TRANSPOWER

Operations Division

UG-SD-940 AUFLS Distributor User Guide

This Userguide is part of the Business Support and Development (SD) process within Transpower and forms part of the System Operator function.

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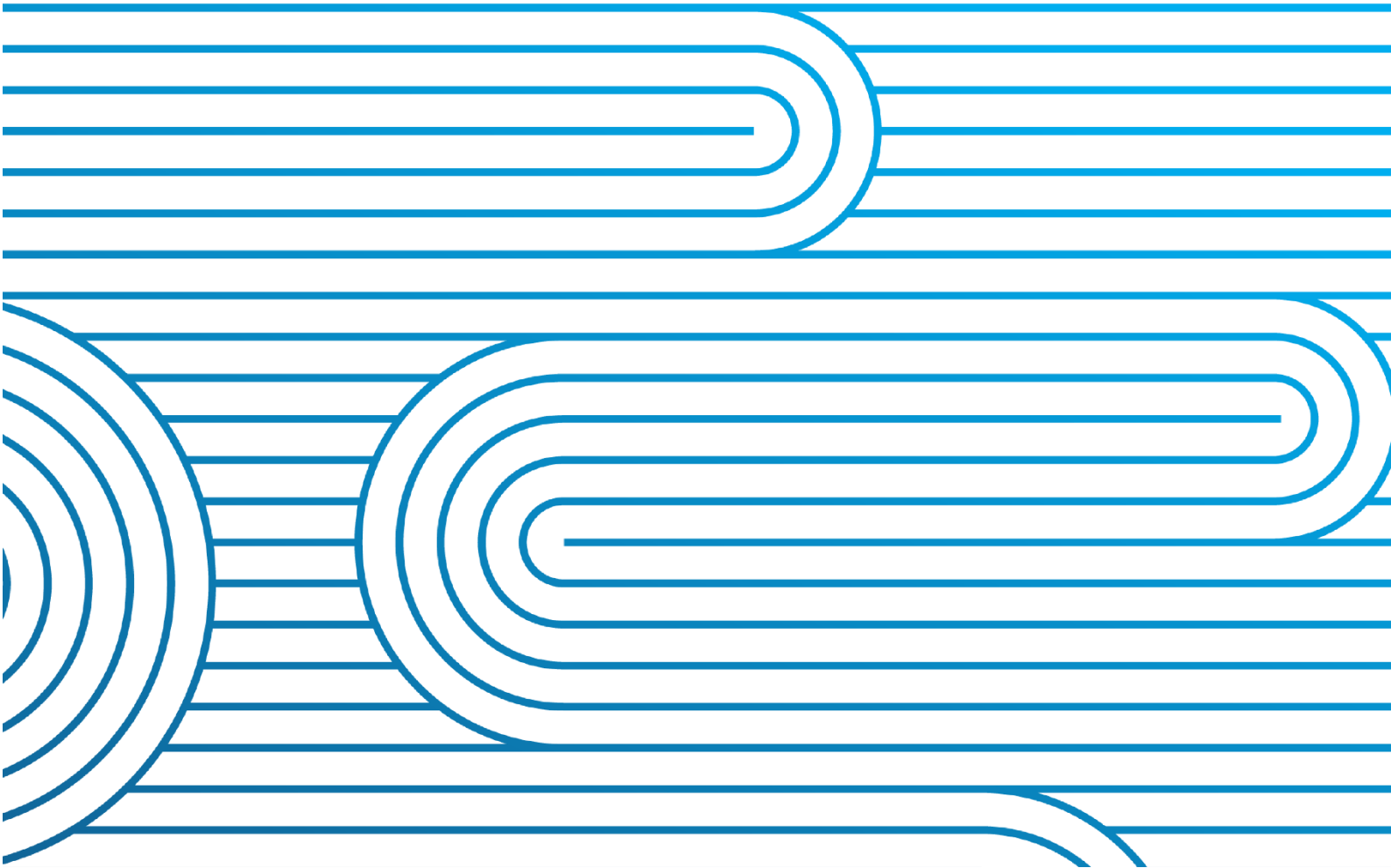
Transpower New Zealand Limited



Version	Date	Change
1.0	30 June 2021	First published version.
2.0	1 Feb 2024	Regular revision
3.0	4 Oct 2024	Cyclic Review: Minor updates made.
3.1	17 Jan 2025	Minor Update: AUFLS Portal Enhancements - First Release
3.2	17 Apr 2025	Minor Update: AUFLS Portal Enhancements - Second Release
4.0	8 Sep 2025	AUFLS Portal Enhancements - Third Release

	Position	Date
Revised By:	Orion Watson, Power Systems Engineer Alexey Kabalinskiy, Senior Power Systems Engineer	Jul-Aug 2025
Approved By:	Anna Li, Engineering Assurance Manager	Sep 2025

Ref	Related Artefact	Description	Location
1.	Training videos	Videos providing a high-level overview of key functions of the AUFLS application: • Overview • Managing Users • Managing Feeder Configuration • Uploading Load Profile Data • Assessing Compliance	Transpower youtube channel – linked to from Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
2.	FM-EA-938 AUFLS Portal Admin Users Form	Distributors and Direct Consumers use this form to: • nominate Admin users for initial creation (onboarding) in the Portal; • authorize the System Operator (SO) to add an Admin user if previously setup users are inactive.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
3.	DT-EA-945 AUFLS Feeder Configuration Template	Distributors and Direct Consumers use this excel template once during the onboarding to populate the location, load configuration and AUFLS block allocation for each feeder. SO will upload this into the AUFLS application after receiving from Distributors and Direct Consumers.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
4.	DT-EA-943 AUFLS Feeder Load Profile Template	Distributors and Direct Consumers use this excel template annually to upload the average load (MW) at each feeder for each trading period over the specified 12-month submission period directly in the AUFLS application.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*

Ref	Related Artefact	Description	Location
5.	DT-EA-942 GXP Load Profile Template	Distributors and Direct Consumers use this excel template annually to upload the average off-take load (MW) at each GXP for each trading period over the specified 12-month submission period directly in the AUFLS application.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
6.	DT-EA-944 Total Distributors Load Profile Template	Distributors and Direct Consumers use this excel template annually to upload the total load (MW) for each trading period over the specified 12-month submission period directly in the AUFLS application.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
7.	GL-EA-941 AUFLS Data Template Guide	A guide that provides details on the data to be provided with the load profile templates.	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*
8.	AUFLS Data Portal FAQs	Common questions and answers related to the use of the AUFLS application (AUFLS data portal).	Available on the Transpower website *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*

IMPORTANT

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The requirements set out in Transpower's standards are minimum requirements that must be complied with by Transpower personnel, contractors and consultants as applicable. All personnel are expected to implement any practices which may not be stated but which can reasonably be regarded as good practices relevant to the purpose of this standard. Transpower expects all personnel to improve upon these minimum requirements where possible and to integrate these improvements into their processes and quality assurance plans.

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1 INTRODUCTION

1.1 DOCUMENT PURPOSE AND SCOPE

This is the user guide for Connected Asset Owners (CAO) using the AUFLS application (AUFLS data portal), which is a part of the Operations Customer Portal.

1.2 OPERATIONS CUSTOMER PORTAL OVERVIEW

The Operations Customer Portal provides centralised access to the following System Operator applications:

- Automated Under Frequency Load Shedding (AUFLS), released in July 2021.
- Asset Capability Statement (ACS), released in December 2021.
- Planned Outage Co-ordination Process (POCP), released in July 2022.
- NZ Generation Balance (NZGB), released in November 2022.
- SO Register (formerly known as Dispensations and Equivalence, or D&E), released in October 2023.

The URL to access the Customer Portal is *https://customerportal.transpower.co.nz/*.

Note, access to the Outage Management (OM) application, released in March 2025, is via the Grid Operations Customer Portal at *https://gridcustomerportal.transpower.co.nz/*.

1.3 AUFLS OVERVIEW

Connected Asset Owners are expected to provide their AUFLS scheme data to the System Operator at least once every 12 months, in accordance with their requirements in the Code. These submissions must be made from 1st January and no later than 1st April each year (the submission window) and must cover the period from 1st January to 31st December of the previous year (the submission period).

The AUFLS application provides Connected Asset Owners with a platform to submit AUFLS data and demonstrate compliance with AUFLS block size requirements to the System Operator. Connected Asset Owners must provide two key types of data:

1. **Feeder configuration data**
   Details the location, configuration and allocation of all feeders for the submission period.

2. **Load profile data**
   Three types of load profiles must be submitted for each trading period over the submission period:
   a) ***Feeder load profile*** – average load (MW) at each feeder.
   b) ***GXP load profile*** – average off-take load (MW) at each GXP.
   c) ***Total load profile*** – total load (MW) across all feeders and GXPs.

2 CONNECTED ASSET OWNER ONBOARDING

Onboarding is a one-off activity that occurs before a Connected Asset Owner can use the AUFLS application – this is not repeated for each submission period. This must occur for any new Connected Asset Owner that have AUFLS obligations. The System Operator will initiate the onboarding process and outline the key activities to be completed and necessary artefacts to be provided.

2.1 Create Admin Users

Connected Asset Owners will be asked to identify the individuals to be created as the initial Admin users in the AUFLS application for their organisation (refer to *Section 3 User Management* for details on what Admin users can do) using 'FM-EA-938 AUFLS Portal Admin Users Form', which should be completed and e-mailed to *SO_customer_portal@transpower.co.nz*. Ideally, each Connected Asset Owner should have a minimum of two Admin users.

2.2 Provide Initial Feeder Configuration Data

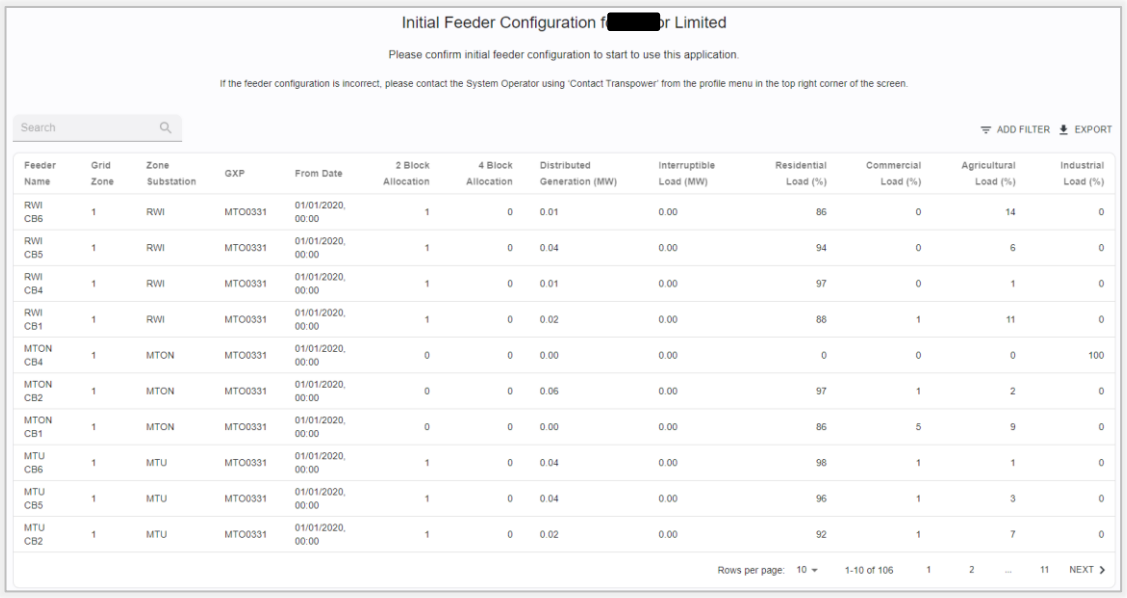
As a part of onboarding, a Connected Asset Owner is required to complete the 'DT-EA-945 AUFLS Feeder Configuration' excel template. This is accompanied by an 'GL-EA-941 AUFLS Data Template Guide' which provides detail on how to complete this template. It is important that the template is completed as instructed, and the structure and format of the template remains unchanged. Otherwise, this will cause errors when the data is uploaded. The template contains validations to help ensure the data is entered in the required format.

