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1. Introduction

This document will take Flexible Power participants through a step by step process to submit their first declarations and can thereafter be used for reference if having any difficulties. The way the Flexible Power system has been developed includes a safe environment called 'UAT' which allows for testing and training. The initial instructions in the process direct a new participant to familiarise themselves with the systems and process in this environment before completing on the live system.

- The UAT Environment (for testing only) is found at: <https://uat.flexiblepowerwpd.co.uk/>
- Production (live site, dispatching will result in sending a dispatch order to the participants): <https://flexiblepowerwpd.co.uk>
- Please use Chrome or IE browser to access the platform. The platforms cannot be used on Safari.

2. Accessing the Portal for the first time

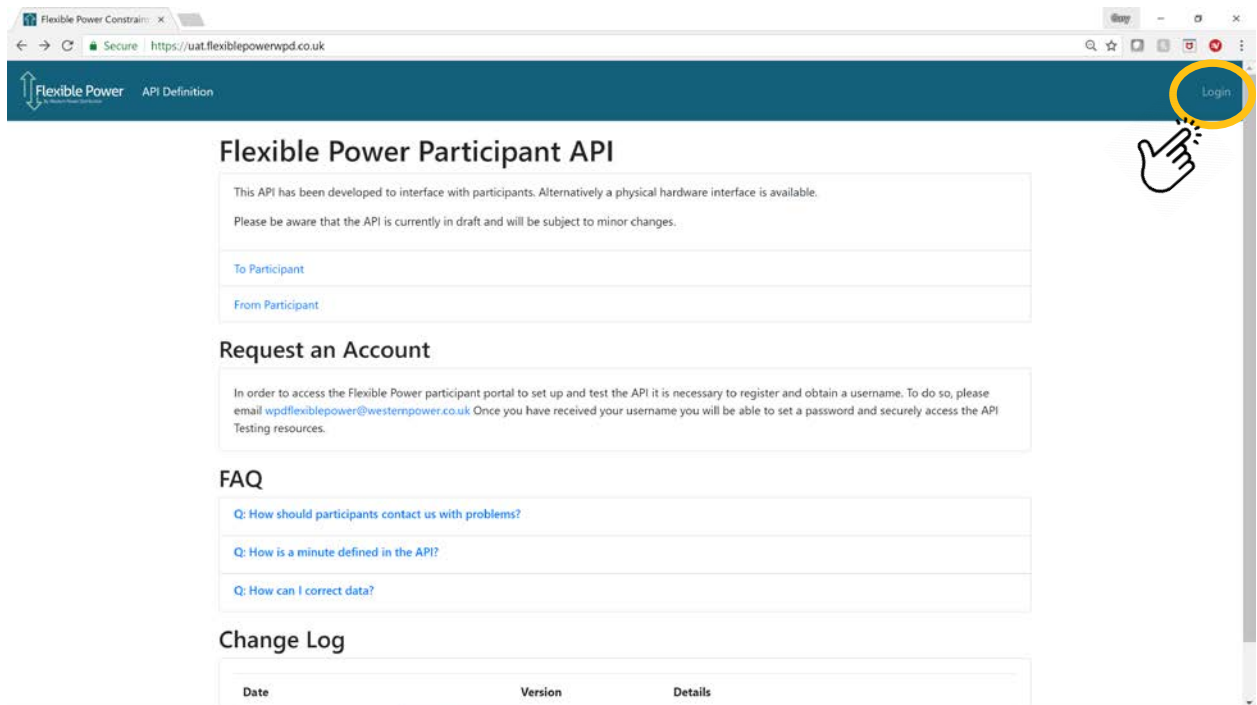
New participants requiring access to the Flexible Power customer portal can do so by providing the following information to WPDFlexiblepower@westernpower.co.uk :

- Organisation / Company name
- Zones in which they wish to declare capacity
- Initial Contact Person's name and email address

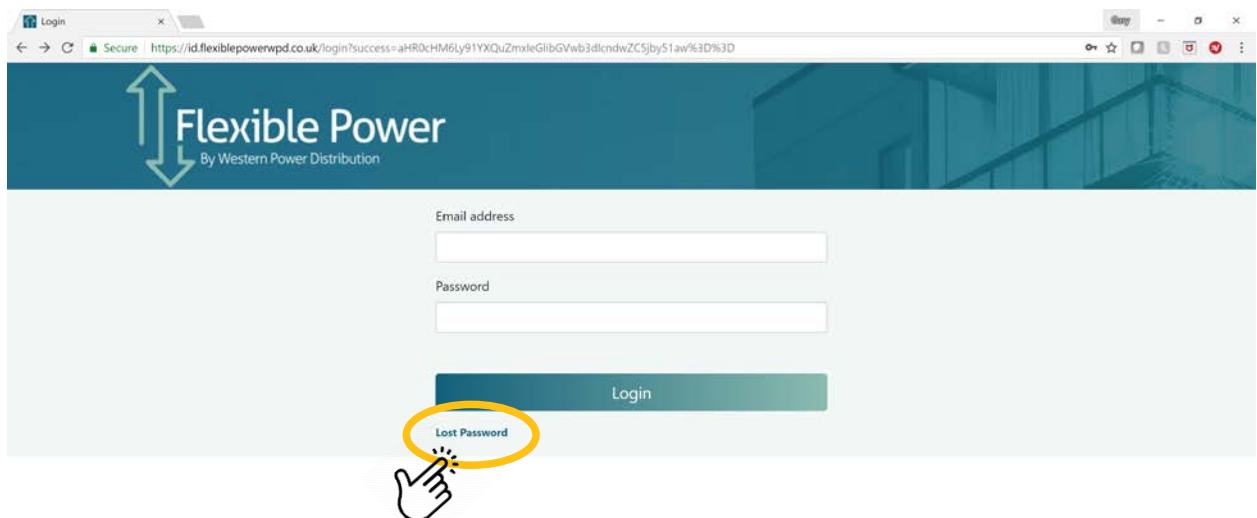
An account will then be created for the user in the User Acceptance Testing (UAT) environment and Flexible Power will send a notification when this has been completed.

