS Participant may provide MPAN Pair Delivered Volumes in relation to this MPAN Pair. The format is dd/mm/yyyy. More detail available in the ABSVD section.
MPANs Effective To	The last date which the DFS Participant may provide MPAN Pair Delivered Volumes in relation to this MPANs. The format is dd/mm/yyyy. More detail available in the ABSVD section.
MPANs Customer Consent Flag	Whether the Customer has consented to the Supplier receiving MPANs (Import/Export) ABSVD. More detail available in the ABSVD section.
Consent Effective From	Customer consent starting date. More detail available in the ABSVD section.
Consent Effective To	Customer consent end date. More detail available in the ABSVD section.
Timestamp Subscribed	This field indicates the date and time when the end consumer subscribed to the Demand Flexibility Service with your company as Registered Service Provider. The format is dd-mm-yyyy hh:mm

¹ Refer to Section **3.5 Paying for Delivered Demand Reduction**, in the case the same Unit Meter Point is included in multiple DFS Units.

DFS Initiation Measure	This is the type of DFS Initiation Measure of each Unit Meter Point submitted within your Unit Meter Point Schedule. The type can be either Directly Instructable or Manually Initiated. If a Unit Meter Point has any part considered Manually Initiated, the Unit Meter Point needs to be identified as Manually Initiated.
Participating	Whether the associated Unit Meter Point was participating or not in the relevant service period.
Sub-Meter Serial Number	Unique identifier of the sub-meter.
HH Settled	Whether the related boundary meter (MPAN) is half-hourly settled or not. As defined in the Procurement Rules - a Meter whose Half-Hourly Metering is used directly to calculate the half-hourly imbalance position attributable to a Responsible Party under and for the purposes of the BSC ;
Consumer Type	Whether the Unit Meter Point represents a Domestic or Industrial & Commercial consumer.
Despatch Times	Refers to the different lead times used to procure the Demand Reduction Volume. This can be day-ahead, within-day 1 for the ~09:00 or within-day 2 for the ~12:00 despatch time.
Opt In	This is a True / False field in the Unit Meter Point Schedule. It should be set to True where the associated Unit Meter Point is Opt-in, and it should be set to False where the associated Unit Meter Point is Opt-out.
Action	This field pertains to the Unit Meter Point Schedule. It can be <i>Add</i> or <i>Remove</i> , and it is used to indicate to ESO if you want to add or remove the relevant Unit Meter Point. It can also be used for amending any errors with previous submissions. In that case, please change the Action field on the row with errors to <i>Remove</i> and add a new row with the correct data and with <i>Add</i> in the action field.
Despatch Type	This field in the Service Requirements File indicates whether the despatch is staggered and only a subset of participants can take part, (to manage ramp of demand reduction and maintain system stability) or if all participants can take part
Participant Bids Eligible	List of providers eligible to submit bids for the relevant service window. Only applicable if Despatch Type is <i>Staggered</i>
Service Requirement Type	This field in the Service Requirements File indicates whether the requirement for each service window corresponds to a Live or Test event.

GSP Zones for reference

These are the 14 GSP Zones:

- North Scotland
- South and Central Scotland
- North East England
- North West England
- Yorkshire
- East Midlands
- West Midlands
- London
- East England
- South East England
- South West England
- Southern England
- North Wales Merseyside and Cheshire
- South Wales

Common issues when saving Unit Meter Point Schedule file

When saving the Unit Meter Point Schedule file, you can accidentally save the file in an UTF-BOM format. BOM characters are not visible and uploading files to the SharePoint with this format can result in processing errors. Below we explain how to remove BOM from any text/XML file:

1. Download Notepad++
2. To check if BOM character exists, open the file in Notepad++ and look at the bottom right corner. If it says UTF-8-BOM then the file contains BOM character (see image below).
3. To remove BOM character, go to Encoding and select Encode in UTF-8
4. Save the file and retry uploading this in the SharePoint.



Appendix 2 – Detailed information on file submissions

1. Weekly Indicative Forecast

Weekly Indicative Forecast gives a best estimate of the volume that each provider can deliver from each DFS Unit for 30-minute intervals starting from the following day (Saturday) first interval 00:00 – 00:30 to the next Friday 23:30 – 00:00 i.e., D+7. Be aware that this file should include an estimate of delivery if ESO were to call the service at different lead times.