Once the template is completed, it must be e-mailed to *SO_customer_portal@transpower.co.nz* – the System Operator will upload this data into the portal and notify the Connected Asset Owner when this has occurred.

2.3 Confirm Feeder Configuration Data

Once feeder configuration has been uploaded into the AUFLS application, it needs to be confirmed by a Connected Asset Owner Admin user before load profile data can be uploaded.

Step	Description
1.	When you log into the AUFLS application you will be taken straight to the Initial Feeder Configuration page for your organisation. The table will display the configuration that you provided to the System Operator in the Feeder Configuration template – check that this data is correct.
2.	If the data is uploaded correctly, press the 'Confirm Configuration' button at the bottom of the page.



Initial Feeder Configuration f[redacted]r Limited

Please confirm initial feeder configuration to start to use this application.

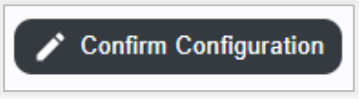
If the feeder configuration is incorrect, please contact the System Operator using 'Contact Transpower' from the profile menu in the top right corner of the screen.

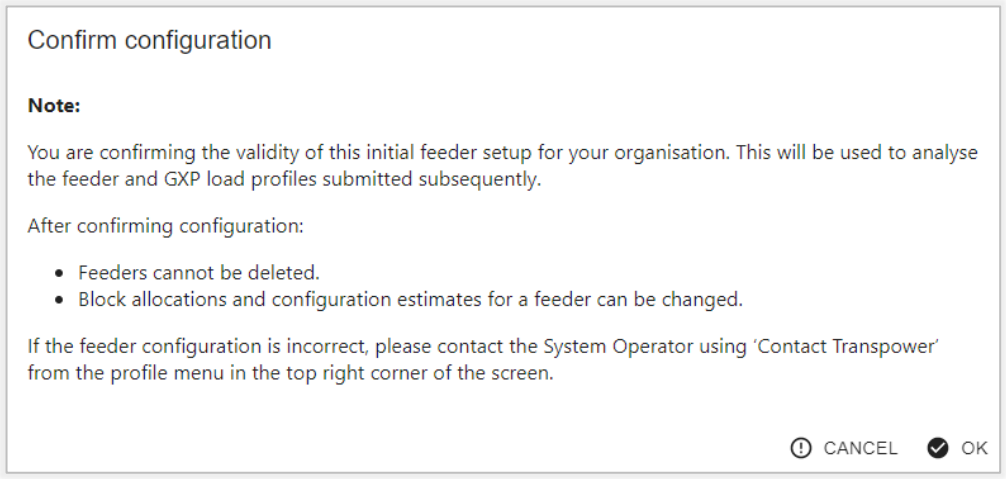
Search

ADD FILTER EXPORT

Feeder Name	Grid Zone	Zone Substation	GXP	From Date	2 Block Allocation	4 Block Allocation	Distributed Generation (MW)	Interruptible Load (MW)	Residential Load (%)	Commercial Load (%)	Agricultural Load (%)	Industrial Load (%)
RWI CB6	1	RWI	MTO0331	01/01/2020, 00:00	1	0	0.01	0.00	86	0	14	0
RWI CB5	1	RWI	MTO0331	01/01/2020, 00:00	1	0	0.04	0.00	94	0	6	0
RWI CB4	1	RWI	MTO0331	01/01/2020, 00:00	1	0	0.01	0.00	97	0	1	0
RWI CB1	1	RWI	MTO0331	01/01/2020, 00:00	1	0	0.02	0.00	88	1	11	0
MTON CB4	1	MTON	MTO0331	01/01/2020, 00:00	0	0	0.00	0.00	0	0	0	100
MTON CB2	1	MTON	MTO0331	01/01/2020, 00:00	0	0	0.06	0.00	97	1	2	0
MTON CB1	1	MTON	MTO0331	01/01/2020, 00:00	0	0	0.00	0.00	86	5	9	0
MTU CB6	1	MTU	MTO0331	01/01/2020, 00:00	1	0	0.04	0.00	98	1	1	0
MTU CB5	1	MTU	MTO0331	01/01/2020, 00:00	1	0	0.04	0.00	96	1	3	0
MTU CB2	1	MTU	MTO0331	01/01/2020, 00:00	1	0	0.02	0.00	92	1	7	0

Rows per page: 10 1-10 of 106 1 2 ... 11 NEXT



Step	Description
3.	The following pop-up will appear – click OK. 
4.	You will be returned to the Feeder Configuration page with the feeders loaded.

3 User Management

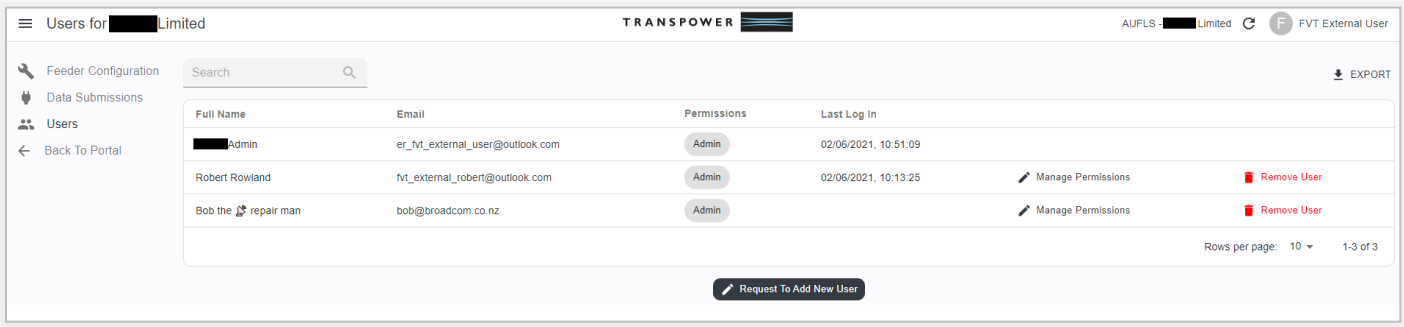
User access for each application in the Customer Portal is managed separately. Access is provided to each individual application, not the Customer Portal as a whole.

3.1 User Permissions

There are three user roles in the AUFLS application which have different permissions as outlined in the table below:

User Role	Permissions		
	Data Management	Feeder Configuration	User Management
Admin	• View data belonging to their own organisation • Upload load profile data • Publish load profile data during a submission period • Finalise load profile data for a submission period	• Confirm initial feeder configuration (as part of onboarding) • Manage feeder configuration	• Manage user permissions
Edit	• View data belonging to their own organisation • Upload load profile data • Publish load profile data during a submission period • Finalise load profile data for a submission period	• Manage feeder configuration	N/A
View	• View data belonging to their own organisation	N/A	N/A

SO will create the initial Admin users for the Connected Asset Owner as a part of the onboarding process – these users will then be able to add any additional users as required. User permissions are managed on the Users screen, which is visible only to Admin users.

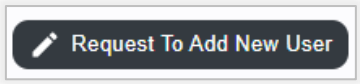
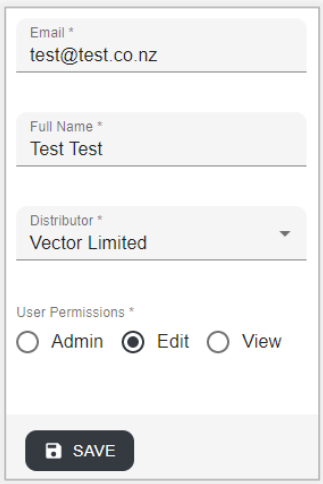
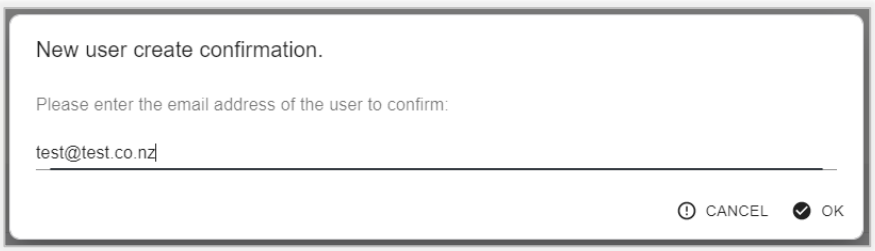


3.2 Adding a New User

Adding a new user in the AUFLS application is a two-step process:

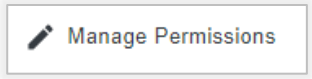
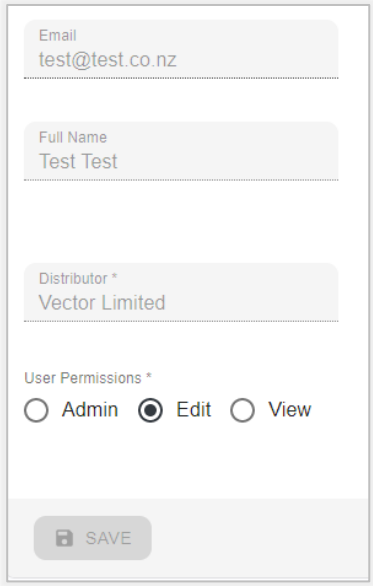
- an Admin user adds a new user and selects the appropriate user permissions,
- then System Operator provides the necessary access in the application backend.

A user will not have access to a Connected Asset Owner's data until both of these activities are complete.