The Participant should then visit ; <https://uat.flexiblepowerwpd.co.uk/>

Follow the '**Login**' link at the top right corner of the page.



This link will take the user to a page that has a box to input email address and password. On the first time visiting this page the user should use the '**lost password**' link and input the email address previously provided in the email requesting registration.

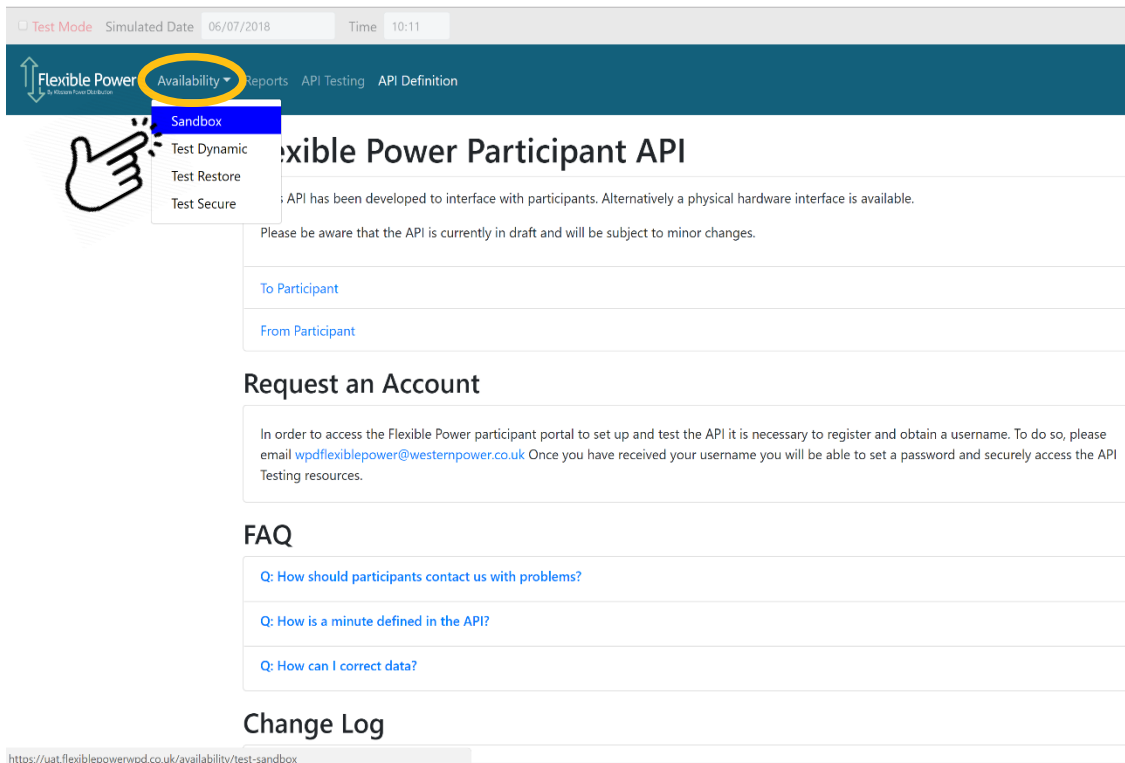


Please check the email account for an email from Flexible Power with a reset link to create the user's password. (please note, only one user account per organisation is typically provided in the UAT environment, but multiple are permitted when set up in Production)

An email from Flexible Power will allow the user access to the Participant Portal to ensure that the API is fully functioning and to familiarise themselves with the various actions around the declarations processes.

3. Creating Declarations

- Click on the 'Availability' menu and four zones should be shown in the drop down.
- Select 'Sandbox' from the drop down menu of Zones. In 'Production' environment this will list the zones in which the participant has capacity. Please note that the zone is designated as a 'Dynamic' service zone but this the principals are the same for all services.



Flexible Power Participant API

API has been developed to interface with participants. Alternatively a physical hardware interface is available.

Please be aware that the API is currently in draft and will be subject to minor changes.

To Participant

From Participant

Request an Account

In order to access the Flexible Power participant portal to set up and test the API it is necessary to register and obtain a username. To do so, please email wpdflexiblepower@westernpower.co.uk Once you have received your username you will be able to set a password and securely access the API Testing resources.