1. Each provider will receive an email reminder usually on every Thursday afternoon informing them to submit the Weekly Indicative Forecast by 10:00 hours on the Friday. Providers can upload the file in the DROP BOX folder of the SharePoint link attached in the email.
2. Providers need to plan their forecast submission using the following template file
 “Provider_ProviderName_WeeklyIndicativeForecast_ddmmyyyy.csv”
 Where for ddmmyyyy – enter the FIRST date of the Forecast week in the filename for which you are submitting the data which will always be upcoming Saturday.
3. ESO will accept the Weekly Indicative Forecast file only if providers follow the file template standards. The file headers are shown below, and each header is described in **Table 3**:

Delivery Date
Registered DFS Participant
DFS Unit ID
Despatch Time
DFS Volume MW
From
To
Utilisation Price GBP per MWh

Note: This file can be updated at any point during the week with more accurate estimates. Simply, reupload the new file in the SharePoint folder.

Data Validations:

1. Submit Data for all the 7 dates of the week – starting from Saturday to next Friday.
2. Despatch Time can be day-ahead, within-day 1 or within-day 2, as explained in the earlier section. Ensure forecast is provided for all dispatch times.
3. No Data Row should contain the same DFS Unit and the same Settlement Period for the same date.
4. Time difference between FROM and TO, should always be 30 minutes.
5. No blank lines from starting, between and end in the file are allowed.
6. Each DFS Volume MW (Demand Reduction Volume) must be between 0MW and 100MW and can contain decimal points.
7. DFS Volume and Price cannot be negative.

2. DFS Bids

DFS Bids submitted by the Registered DFS Participants. This includes volume and price that the provider can offer for each Service Window. It also shows the volume in MW of each DFS unit in each GSP Zone. For the GSP Zone volumes, it is not a contractual requirement to enter volumes within the GSP Zone, but the ESO would value this data, if you do not have this information you can input 0 within the GSP Zones). Providers need to submit their Bids in line with the deadline published in the DFS Service Requirement.

Note: All volumes offered must be deliverable if you're your bids have been accepted. There are no mutually exclusive bids.

1. Providers need to submit their DFS Bids following the Service Requirement sent by the ESO using the following template file "Provider_ProviderName_DFSBids_ddmmyyyy.csv"
Where ddmmyyyy – enter Date of Actual Delivery which is TOMORROW (D+1) or TODAY (D), depending on the procurement lead time utilised.
2. Alternatively, the provider can submit the DFS Bids via the API. Appendix 4 shows the details on how to submit the DFS Bids via API.
3. ESO will accept the DFS Bids file only if providers follow the file template standards. The file headers are shown below and are described in **Table 3**:

Delivery Date
Registered DFS Participant
DFS Unit ID
DFS Volume MW
From
To
Utilisation Price GBP per MWh
GSP 14 Zones+Other+Total

Data Validations:

1. First column should be date and all the rows should only contain current day +1 (Day Ahead Date) – TOMORROW. Alternatively, if the despatch time is within day, the rows should only contain current day – TODAY.
2. No Data Row should contain the same DFS Unit and the same Settlement Period for the same date.
3. Time difference between FROM and TO, should always be 30 minutes.
4. Sum of all the GSP column+ Other should match the Total column and DFS Volume MW (Demand Reduction Volume).
5. No blank lines from starting, between and end in the file are allowed.
6. Each DFS Volume MW (Demand Reduction Volume) must be between 1MW and 100MW and must be an integer.
7. DFS Volume and Price cannot be negative.
8. If DFS Service Requirement is staggered (see DFS Service Requirement), the Delivery Date and From – To columns, will be checked against your assigned dispatch group.

3. Weekly Settlement Submission

Registered DFS Participants need to submit their Settlement Data (Weekly Settlement Submission) **only for Accepted Bids** for the entire service week. The service week will be considered as Monday to Sunday. The Registered DFS Participants need to submit their Weekly Settlement file to get paid accordingly. The data for the Weekly Settlement file for a service week should be sent by the second Monday following the end of the service week (i.e., 8 calendar days after the Sunday), or earlier. This file needs to show the actual delivery from each Unit Meter Point, this does not need to be an integer kWh. ESO will pay for actual delivery, including where Registered DFS Participants have under or over delivered against their bid volume.