Step	Description
1.	In the Users screen, click on the 'Request to Add New User' button 
2.	On the following screen: • Enter the new user's e-mail address and full name (including first and last name). • In the Distributor field, select the Connected Asset Owner. Note, that only the Connected Asset Owners that the logged in user is assigned to will be displayed. • Select the User Permissions for the new user. • Click 'Save'. 
3.	Re-enter the new user's e-mail address for validation purposes and click 'OK' 
4.	You will be returned to the Users page and a pop-up message will display at the bottom of the screen saying: 'User account creation request submitted'.
5.	The System Operator will provide the necessary access for the new user which normally takes up to 3 business days. The newly added user will be notified by e-mail when this has been done and will be provided with a link to log into the AUFLS application, after completing their Microsoft Multifactor Authentication (MFA) setup.

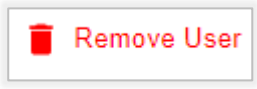
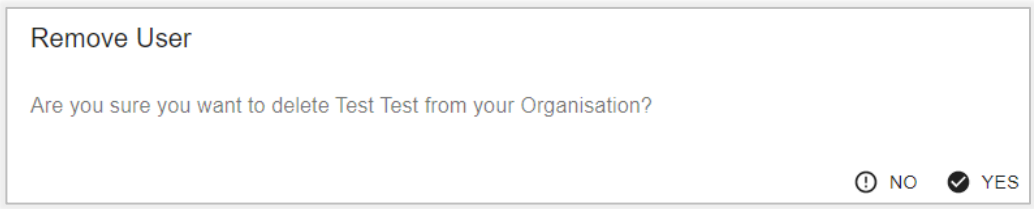
3.3 CHANGING USER PERMISSIONS

Note, that an Admin user cannot change their own permissions.

Step	Description
1.	In the User screen, click on the 'Manage Permissions' button beside the user whose permissions are to be changed. 
2.	On the following screen: • The user details will be greyed out and only User Permissions can be edited. • Select the appropriate user permissions for the user and click 'Save' 
3.	You will be returned to the Users page and a pop-up message will display at the bottom of the screen saying: 'User permissions updated'.

3.4 REMOVING A USER

Note, that an Admin user cannot remove themselves from AUFLS application.

Step	Description
1.	In the User screen, click on the 'Remove User' button beside the user that should be removed. 
2.	Then you will see the following pop-up message. Click Yes. 
3.	You will be returned to the Users page and a pop-up message will display at the bottom of the screen saying: 'Successfully removed user'.

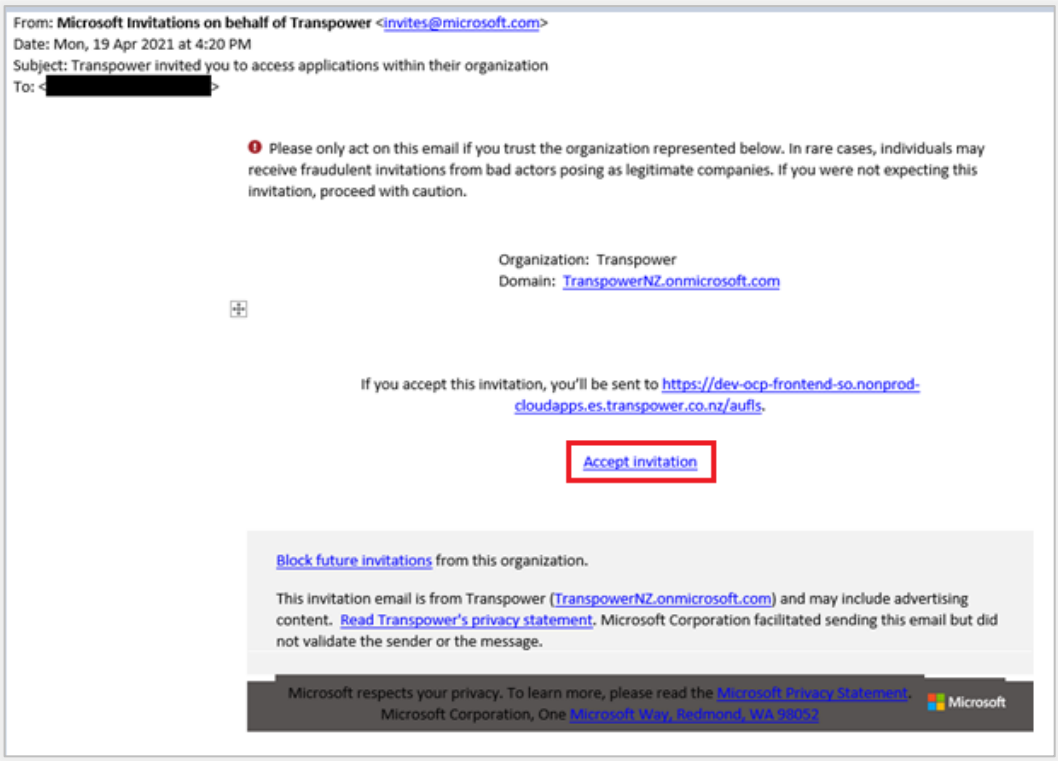
4 LOGGING IN

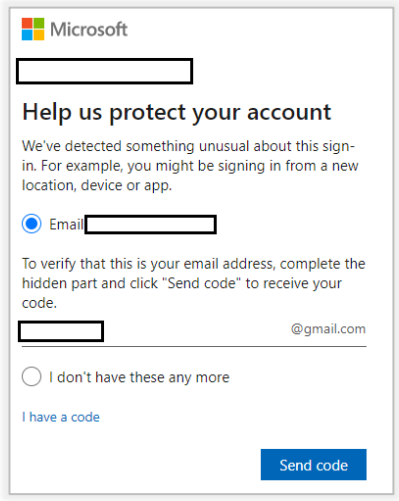
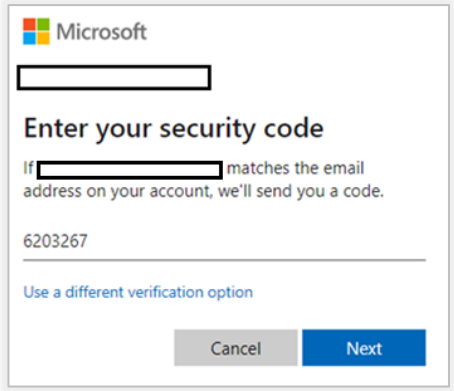
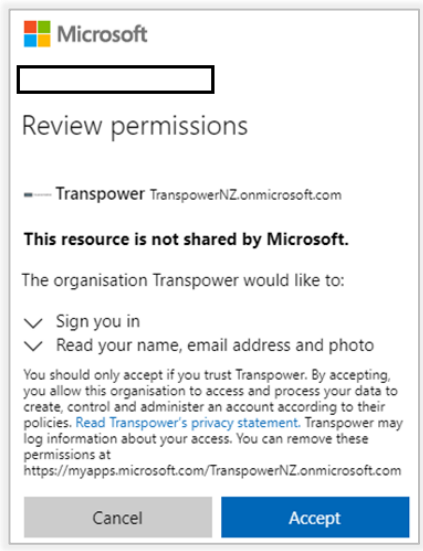
4.1 INITIAL LOG IN

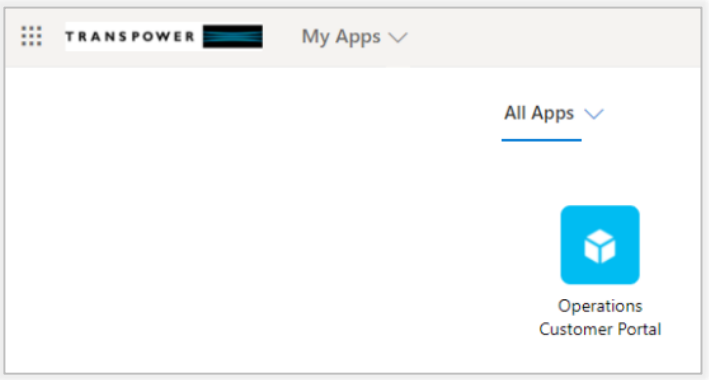
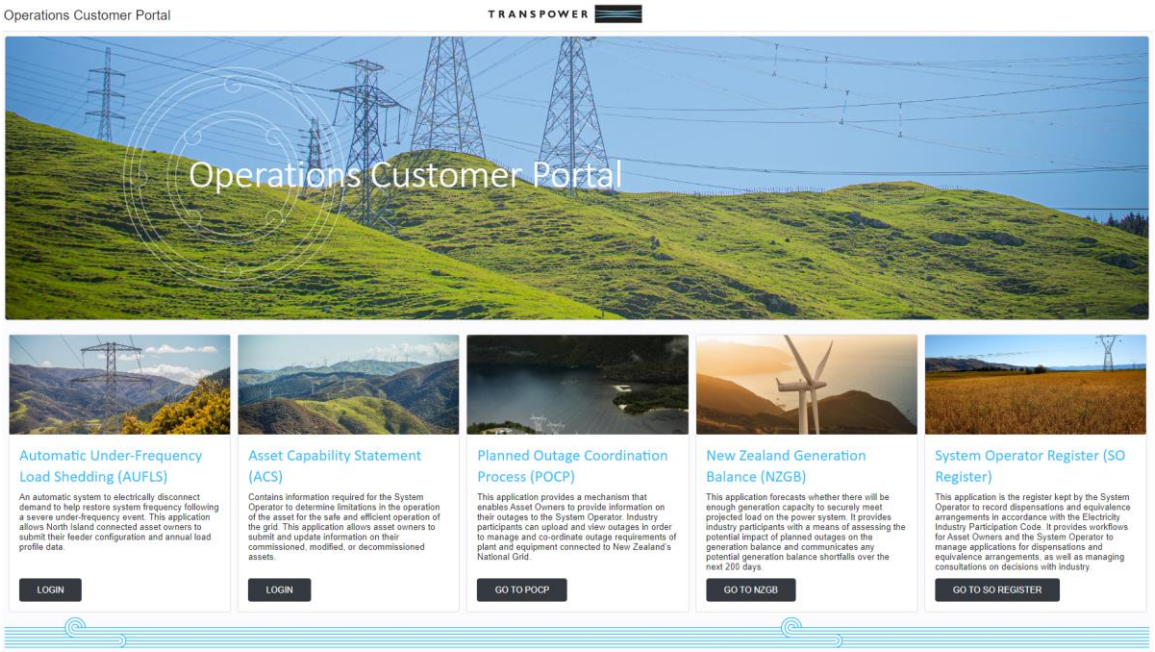
Once a user has been added to the AUFLS application (refer to *Section 3.2 Adding a New User*), they will receive an e-mail with an access link.