FAQ

Q: How should participants contact us with problems?

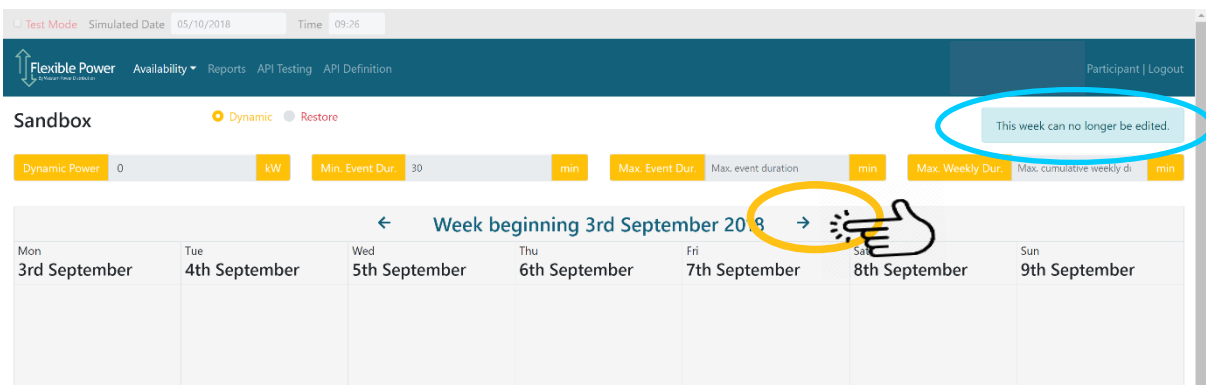
Q: How is a minute defined in the API?

Q: How can I correct data?

Change Log

<https://uat.flexiblepowerwpd.co.uk/availability/test-sandbox>

- There is an information dialogue in the top right that tells you whether the current viewed week is available for editing. Navigate the weeks using the arrows next to the date to find the editable week.



Flexible Power

Availability Reports API Testing API Definition

Participant | Logout

Sandbox

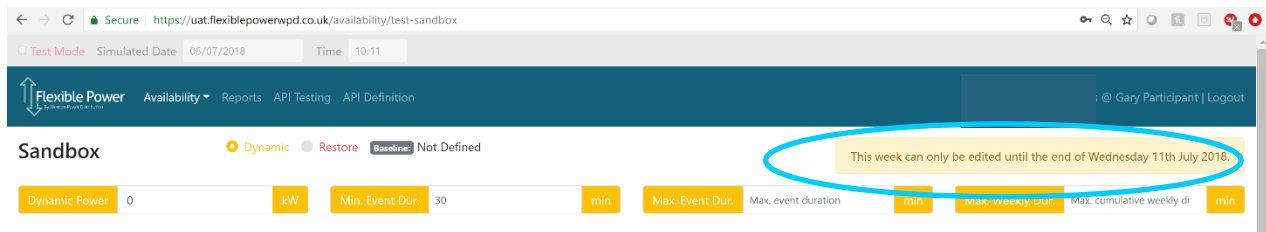
Dynamic Restore

Dynamic Power 0 kW Min. Event Dur. 30 min Max. Event Dur. Max event duration min Max. Weekly Dur. Max cumulative weekly d min

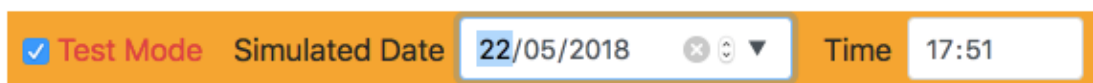
← Week beginning 3rd September 2018 →

Mon	Tue	Wed	Thu	Fri	Sat	Sun
3rd September	4th September	5th September	6th September	7th September	8th September	9th September

This week can no longer be edited.