The following points are required in relation to submission of the Weekly Settlements File.

1. Providers need to submit their Weekly Settlement file on Monday using the following template file "Provider_ProviderName_WeeklySettlementSubmission_ddmmyyyy.csv"
Where ddmmyyyy – enter the FIRST date of the Weekly Settlement Submission service week in the file name for which you are submitting the data which will always be service week starting MONDAY
2. Providers need to Submit their Weekly Settlements data for the previous service week (Monday to Sunday) on the coming MONDAY to get paid accordingly.
3. ESO will accept the Weekly Settlement Submission file only if providers follow the file template standards, shown below and described in **Table 3**.
4. Please refer to Section **3.5 Paying for Delivered Demand Reduction** for further information on how to report delivery data in the Weekly Settlements Submission in case the same Unit Meter Point is included in multiple DFS Units. Also, you are referred to Appendix 5 for an example of calculating the operational baseline.

Delivery Date
From
To
Registered DFS Participant
DFS Unit ID
Import MPAN
Export MPAN
Sub Meter Serial Number
Participating
Baseline kWh
Metered kWh
Delivered kWh
Accepted Utilisation Price GBP per MWh
HH Settled
Consumer Type
Elxon BMU ID

Please note that given the order of magnitude of the Unit Meter Points consumption (in the kWh range), we request data from Unit Meter Points in kWh. However, the Accepted Utilisation Price is in units of £/MWh because the DFS requirement is in the MWh range.

Data Validations:

1. Submit data for all the 7 dates of the previous service week – starting from Monday to Sunday of the previous service week, file must contain data of entire service week.
2. FOR NON-DELIVERY DATES: - submit 00:00 as From and 00:30 as To, NA for DFS Unit ID and zeros (0) for all volumes and prices so that your file will not move to Failed folder. There only needs to be one row for each day where there was no Service Requirement.
3. No data for the future date is allowed because Settlement data must contain previous service week.
4. Data in the file cannot start from any intermediate dates of service week.

5. Submit data only for Accepted Bids clearly entering the relevant settlement period in the FROM and TO columns on days where there was a Service Requirement. If there was no Service Requirement see data validation 2.
6. No Data Row should contain Same DFS UNIT ID and Same Settlement period for same date.
7. Time difference between FROM and TO, should always be 30 minutes.
8. Delivered kWh should always be the difference between Baseline kWh and Metered kWh.
If Delivered kWh is less than zero (Unit Meter Point increased consumption compared to the baseline), then
 - a. If the Unit Meter Point is *Opt-in*, then
 - i. Demand increases are removed. Therefore, please put 0 when delivery is negative.
 - b. If the Unit Meter Point is *Opt-out*, then
 - i. All delivery must be included, whether a reduction or an increase. Keep delivery as per the above formula, even if delivery is less than zero.
9. No blank lines from starting, between and end in the file are allowed.
10. Please restrict to 3 decimal places for kwh data.

4. Unit Meter Point Schedule Submissions

The rationale for this submission is so ESO can validate that Unit Meter Points are not duplicated between participants. Please note that Unit Meter Point data is never released by the ESO and will only be used for the purpose of auditing and duplication checking.

The file should only contain customer's Unit Meter Points that have explicitly signed up to the DFS service through the relevant Registered DFS Participant. If successful in the daily checks (Unit Meter Point not flagged as duplicate and removed), the Unit Meter Point can feature in DFS bids the next day.

Although the primary purpose of the checks is to find duplicates between providers, we have built validations to ensure each participant only sends each Unit Meter Point once.

Note: The daily Unit Meter Point submissions are incremental, i.e., the participant does not need to submit all its portfolio every day; only those meter points that they wish to add or remove. For example, if on Day 1 you submit your initial portfolio comprising 100k meter points, and on Day 2 you want to add a further 10k meters, the submission of Day 2 would consist only of those additional 10k meters. ESO builds and maintains a database of your portfolio up to date based on your daily submissions. Note it is as equally important to update for removing as adding. ESO have outlined the importance of ensuring customers can clearly register and de-register with providers.