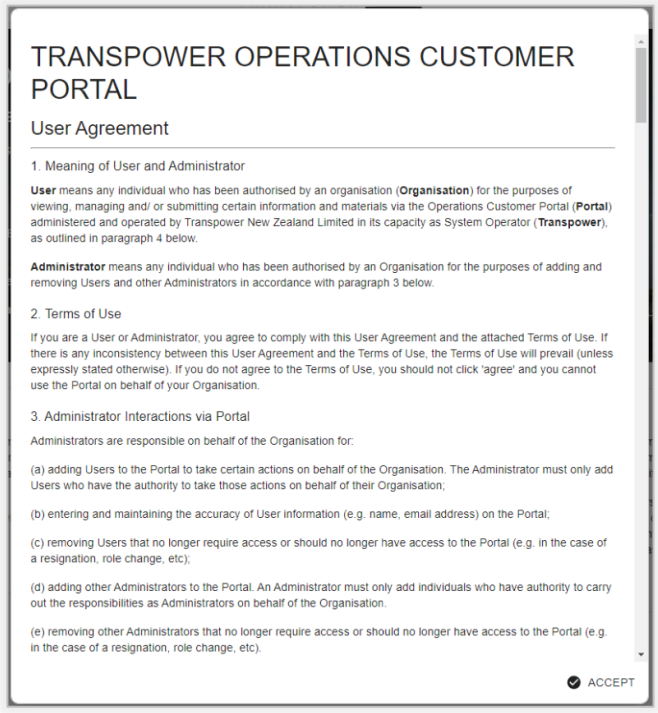
The steps for the initial login outlined below may vary slightly depending on:

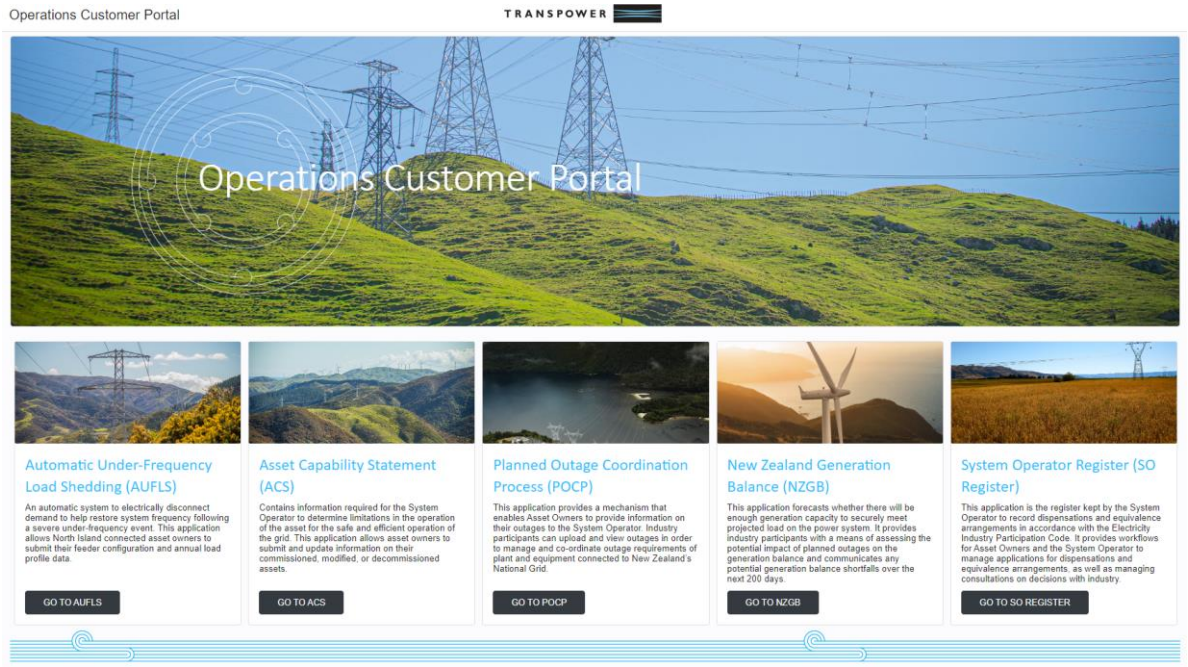
- whether the user's e-mail address is already associated with an existing Microsoft account – if not, they will be prompted to create one during sign in.
- the verification settings on the user's Microsoft account, whether the user have opted for verification by text, e-mail or phone call.

Step	Description
1.	**Open the invitation email** The e-mail will look as below and is sent from 'invites@microsoft.com'. Click on the 'Accept Invitation' link. 
2.	**Sign in or create an account** • If your e-mail is already linked to an existing Microsoft account enter the password for that account and click Sign In. • If not, follow the prompts to create a Microsoft account for this email, then sign in. 

Step	Description
3.	**Verify your identity** The following message will also display asking you to verify your e-mail address. Click on Send Code. **NOTE:** You may receive an e-mail to your e-mail address with the subject line 'Microsoft unusual sign-in activity'. This can occur when signing in from a new device or location. 
4.	**Enter the verification code** You will be sent an e-mail with a security code, enter the code in the field provided and click Next. 
5.	**Accept permissions** The following message will display. Click Accept. 

Step	Description
6.	**Open the Operations Customer Portal** You will be taken to this landing page – click on the Operations Customer Portal icon 
7.	**Log in to AUFLS** You will be taken to the Operations Customer Portal landing page – click the 'LOGIN' button within the AUFLS widget. 

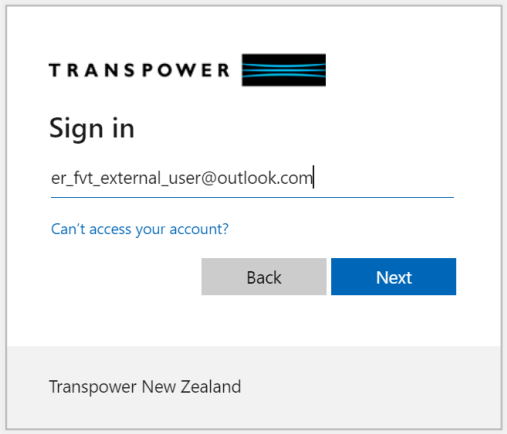
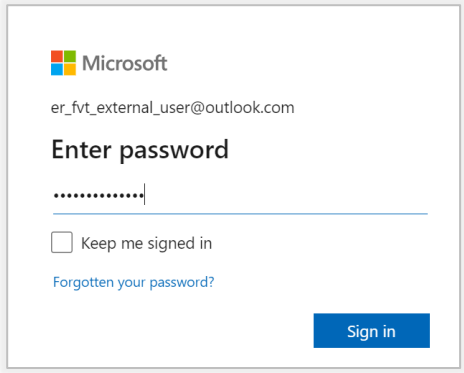
Step	Description
8.	**Accept the User Agreement** You will see the User Agreement pop up – click ACCEPT. 

Step	Description
9.	**Go to AUFLS** You will be taken back to this page – click the 'GO TO AUFLS' button. 

4.2 Subsequent Log Ins

When a user logs in after the initial log in, they will typically need to enter their email address, password, and complete multi-factor authentication (MFA) by entering a security code.

Step	Description
1.	**Open the Operations Customer Portal** Enter the following URL in a web browser – *www.customerportal.transpower.co.nz* You will be taken to the Operations Customer Portal home page.
2.	**Access AUFLS** Click on the 'LOGIN' button in the AUFLS widget. 

Step	Description
3.	**Enter your email address** Type your email address and press next. 
4.	**Enter your password** You will be taken to an Enter password pop-up – enter your password and press the 'Sign in' button. 
5.	**Complete MFA verification** You will be prompted to verify your identity using the method configured for your Microsoft account (e.g., email, text message, or authenticator app). Click 'Send code' (if prompted). Enter the security code you receive and click 'Verify'.
6.	**Access AUFLS application** You will be logged into the AUFLS application and taken to the Feeder Configuration page.

5 MANAGE FEEDER CONFIGURATION

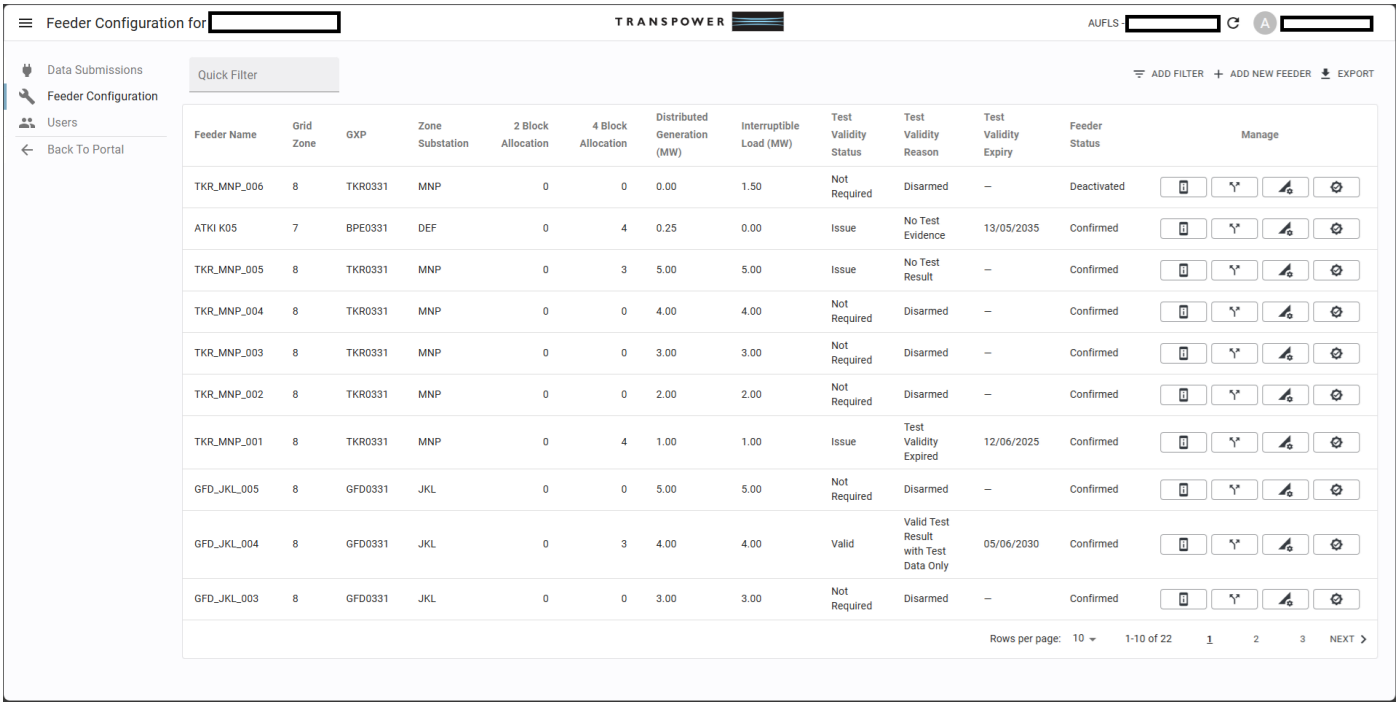
The initial feeder configuration is uploaded into the AUFLS application during the onboarding process. The Feeder Configuration screen provides a view of the current feeder configuration and the ability for Connected Asset owners to:

- Update feeder block allocation.
- Update feeder load configuration.
- Update feeder details.
- Update and manage AUFLS test results.
- Add new feeders.
- Export data already present in the AUFLS application .