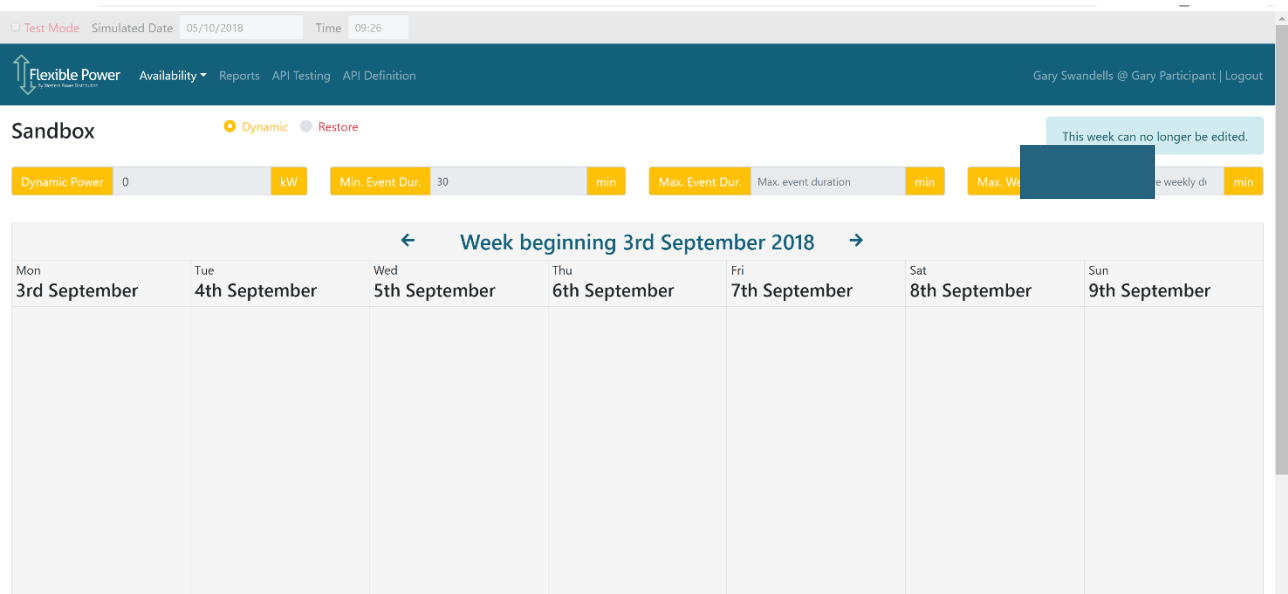


- Alternatively, to make any week editable, you can use the "test Mode" . Turn on the test mode in the top left and reduce the date until the week becomes editable. This function is

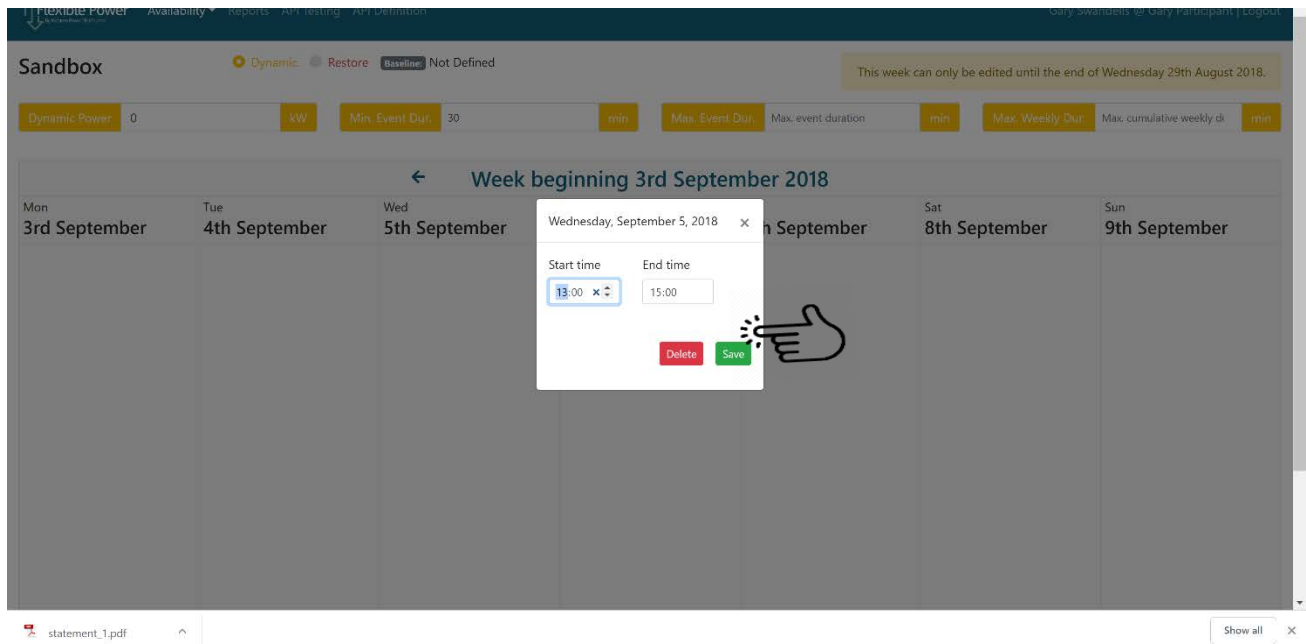


only available in UAT and is present to simplify testing.