The following points are required in relation to submission of the Unit Meter Point Schedule.

1. Unit Meter Points will need to be submitted to the ESO, to check for duplications against other Registered DFS Participants using the template provided.
2. Unit Meter Points should only be submitted for customers who have agreed to participate in the Demand Flexibility Service ensuring timestamp information is available.
3. A check of the portfolios of each Registered DFS Participant will be carried out daily.
4. Providers may submit their Unit Meter Point Data file on a daily basis using the following template file. This only needs to be submitted if there is a change. This includes both adding and removing Unit Meter Points. "Provider_ProviderName_UnitMeterPointSchedule_DATA_ddmmyyyy.csv"
Where "ddmmyyyy" enter the file submission date.
5. Alternatively, providers can submit Unit Meter Point Data via the DFS API. More details on how to submit meter points using the API are given in Appendix 4.

6. ESO will accept the Unit Meter Point Schedule only if providers follow the file template standards. The file headers are shown below and are described in **Table 3**.

Submission Date
Registered DFS Participant
Import MPAN
Export MPAN
MPANs Effective From
MPANs Effective To
MPANs Customer Consent Flag
Consent Effective From
Consent Effective To
Sub Meter Serial Number
Timestamp Subscribed
Opt In
HH Settled
Consumer Type
DFS Initiation Measure
Action

Data Validations:

- DFS Initiation Measure needs to be completed with either “Manually Initiated” or “Directly Instructable”.
- Please ensure the Unit Meter Point data (import and export) is stored as a number, with zero decimal places and do not use scientific notation.
- Please ensure your Unit Meter Point numbers are shown in full detail once entered into the template, ahead of being submitted, as explained in Section 2.6 **Common issues when saving Unit Meter Point Schedule file**. Otherwise, your file will not be accepted.
- The Import and Export Unit Meter Point fields should be exactly 13 digits long.
- All sub meters associated to the same boundary meter must be either *Opt-in* or *Opt-out* but not both.
- If participating with a Sub-meter,
 - Include the associated Boundary meter in your submission. Otherwise, it will be picked up in validations and rejected.
 - The associated Boundary meter must be Half-hourly settled.
- Consent Effective From: This is only needed if the boundary meter (MPAN) is Half-hourly settled, the consumer type is *Industrial & Commercial* or *I&C* and Customer Consent True. The format must be dd/mm/yyyy.
- Consent Effective To: This is only needed if the boundary meter (MPAN) is Half-hourly settled, the consumer type is *Industrial & Commercial* or *I&C* and Customer Consent True. The format must be dd/mm/yyyy.
- MPANs Customer Consent Flag:
 - If the boundary meter (MPAN) is Half-hourly settled and the consumer type is *Industrial & Commercial* or *I&C*, then this can be True or False (not blank).
 - If the boundary meter (MPAN) is **not** Half-hourly settled and if the consumer type is *Industrial & Commercial* or *I&C*, then it needs to be blank.
 - If the consumer type is *Domestic*, then it needs to be blank.

5. File Validation Failure – communications from ESO

Registered DFS Participants will receive an email notification if they fail to meet the file validations and data validations, when uploading files to the “Drop Box” folder in the DFS Assessment Platform or when submitting the data using the API.

1. Providers are strictly instructed to follow the file and data validations to process their respective files.
2. An email notification will be sent to their registered email address if the Registered DFS Participant has submitted a file which failed to meet the file and data validations from no-reply-DFS@nationalgrideso.com
3. Registered DFS Participants can see the Error message in the email notification describing why they have failed to meet the file and data validations for each respective file.
4. Example “failed validation” email notification:

From: no-reply-DFS <no-reply-DFS@nationalgrideso.com>
Sent: 26 October 2022 12:51
To:
Subject: [EXTERNAL] File Validations Failed
Importance: High

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe. If you suspect this email is malicious, please use the 'Report Phish' button.

The Validations for the File (Provider_ . _DFSbids_27102022.csv) has failed. Please correct the file as per below error and resubmit the file.

Error - The service provider action failed with error code 'ServiceOperationFailed' and error message 'DFS Volume cannot be less than 0 or greater than 100.'