IMPORTANT THINGS TO NOTE:

Once a feeder configuration is saved, and the feeder status is set to "Confirmed":

- the Feeder Name, Zone Substation and GXP can be changed on the "Feeder detail" page.
- the Feeder cannot be deleted, but it can be deactivated on the "Feeder detail" page.



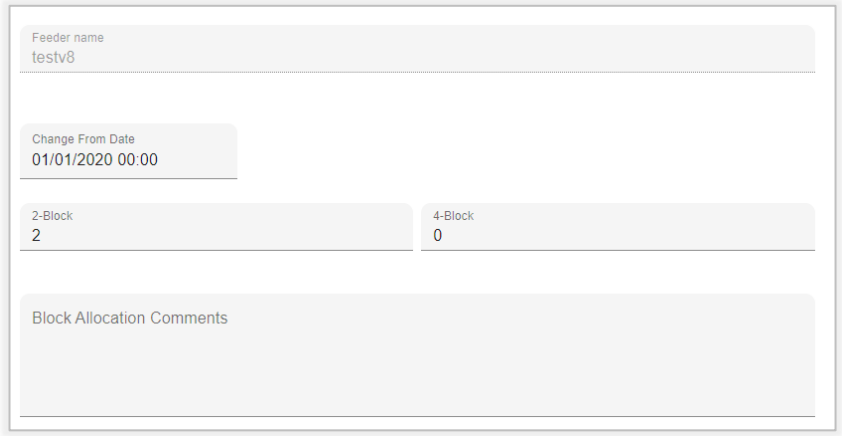
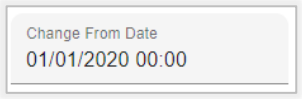
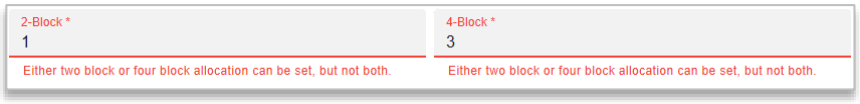
Feeder Name	Grid Zone	GXP	Zone Substation	2 Block Allocation	4 Block Allocation	Distributed Generation (MW)	Interruptible Load (MW)	Test Validity Status	Test Validity Reason	Test Validity Expiry	Feeder Status	Manage
TKR_MNP_006	8	TKR0331	MNP	0	0	0.00	1.50	Not Required	Disarmed	–	Deactivated	
ATKI K05	7	BPE0331	DEF	0	4	0.25	0.00	Issue	No Test Evidence	13/05/2035	Confirmed	
TKR_MNP_005	8	TKR0331	MNP	0	3	5.00	5.00	Issue	No Test Result	–	Confirmed	
TKR_MNP_004	8	TKR0331	MNP	0	0	4.00	4.00	Not Required	Disarmed	–	Confirmed	
TKR_MNP_003	8	TKR0331	MNP	0	0	3.00	3.00	Not Required	Disarmed	–	Confirmed	
TKR_MNP_002	8	TKR0331	MNP	0	0	2.00	2.00	Not Required	Disarmed	–	Confirmed	
TKR_MNP_001	8	TKR0331	MNP	0	4	1.00	1.00	Issue	Test Validity Expired	12/06/2025	Confirmed	
GFD_JKL_005	8	GFD0331	JKL	0	0	5.00	5.00	Not Required	Disarmed	–	Confirmed	
GFD_JKL_004	8	GFD0331	JKL	0	3	4.00	4.00	Valid	Valid Test Result with Test Data Only	05/06/2030	Confirmed	
GFD_JKL_003	8	GFD0331	JKL	0	0	3.00	3.00	Not Required	Disarmed	–	Confirmed	

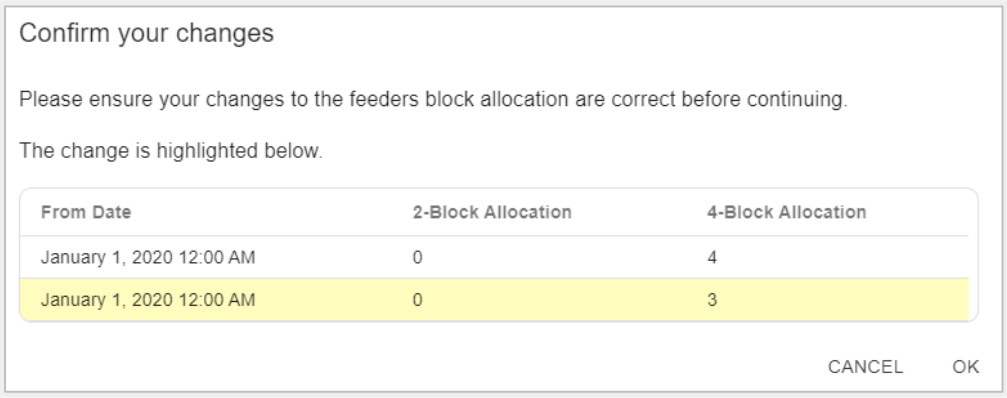
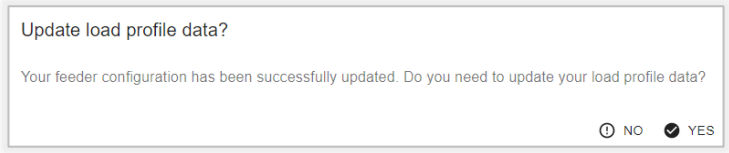
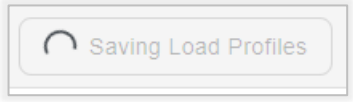
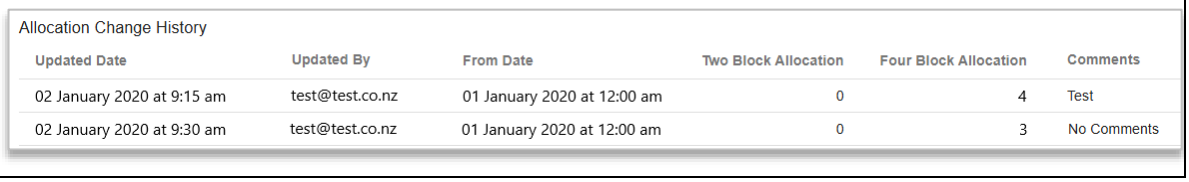
5.1 UPDATE FEEDER BLOCK ALLOCATION

The AUFLS application supports future-dated feeder changes, such as planned updates to feeder block allocation. This is the preferred method. In some cases, the application allows backdated changes to feeder allocations, typically to accommodate forced outages.

IMPORTANT THINGS TO NOTE:

- Feeder block allocation cannot be changed for any submission period where the load profile data has already been finalised. For instance, once the 2021 profile data is finalised, feeder block allocations for that period can no longer be changed.
- If a feeder is not allocated (not armed) to AUFLS, it must be allocated to block 0 for both 2-block and 4-block schemes.

Step	Description
1.	In the Manage column, click on the 'Allocation' button beside the feeder you wish to update. 
2.	This will take you to the Edit Block Allocations screen. 
3.	The 'Change From Date' field defaults to the start date of the *currently* active block allocation. Use the date selector to choose the date and time that the block allocation change is to take effect from. 
4.	Select which block the feeder will be allocated to from that date. This can be done by either entering a value in the relevant field or using the up/down arrow at the end of the field. A feeder can be allocated to either '2-Block' or '4-Block', which means one of these fields must be populated with 0.  Note, a warning will be displayed, and 'Save' button deactivated if both fields contain non-zero values. 
5.	Enter any relevant comments in the 'Block Allocation Comments' field and click save. 
6.	A pop-up will appear summarising the changes and asking for confirmation. Click OK.

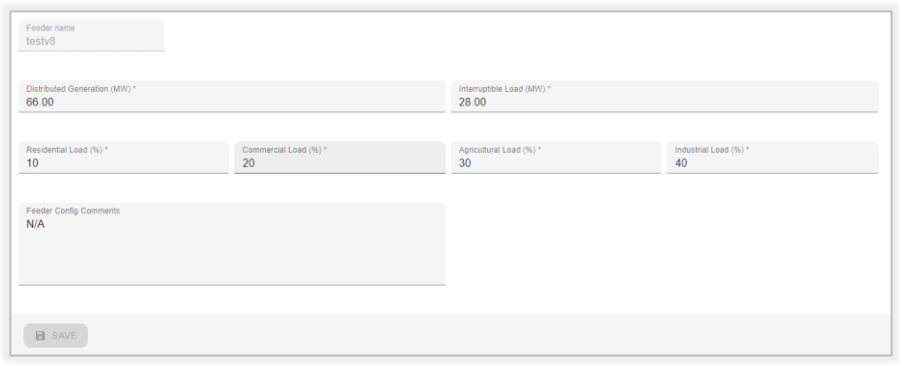
Step	Description
	
7.	If load profile data has already been uploaded for the submission period, a pop up will ask whether you need to update it.  • If you click 'YES', your current load profile data will be deleted, and you will be taken to the Data Submissions screen to upload new data. • If you click 'NO', you will return to the Data Submissions screen and see the message 'Feeder block allocation successfully edited'. Note – you will also see the message below your load profiles, indicating they are now mapped to the updated configuration. 
8.	Changes to the feeder block allocations are displayed as 'Allocation Change History'. This shows the full history. Any *overwritten* entries (i.e. changes previously applied from the same date and time) will be marked as *inactive* with grey background. Note, by default, the changes are sorted by 'Updated Date' column from the latest to the earliest. Additionally, the change history can be sorted by 'From Date', 'Two Block Allocation', and 'Four Block Allocation'. 

5.2 Update Feeder Configuration

You can update the configuration details for an individual feeder. These are not time-based and include:

- Estimated load shares by category: Residential, Commercial, Agricultural and Industrial.
- Estimated installed distributed generation capacity (in MW).
- Maximum interruptible load (in MW).