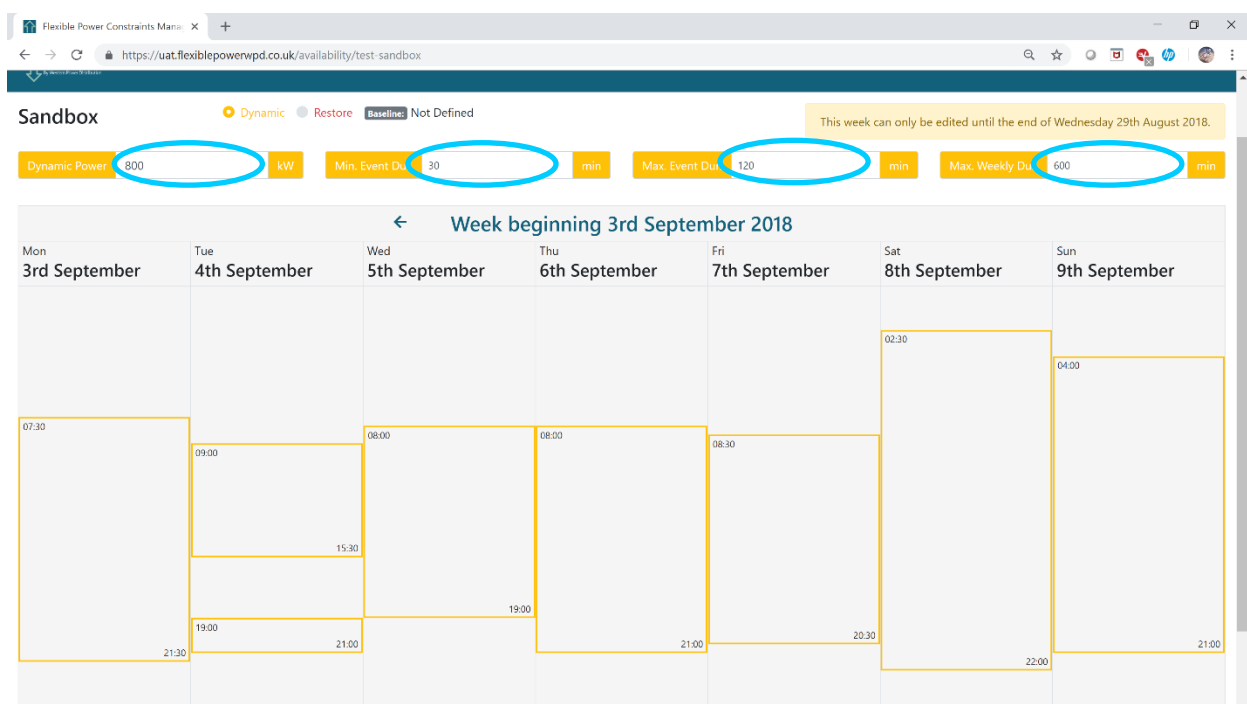
- Select a programme in the top left (restore/dynamic/secure). Each zone will only have a maximum of two programmes to choose from. **'Restore'** is available in all zones, and then either **'Dynamic'** or **'Secure'** as they are mutually exclusive.



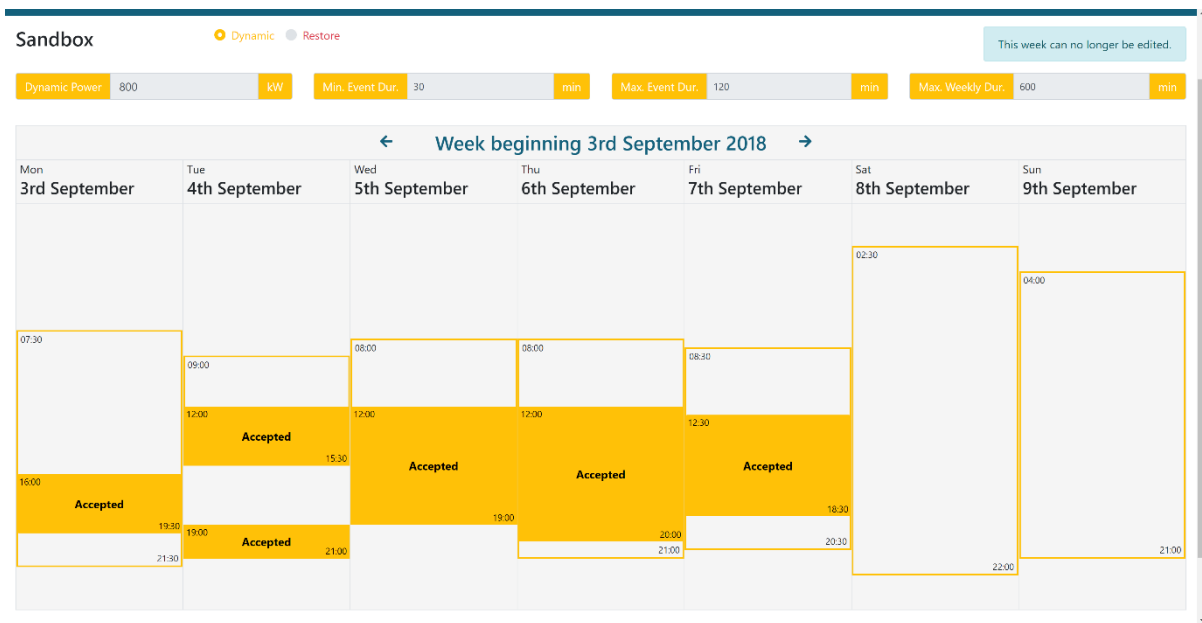
- Click somewhere (under the day you prefer) in the calendar to create a declaration on a day
- Complete the form the add a declaration (press save at the end). Please make a declaration longer than 2 hours for the purpose of this test.



- The declaration should display as an empty block, circled in blue below. The declaration will be unsuccessful if the declared capacity is 0 W. Declared windows can be edited or deleted simply by clicking on them again
- Continue adding windows until a full week of simulated declarations has been created. Set weekly values. Please note that if you wish to make a declaration the power value (kW) needs to show a positive value. If left at zero, no declaration will be submitted. The remaining weekly values are provided for the participant to protect processes, assets or fuel reserves to ensure that DSR service parameters stay within a range that is acceptable.