Appendix 3 – ESO communications to Registered DFS Participants and Industry

1. Anticipated DFS Requirement Notice (ARN)

If a DFS Event is initiated at the Day-Ahead level, the ESO will endeavour to share at or about 10:00 hours an Anticipated DFS Requirement Notice inclusive of it forecasted to be for a Test or Live event.

If a DFS Event is initiated Within-Day, the ESO will endeavour to share at or about 08:00 that there is an Anticipated DFS Requirement Notice inclusive of it forecasted to be for a Test or Live event.

This will also be shared via the DFS Assessment Portal and Registered DFS Participants who have access to the platform will receive an email. All Anticipated DFS Requirement Notices will be published on the ESO Data Portal and via BMRS.

The Anticipated DFS Requirement Notice shall be non-binding and not commit ESO to issue a Service Requirement and subsequently a Service Requirement could be published without an Anticipated DFS Requirement Notice.

2. DFS Service Requirement

At or around any of the Despatch Times, the ESO may publish a Service Requirement for DFS for the current or following day via the DFS Assessment Platform and on the Data Portal. This will set out the DFS Service Windows and total required volume of Demand Flexibility (in MW), in addition to which Service Windows each registered DFS Participants are eligible to submit DFS Bids for.

1. ESO will send the Service Requirement to all Registered DFS Participants using the following template “ESO_DFS_Service_Requirement_ddmmyyyy.csv” where “ddmmyyyy” is the date of the Service Requirement which is TOMORROW or TODAY, depending on the Despatch type
2. The DFS Service Requirements file contains the following headers, which are explained in **Table 3**.

Delivery Date	From	To	DFS Required MW	Service Requirement Type	Guaranteed Acceptance Price GBP per MWh	Despatch Type	Participant Bids Eligible
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Note that on some occasions ESO may indicate the period that providers have to bid in for the test. This is to manage operational requirements. The *Despatch Type* column will clearly indicate if the relevant service period is open for all participants to submit bids or if it is a *Staggered Despatch*. Furthermore, the *Participant Bids Eligible* column in the DFS Service Requirement file will clearly indicate if you are eligible or not to submit bids for each service window.

For example, let’s assume that in the period between 17:00h and 19:00h there is a Service Requirement for a DFS Test. Furthermore, let’s assume that the registered capacity across one or more participants is over the critical threshold that would necessitate a Staggered Despatch (See Table 4).

TABLE 4 REGISTERED CAPACITY PER PARTICIPANT

Registered DFS Participant	Registered Capacity MW
A	500
B	100
C	50
D	50
E	100

This requirement could take the form shown below:

From	To	DFS Required MW	Service Requirement Type	Guaranteed Acceptance Price GBP per MWh	Despatch Type	Participant Bids Eligible
17:00	17:30	500	Test	3,000	Staggered	A
17:30	18:00	500	Test	3,000	Staggered	A
18:00	18:30	500	Test	3,000	Staggered	B, C, D, E
18:30	19:00	500	Test	3,000	Staggered	B, C, D, E

In this example, all Registered Participants {A, B, C, D, E} would be eligible for a one-hour test but distributed over a two-hour period to manage from an operational perspective. Participant A can only submit bids for the period between 17:00 to 18:00, whereas the rest of participants are only eligible to submit bids for the period between 18:00 to 19:00.

3. DFS Utilisation Report (DFS Acceptances)

DFS Acceptances will be sent approximately one hour after the DFS Bid Submission Time. The DFS Utilisation file contains the DFS Acceptances (list of the Registered DFS Participant’s DFS Bids with Accepted/Rejected status). A single file will be sent to each Registered DFS Participant.

1. ESO will send the DFS Utilisation Report post assessment to all Registered DFS Participants using the following template “ESO_ProviderName_DFSUtilisationReport_ddmmyyyy.csv” where “ddmmyyyy” is aligned to the delivery date.
2. Providers can see and download the DFS Utilisation Report in the Bid Outcome folder of their respective SharePoint location.
3. DFS Utilisation Report contains the following headers, which are explained in detail in [Table 3](#).

Delivery Date
Registered DFS Participant
DFS Unit ID
DFS Volume MW
From
To
Service Requirement Type
Despatch Time
Utilisation Price GBP per MWh
Status
GSP 14 Zones+Other+Total

A combination of the DFS Acceptances from all Registered Participants will be published to the Data Portal, in the form of the DFS Utilisation Report, and will be available for download shortly after all participants receive their individual acceptances.