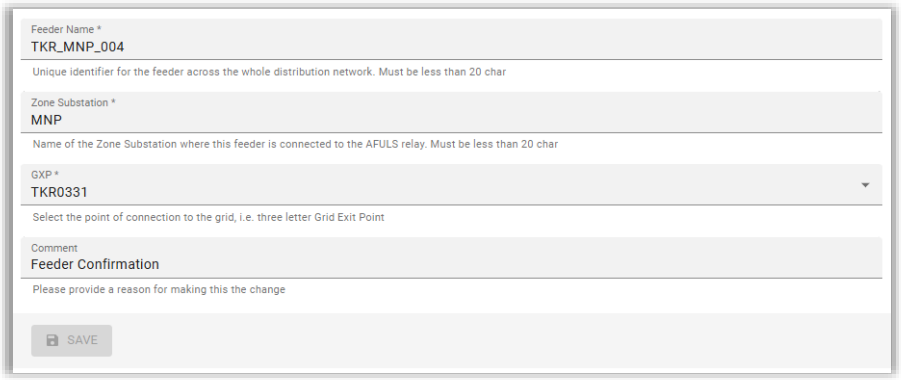
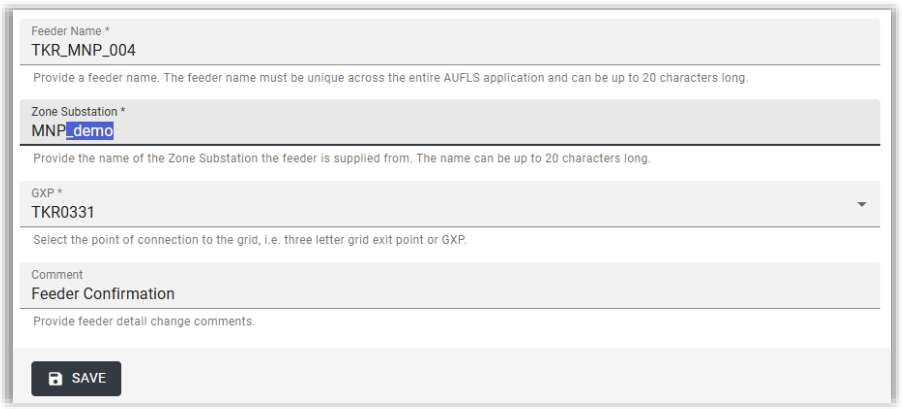
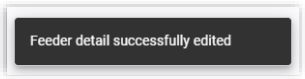
Step	Description
1.	In the Manage column, click the 'Configuration' button beside the feeder you want to update. 

Step	Description
2.	This will take you to the Edit Configuration screen where the details of the selected feeder are displayed. 
3.	Update any of the following fields as required.  **Distributed Generation (MW)** – Estimated installed generation capacity on the feeder. **Interruptible Load (MW)** – Maximum interruptible load on the feeder. **Residential Load (%)** * – Estimated percentage of demand classified as Residential for the feeder. **Commercial Load (%)** * – Estimated percentage of demand classified as Commercial for the feeder. **Agricultural load (%)** * – Estimated percentage of demand classified as Agricultural (or rural) for the feeder. **Industrial load (%)** * – Estimated percentage of demand classified as Industrial for the feeder (includes small, medium and large industrial). If there is no load for any of these categories, enter 0. **The total across all four of these fields must be 100% or less*
4.	Enter any relevant comments in the 'Block Allocation Comments' field and click save. 
5.	The change will be saved and you will be taken back to the main Feeder Configuration page.

5.3 Change Feeder Detail

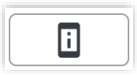
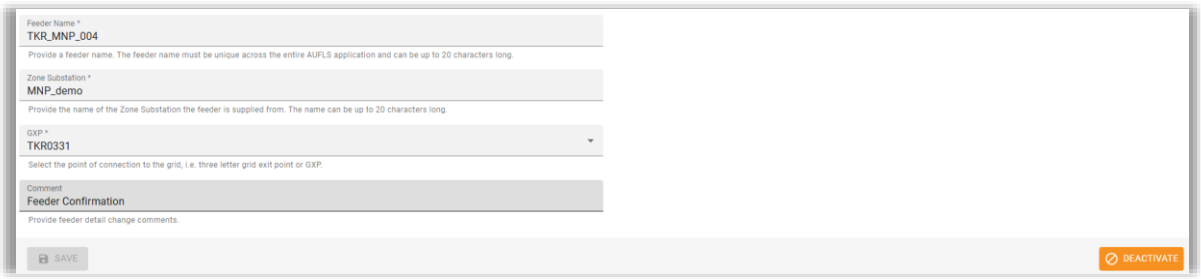
Once a feeder configuration is saved and feeder status is set to "Confirmed", certain details such as the Feeder Name, Zone Substation, and GXP can still be modified via the Feeder Detail page.

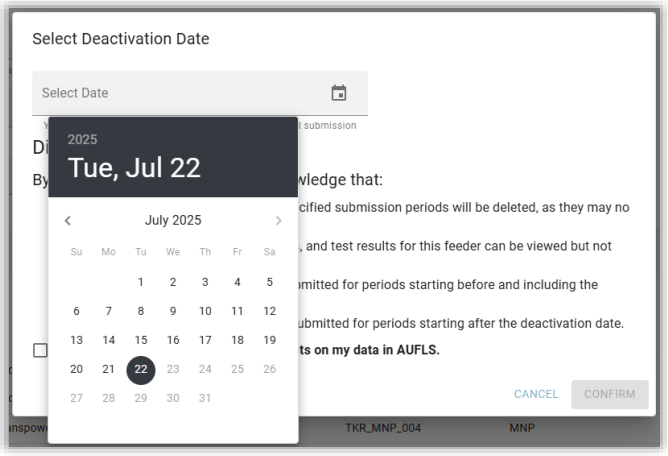
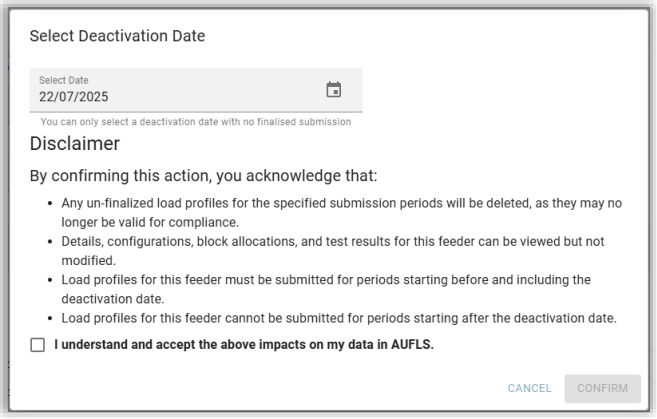
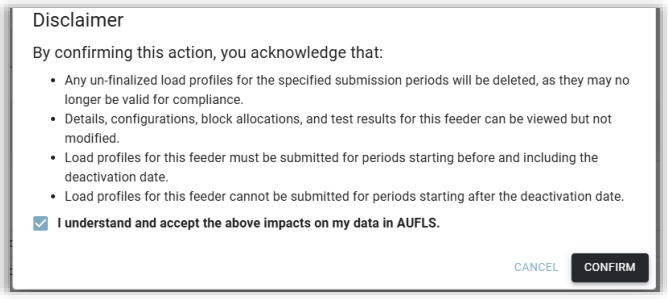
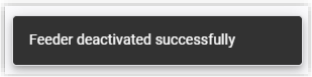
Step	Description
1.	In the Manage column, click on the 'Feeder detail' button beside the feeder you want to update. 

Step	Description
2.	This will take you to the Feeder Detail screen where the current details of the selected feeder are displayed. 
3.	Update the Feeder Name, Zone Substation, or GXP as required. These fields are editable only if the feeder status is set to "Confirmed". 
4.	After making the necessary changes, click 'Save' to apply the updates. A confirmation message will appear once the changes are successfully saved. 

5.4 Deactivating a Feeder

Once a feeder's status is set to "Confirmed," it cannot be deleted. However, it can be deactivated if it has been permanently decommissioned.

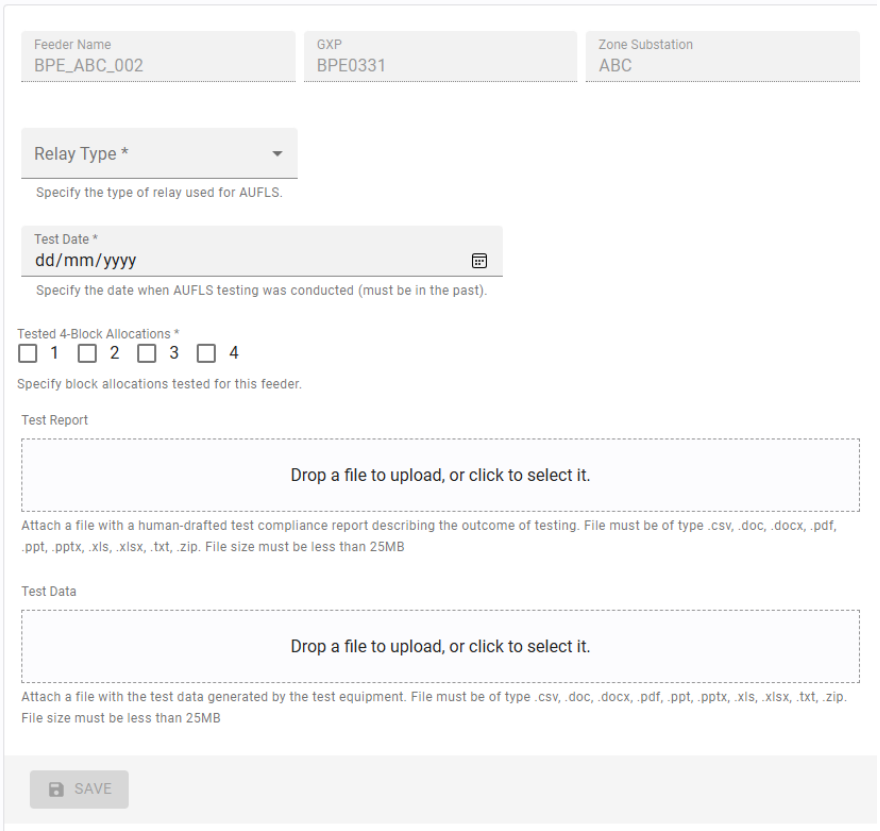
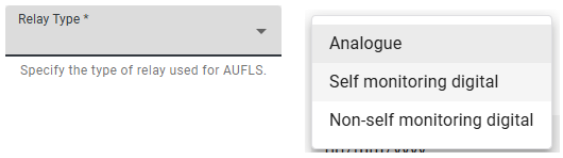
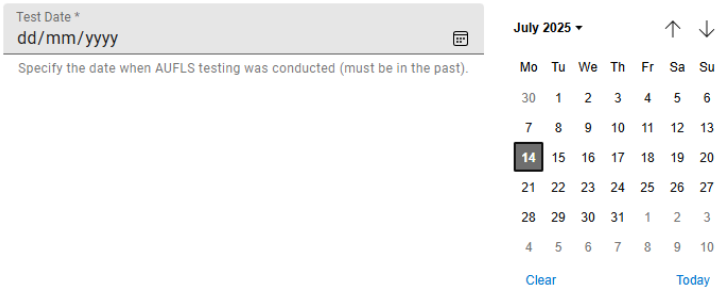
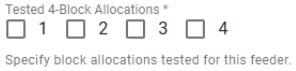
Step	Description
1.	In the Manage column, click the 'Feeder detail' button beside the feeder you want to update. 
2.	You will be taken to the Feeder Detail screen, where the current details of the selected feeder are displayed. In the lower-right corner, click the orange "Deactivate" button, if the feeder has been permanently decommissioned. Note: Future-dated deactivation is not permitted. 