This is the limit of what a Participant can achieve with ‘self-testing’ as they are unable to carry out the weekly acceptance that will be done by Flexible Power and WPD’s Console Operators on a Thursday morning. We have however shown a sample screen below of what accepted windows appear like to help familiarise participants with the formatting.

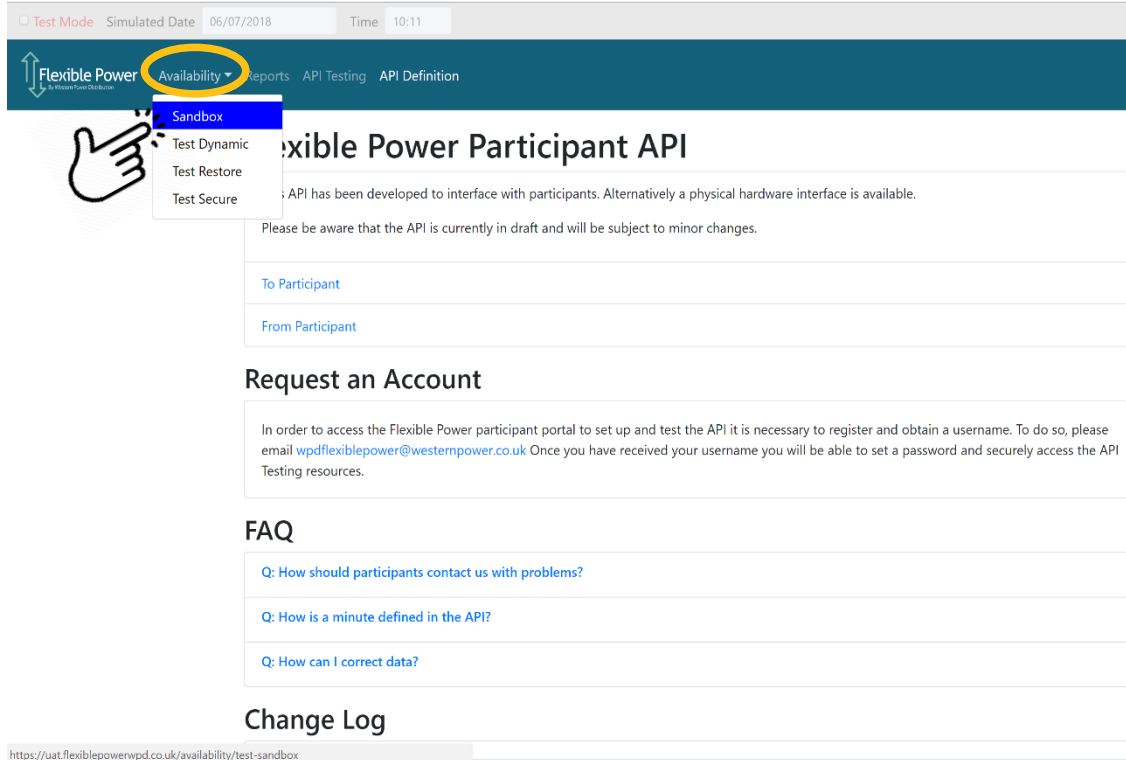


4. Sites and Baselines

After testing has been completed and participants are set up in the full Production environment they will have access to all the zones in which they wish to declare capacity. For each zone a single declaration is required, but this can consist of multiple assets and sites for which a single baseline will be used to measure the delivery during DSR events.

When first setting up a zone it is necessary for participants to state their own estimated baseline which will be used for the first month of operation. During the first month, Flexible Power will collect the metering data provided for that zone in order to automatically calculate and update the monthly baseline thereafter.

Participants are required to provide details relating to all the sites that are incorporated into the single minute by minute metering signal that is sent to Flexible Power. It is necessary to set up a site in UAT testing. To do so you first need to navigate to the **'Availability'** page in the **'Sandbox'** zone.



The screenshot shows the Flexible Power Participant API page. At the top, there is a header bar with the Flexible Power logo and navigation links: Availability (circled in yellow), Reports, API Testing, and API Definition. Below the header, a dropdown menu for 'Sandbox' is open, showing options: Test Dynamic, Test Restore, and Test Secure. A hand icon points to the 'Sandbox' dropdown. The main content area is titled 'Flexible Power Participant API' and contains the following sections:

- Flexible Power Participant API**: A section with a description of the API and a note that it is currently in draft.
- Request an Account**: A section with instructions on how to register and obtain a username.
- FAQ**: A section with three frequently asked questions:
 - Q: How should participants contact us with problems?
 - Q: How is a minute defined in the API?
 - Q: How can I correct data?
- Change Log**: A section for updates.

At the bottom of the page, there is a URL bar showing the address: <https://uat.flexiblepowerwpd.co.uk/availability/test-sandbox>.

At the bottom of the 'Availability' page there is a link to 'Add Site'. Click here to trigger a pop up window requesting the details of the site you wish to add to the sandbox zone.

site you wish to add to the sandbox zone.