Appendix 4 – API Submission

As mentioned in Section 2, ESO has developed an API so participants can submit both their Unit Meter Point Schedule and DFS Bids files. It is the aim of ESO that by offering an option to submit and receive information via the API, alongside the SharePoint option, providers will have more flexibility in how they participate in the service.

The same validations that are built in the SharePoint part of the DFS Assessment Platform, will apply to all submissions via API.

Once you have started the registration process and indicate that you want to use the API, an authorisation process will commence in which users need to get the authorisation token from Microsoft and use that token to get authorised by the DFS Assessment Platform to use the API.

To limit the incoming traffic into the API and ensure smooth operation, we are requesting participants to split their Unit Meter Point Schedule submissions into groups of no more than 5000 records in a single API call. Participants can simply split their Unit Meter Point Schedule into groups of at most 5000 records.

For additional information in how to participate using the API, please refer to our **API Schema for Unit Meter Point Schedule and Bid Submissions** file, which can be found on our DFS webpage.

Please note that the document may be updated from time to time. ESO recommend signing up to the DFS Newsletter to help avoid missing updates.

<https://subscribers.nationalgrid.co.uk/h/d/37F8698C62732098>

Appendix 5 – Example Operational Baseline calculation

1. Find Eligible Days (For both I&C and domestic consumers)

- For Working days (Monday – Friday) The unadjusted baseline is calculated using data from the **10** most recent eligible days
 - Days will **not** be eligible if they have been days where DFS has been used.
- For Non-working days (Saturday, Sunday and bank holidays) the unadjusted baseline is calculated using **4** most recent eligible days
 - From the **4** most recent days the mean average of the 2 median days will be taken
 - Days will **not** be eligible if they have been days where DFS has been used.
- The selection of eligible days is taken from the time **D-60** to **D-1**

Selection of Eligible Days for use in calculating the baseline		
Day Type	No. of Eligible Days identified in the 60-day window	Historical Settlement Days used to calculate the baseline
Working Day	Ten or more Eligible Days	Ten most recent Eligible Days
Working Day	5 to 9 Eligible Days	All Eligible Days
Working Day	Less than five Eligible Days <u>The Unit Meter Point cannot be used</u>	Baseline Values default to out-turn metered data for the Metering System(s) in the Baselined Entity, and they will be reported to the Lead Party as having insufficient data.

Non-Working Day	Four or more Eligible Days	Four most recent Eligible Days
Non-Working Day	Less than four Eligible Days	Baseline Values will default to out-turn metered data for the Metering System(s) in the Baselined Entity, and they will be reported to the Lead Party as having insufficient data.

2. Unadjusted baseline (For both I&C and domestic consumers)

- Based on historical actual metered data, calculating each eligible day's **Actual Usage** (kwh) using (MPAN +) – (MPAN -) to give you the MPAN Total.

Day type	From	To	Day 1 Import MPAN	Day 1 Export MPAN	Day 1 MPAN Total
Working Day	00:00	00:30			= Day 1 Import MPAN – Day 1 Export MPAN
Working Day	00:30	01:00			
Working Day			

- You should never have figures in both “Export MPAN and “Import MPAN” fields in the same settlement period. One should always be 0.
- The unadjusted baseline is calculated by taking the average of all Eligible Days' Actual Usage (kWh), the steps are listed as follows:
 - Determine Time period (e.g. if it is for working day, you will need 10 most recent eligible days: days 1-10)
 - Add together all the days Actual Usage in each Settlement Period then divide by total number of days
 - Unadjusted Baseline $j = \sum n \text{ Actual Usage} / n$
 - where j is the jth Settlement Period and n is number of Eligible Days
 - Repeat this for each Settlement Period to give your 24-hour unadjusted baseline.

Day type	From	To	Day 1 MPAN Total	Day 2 MPAN Total	...	Day 10 MPAN Total	Unadjusted Baseline (kWh)
Working Day	00:00	00:30					= Average (Day 1 MPAN Total : Day 10 MPAN Total)
Working Day	00:30	01:00					...
Working Day