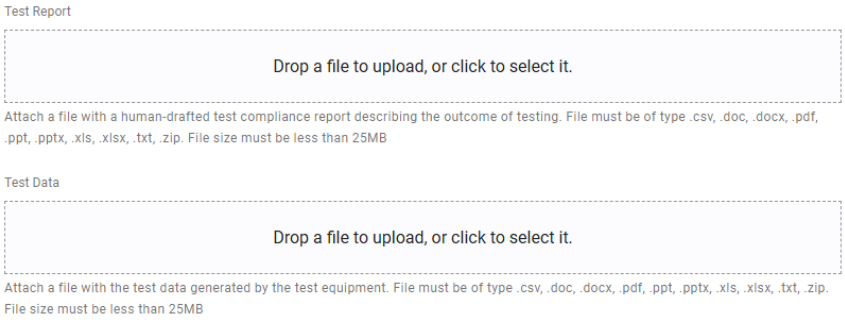
Step	Description	
3.	After clicking the button, select the actual deactivation date. Note: you can select a date from the first day of the earliest submission period where the load profile data has not been finalised, and up to and including today.	
4.	Once the date is confirmed, a disclaimer will appear warning that this change is irreversible and may affect any load profile data that has been uploaded, but not yet finalised.	
5.	Acknowledge the disclaimer to complete the deactivation. You will be returned to the feeder list view.	
6.	After deactivation, the feeder will have the following limitations: • The feeder becomes a read-only - no changes to block allocations, feeder configuration, or feeder details are allowed. • The feeder block allocation will automatically be set to block 0 for both 2-block and 4-block schemes from the day following the deactivation date. • When uploading load profile data for this feeder, load must be reported as '0' from the day after the deactivation date onward. Otherwise, an error will occur during data upload.	

5.5 ADD FEEDER TEST RESULTS

The AUFLS Application includes a dedicated interface for submitting and managing AUFLS test records, streamlining compliance and record-keeping processes. The application automatically generates notifications for

registered users, alerting them to feeders due or overdue for re-testing, with updates typically issued on 1 March and 1 September each year.

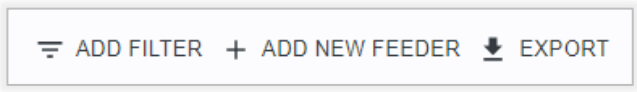
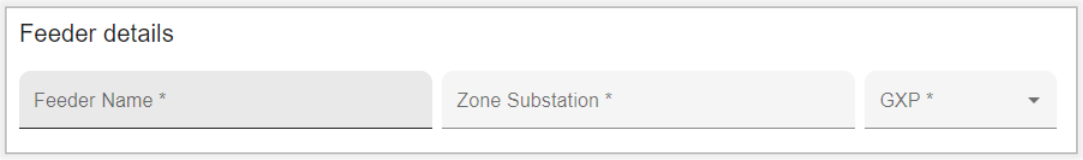
Step	Description
1.	In the Manage column, click the 'Test results' button beside the feeder that you want to update. 
2.	You will be taken to the Test Results screen, where the details of the selected feeder are displayed. 
3.	Verify that the Feeder Name, Zone Substation and GXP are correct. Then, enter the test details as follows: • Select the relay type from the drop-down list (options are defined in EIPC). 
4.	• Enter the date the test was conducted on site; 
5.	• Select the 4-block settings that have been verified. The "Save" button will become active once at least one block is selected.  Note: You must select at least one and up to four block allocations. This functionality is not available for feeders allocated to the 2-block scheme.

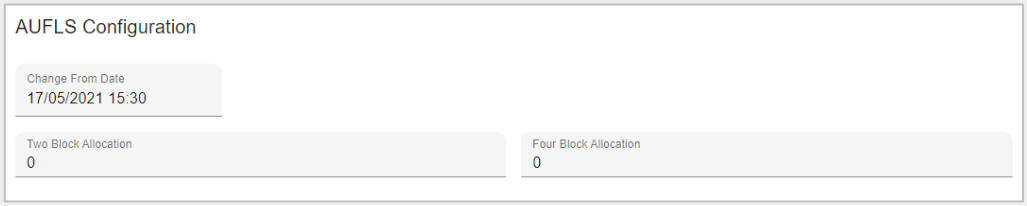
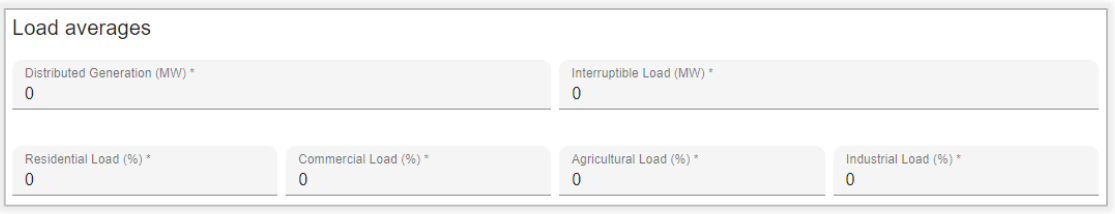
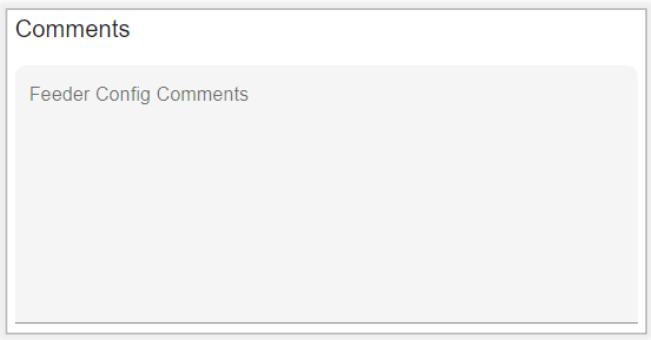
Step	Description
6.	Upload supporting evidence of the test. You may provide: o A human-drafted Test Report (preferred), or o Test equipment-generated Test Data. Beware of file type and size restrictions.  Note: the application will flag the test as conditionally valid if only Test Data is provided without a Test Report.
7.	Click 'Save'. A pop-up will display the test validity assessment of the test results and ask for confirmation. Click "Yes" to save the results, or "No" to continue editing. 
8.	After saving, you will be returned to the feeder configuration page.

5.6 Add a New Feeder

IMPORTANT THINGS TO NOTE:

- If a feeder is added with a backdated 'Change From Date' that falls within a trading period for which load profile data has already been uploaded, but not finalised yet, that load data will be deleted as it no longer matches the updated configuration.
- After this change, new load profiles must be uploaded to reflect the revised configuration.

Step	Description
1.	In the top right of the screen, click on 'ADD NEW FEEDER' button. This will take you to the Create Feeder Configuration screen. 
2.	 Populate the Feeder Details as below: **Feeder Name** – Enter the unique feeder identifier (up to 20 characters long). **Zone Substation** – Enter the Zone substation the feeder is supplied from. **GXP** – Select from the dropdown list.
3.	Populate the AUFLS Configuration as below:

Step	Description
	 **Change From Date** – Defaults to the first trading period for the year. Use the date selector to choose the date and time the new feeder will be active from. **Two Block Allocation and Four Block Allocation** – Select which block the feeder will be allocated to from that date. Enter a value in the relevant field or use the up/down arrow at the end of the field. A feeder can only be allocated to one block, so one of these fields must be populated with 0.
4.	Populate the Load Averages as below: **Distributed Generation (MW)** – Estimated installed generation capacity on the feeder in MW. **Interruptible Load (MW)** – The maximum interruptible load on the feeder in MW. **Residential Load (%)** * – Estimated percentage of demand classified as Residential for the feeder. **Commercial Load (%)** * – Estimated percentage of demand classified as Commercial for the feeder. **Agricultural load (%)** * – Estimated percentage of demand classified as Agricultural (or rural) for the feeder. **Industrial load (%)** * – Estimated percentage of demand classified as Industrial for the feeder (includes small, medium and large industrial). If there is no load for any of these categories, enter 0.  **The total across all four of these fields must be 100% or less*
5.	Enter any relevant comments in the Comments field. 
6.	Click the 'Save' button. If you have already uploaded load profile data, you will see a message prompting you that adding a new feeder will delete your existing load profile data, and you will need to reupload this data to match the new configuration. Click 'OK' to confirm the addition of the new feeder or 'Cancel' to go back.

6 LOAD PROFILE DATA

Connected Asset Owners are required to upload the following load profile data for each trading period over the specified 12-month submission period:

- ***Feeder load profile*** – average load (MW) at each feeder.
- ***GXP load profile*** – average off-take load (MW) at each GXP.
- ***Total load profile*** – total load (MW).

Excel templates for each of these load profiles have been developed, along with the '*GL-EA-941 AUFLS Data Template Guide*' which details how to complete these templates. These resources can be accessed on the Transpower website at the following link - *https://www.transpower.co.nz/system-operator/information-industry/asset-owner-requirements/automatic-under-frequency-load*.

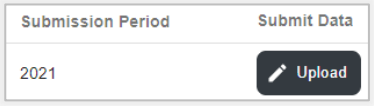
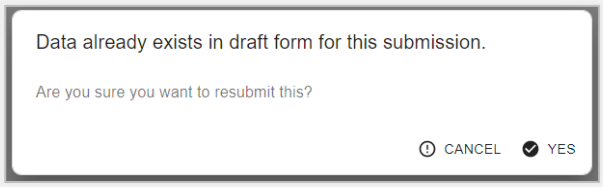
Once the templates are completed, they need to be saved in .csv format and uploaded in the portal by a Connected Asset Owner's user with Admin or Edit permissions. Note, that the template format must not be altered, and the data must be populated as per the guidelines to avoid errors during the upload process.

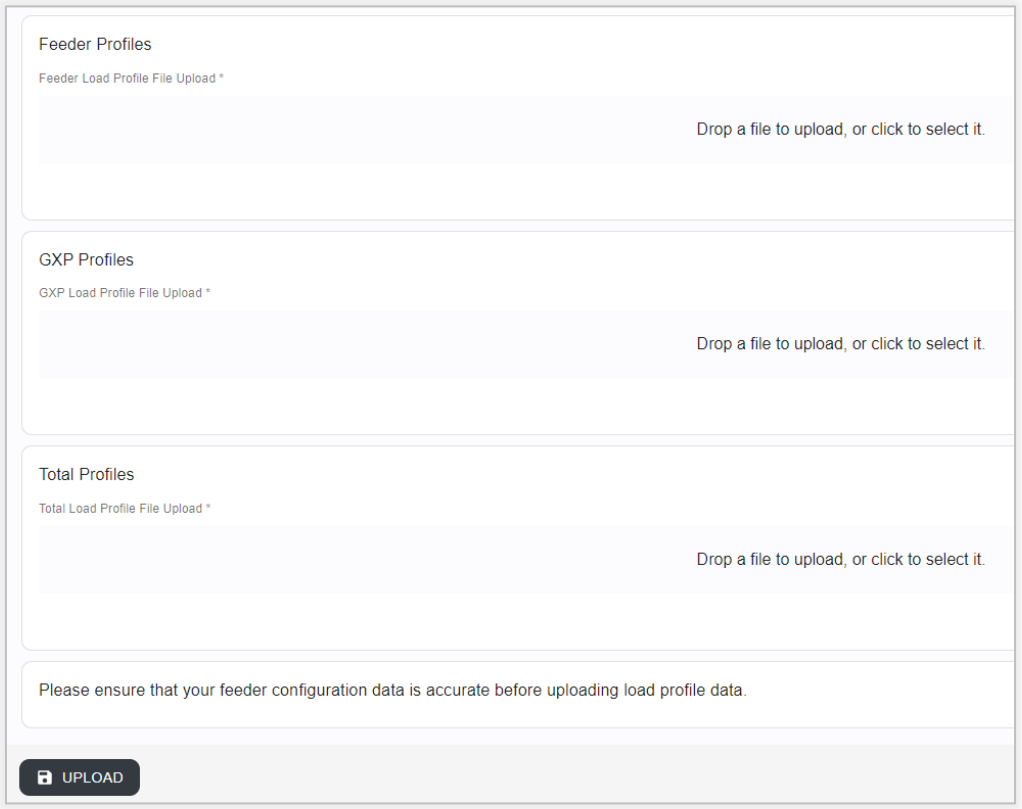
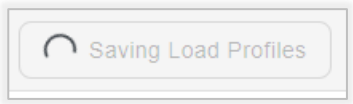
6.1 UPLOAD LOAD PROFILE DATA

Load profile data for each submission period is uploaded in the Data Submissions screen.