Field Name	Description
Name	The name to which the participant would like to use to easily identify a site if in discussion with Flexible Power.
Operating Company	If the participant is providing DSR capacity on behalf of 3 rd parties, please provide the name of the company or organisation that owns the site. This will typically accord with the recorded owner of the MPAN
MPAN	Metering Point Administration Number associated with the site's main connection point. This can include import and export.
Capacity	The maximum theoretic capacity that a site would expect to offer in a DSR event.
Address	Postal address for the site from which the metering is originated. This shouldn't be a correspondence address or central company address.
Emergency Contact	A representative from the site who could be contacted in the unlikely event of an emergency situation. This shouldn't be a central contact unless the site is normally unmanned.

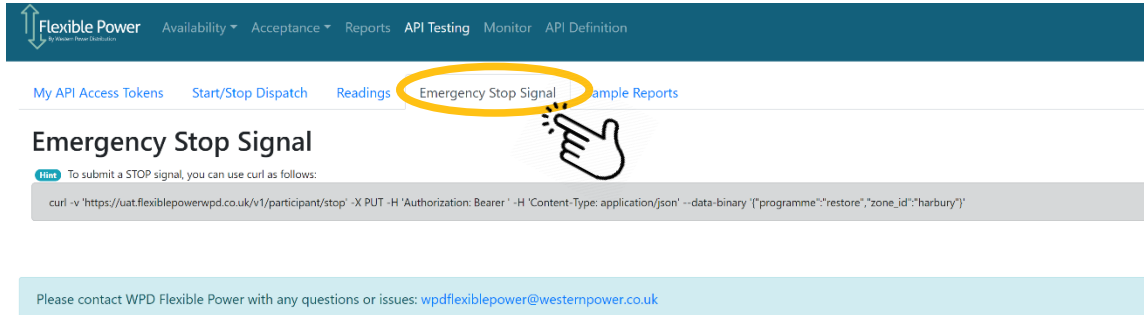
5. Emergency Stop by Participants:

An optional signal is provided for participants that is not mandatory in order to provide Flexible Power with DSR capacity. It is provided as a facility to participants who would appreciate the capability to ensure sites can rapidly 'opt out' in the event of an emergency. This is not intended to be used as a regularly accessed facility to decide whether or not to deliver DSR based on commercial outcomes or convenience. It has been provided so that in the event of unexpected events occurring during an accepted availability window or armed

period there is a single point control where a participant can cease an event or prevent a dispatch which could otherwise have a negative impact on their core activities.

Participants can issue an emergency stop using the template curl command in <https://uat.flexiblepowerwpd.co.uk/testing> 'Emergency Stop Signal' tab for the programme secure and the zone that the secure declaration was made in.

As this signal is sent via the API it is entirely up to a Participant as to what form of trigger will



Flexible Power Availability Acceptance Reports API Testing Monitor API Definition

My API Access Tokens Start/Stop Dispatch Readings **Emergency Stop Signal** Sample Reports

Emergency Stop Signal

Hint To submit a STOP signal, you can use curl as follows:

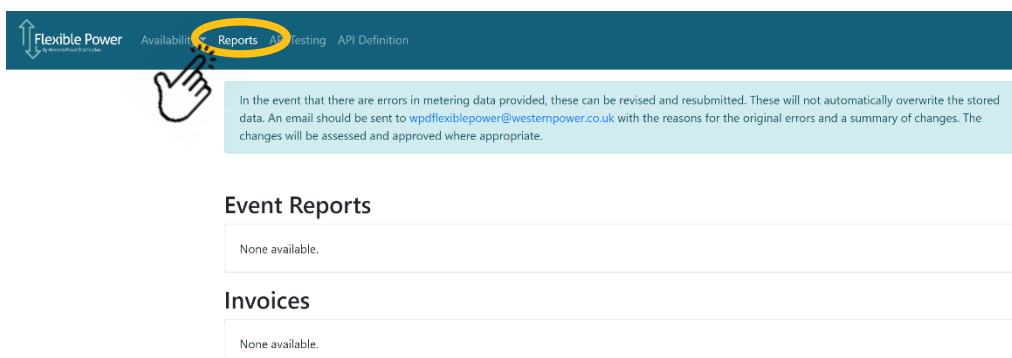
```
curl -v 'https://uat.flexiblepowerwpd.co.uk/v1/participant/stop' -X PUT -H 'Authorization: Bearer ' -H 'Content-Type: application/json' --data-binary '{"programme":"restore","zone_id":"harbury"}'
```

Please contact WPD Flexible Power with any questions or issues: wpdflexiblepower@westernpower.co.uk

initiate the signal and from what type of device. When the signal is received, Flexible Power will record that time as the end of expected delivery for that day is during a DSR event and withdraw availability for the issue of any events in that zone. This will be automatically reset for the following day, so if a Participant's issues at site can't be resolved they would be expected to contact Flexible Power to request a longer period of 'opt-out'. It does however provide the Participant time to prioritise their resources to address and assess any issues without the pressure of having to try and contact Flexible Power.

6. Reports

The layout of UAT environment is the same as that in Production, but although it is possible to view the 'Reports' page by clicking on the appropriate tab in the navigation bar, it is not possible to provide any reports as these will be created dynamically, drawing on metering data contained in the vault.



Flexible Power Availability **Reports** API Testing API Definition

In the event that there are errors in metering data provided, these can be revised and resubmitted. These will not automatically overwrite the stored data. An email should be sent to wpdflexiblepower@westernpower.co.uk with the reasons for the original errors and a summary of changes. The changes will be assessed and approved where appropriate.

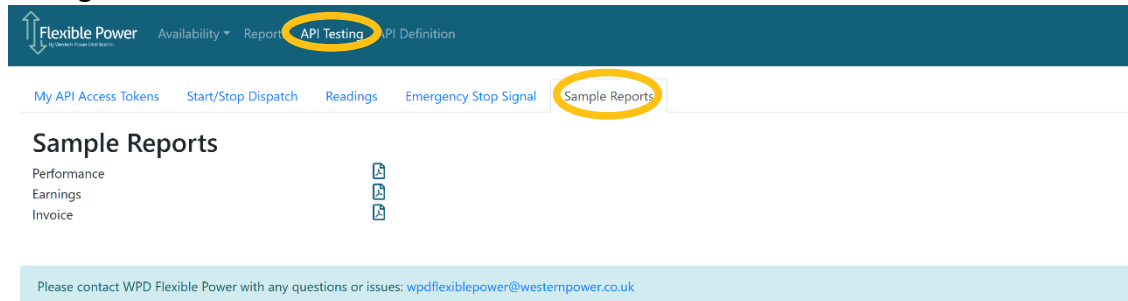
Event Reports

None available.

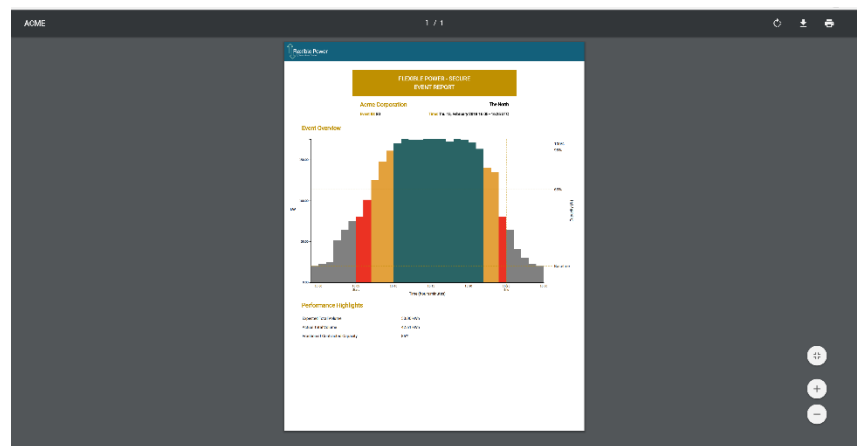
Invoices

None available.

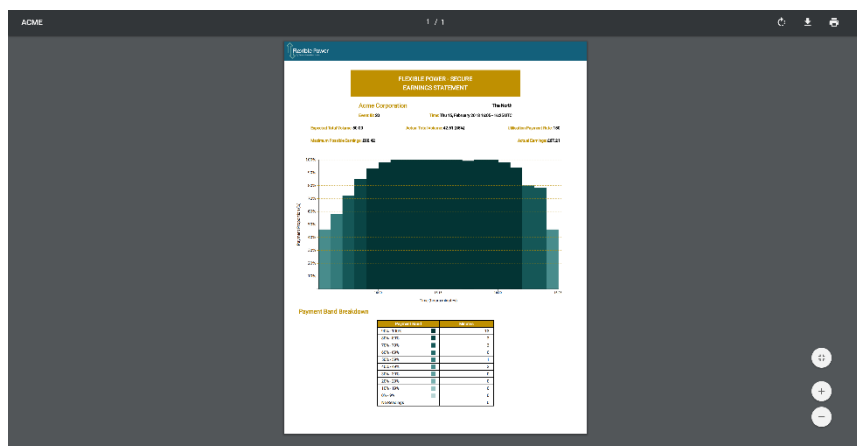
In order that participants can familiarise themselves with the format of the reporting there are sample reports that have been created and hosted in the API testing section.



Event Performance report



Event Earnings report



Monthly Self Billing Invoice

5

1 / 1

Back to Home

INVOICE

Invoice Number: 1010001

Date: 01/01/2020

Invoice To: Active Corporation

123 Main St

Anytown, NY 10001

Phone: (555) 123-4567

Invoice From: 1010001

Date: 01/01/2020

Invoice To: Active Corporation

123 Main St

Anytown, NY 10001

Phone: (555) 123-4567

Event Summary

Event Name	Event Date	Event Time	Event Location	Event Status
1010001	01/01/2020	10:00 AM	123 Main St	Active
1010002	01/01/2020	11:00 AM	123 Main St	Active
1010003	01/01/2020	12:00 PM	123 Main St	Active

Average Volume Delivered

Event Name	Average Volume Delivered
1010001	100
1010002	100
1010003	100

Availability / Arriving Summary

Availability	Arriving Summary	Availability	Arriving Summary
1010001	100	1010002	100
1010002	100	1010003	100
1010003	100	1010004	100
1010004	100	1010005	100

Total (Includes)

Total (Includes)	Total (Includes)
1010001	100
1010002	100
1010003	100
1010004	100
1010005	100