IMPORTANT THINGS TO NOTE:

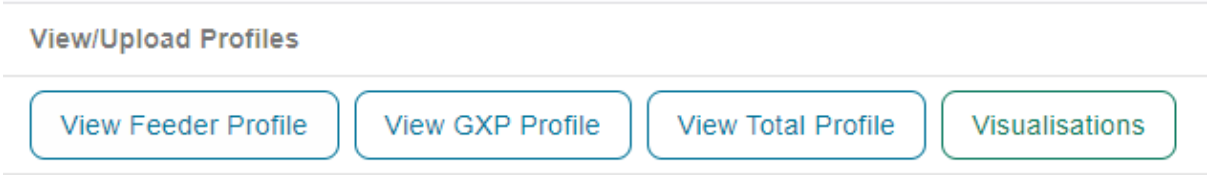
- The three separate files (feeder, GXP and total load) must be uploaded at the same time.
- Load profile data must start from the first trading period of the submission period.
- The trading periods in each file align (i.e. – cover the same time period).
- Following the files upload, a draft version of load profile data is created – each time a new set of data is uploaded, the previous version is overwritten.

Step	Description
1.	In the Data Submissions screen click the 'Upload' button. 
2.	If you have already uploaded the Load Profile data, you will see the following message: Click 'Yes' to continue or 'Cancel' to go back. 
3.	For each type of load profile, drag or select the file you want to upload. Then click the 'Upload' button.

Step	Description
	 Data validation will be applied to the files when they are uploaded to identify any errors. Any errors must be corrected before the files can be successfully uploaded. Refer to *Appendix A – File Upload Error Messages* for an overview of error messages and the required actions.
4.	Once the data has been successfully validated, it may take some time to fully upload into the AUFLS application (the upload speed is approx. 30 feeders load profiles per minute and the full upload could take up to an hour for some Connected Asset Owners). While this is happening, you will see the following pop-up message.  You can close your browser or log out while this is happening, without affecting the completion of the upload.
5.	Once the data upload is completed, it can be viewed from the Data Submissions screen.

6.2 View Load Profile Data

Once the load profile files' upload is complete, it is possible to view the data using the following buttons in the 'Data Submissions' screen.



- The first three buttons allow you to view the relevant load profile data in table format and export the data in .csv format.
- The Visualisations button provides a visual representation of each load profile (feeder, GXP and total). This helps validate the accuracy of the data and identify any outliers (e.g., the shape of the feeder, GXP and total graphs should be similar).

Below is an overview of the key features and functionality of the Load Profile Visualisations:

Feature	Description
Date Selector	• This slider sets the start and end date and time to visualise a specific range.
Feeder Filter	• This allows you to select specific feeder profiles to display.
GXP Filter	• This allows you to select specific GXP Profiles to display. The data in the Feeder Profiles graph will update to show only the feeders connected to the selected GXPs
Reset Page	• This button resets the Date Selector and clears any Feeder and GXP filters that have been applied.
Data point hover	• Hovering the mouse over a data point will show details of the trading period and the corresponding load.

7 Manage Compliance

7.1 Submission Statuses

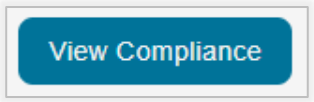
Connected Asset Owners must submit their AUFLS profile information to the System Operator annually on or before 1st April (1st January to 1st April, the Submission Window) into the AUFLS application for the previous calendar year (1st January to 31st December, the Submission Period). They are also required to notify the System Operator of any changes to their AUFLS systems, such as updates to the feeder configuration during a submission period.

The Data Submissions screen displays the status of each submission period in the Submission Status column. Below is an overview of the statuses and their definition:

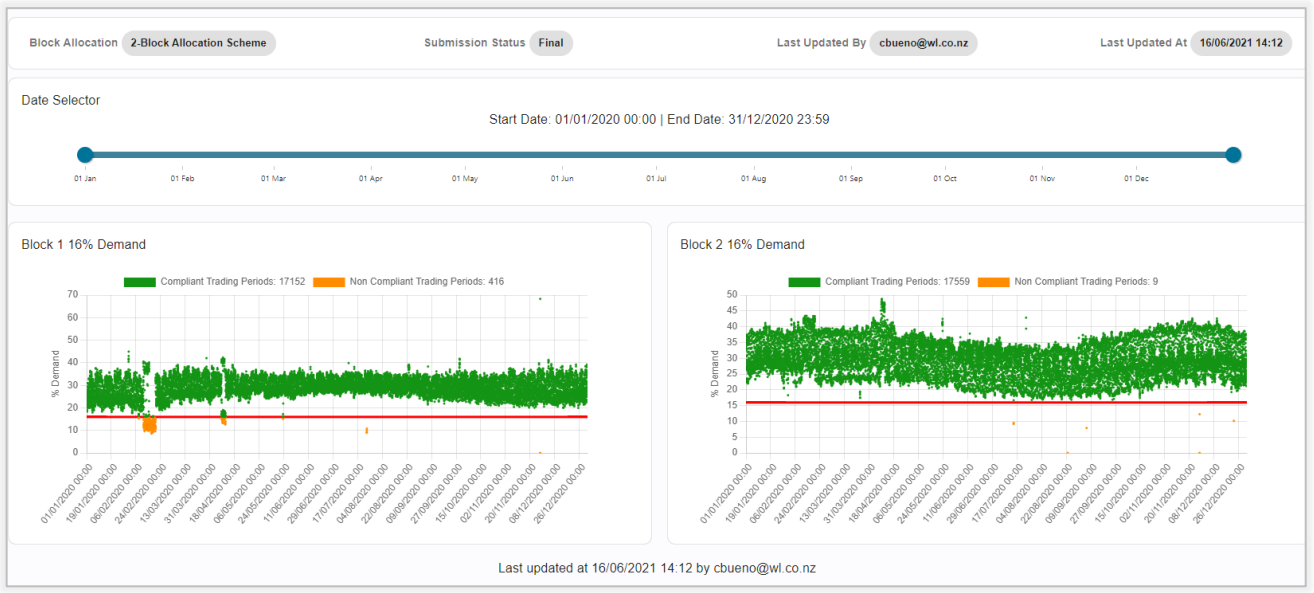
Status	Definition
Unpublished	• Load profile data is either uploaded, but not yet published, or not uploaded.
Published	• Load profile data has been uploaded and published for a submission period and is visible to the System Operator. • Note, load profile data can be published before the submission period is over and can include partial year data.
Finalisation Due	• Load profile data for the submission period is due to be published and made available to the System Operator. • This status applies after the submission period is over and during the submission window from January 1 to April 1 of the following year, or until the load profile data is published.
Finalised	• Load profile data for the submission period has been uploaded and finalised and is now available to the System Operator. • Load profile data can be finalised after the submission period is over. • Load profile data can only be finalised if it has been uploaded for all trading periods in the submission period. • Once finalised, load profile data cannot be changed or updated.
Finalisation Overdue	• Load profile data for a submission period has not been finalised during the submission window, and is overdue. • This status would apply from April 2 of the following year until the load profile data is finalised.

7.2 COMPLIANCE DASHBOARD

Once load profiles have been uploaded for a submission period, it is possible to view a Compliance Dashboard for the submission period. This is done by clicking on the 'View Compliance' button in the 'Data Submissions' screen.



This will show a separate compliance graph for each AUFLS block.



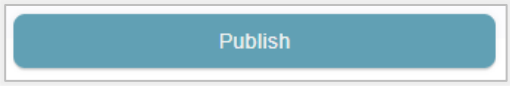
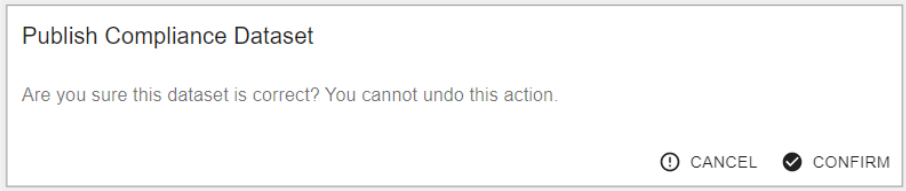
Below is an overview of the key features and functionality of the Compliance Dashboard:

Feature	Description
Block Allocation	One of the following options will be displayed based on the AUFLS scheme allocation across all feeders during the submission period: • '2-block Allocation Scheme' is displayed when all feeders were allocated to two-block AUFLS scheme for the entire submission period. • '4-block Allocation Scheme' is displayed when all feeders were allocated to four-block AUFLS scheme for the entire submission period. • '2-block and 4-block Allocation Scheme' is displayed when feeders were allocated to two block and four block AUFLS schemes at any point during the submission period. This would typically display for Connected Asset Owners transitioning from the 2-block to the 4-block scheme.
Submission Status	• The current status for this submission period.
Graph	• A graph is displayed for each AUFLS block with the minimum block size obligation as a percentage of demand for each block marked as a red line. • Note, the AUFLS block size calculations: o for '2-block' AUFLS and '4-block' AUFLS the block size is calculated as the ratio of sum of load of feeders allocated to specific blocks and sum of load of all feeders during each trading period; o for '2-block and 4-block' AUFLS the sum of load of feeders is first aggregated into the '2-block' AUFLS structure, and then the block size is calculated accordingly.
Trading Periods	• Compliant (displayed in green) and non-compliant (displayed in orange) trading periods for each AUFLS block;

Feature	Description
	• The quantity of compliant and non-compliant trading periods is displayed at the top of each graph; these add-up to 17,520 for a common year, and 17,568 for a leap year.
Date Selector	• This slider is used to set the start and end date and time to display a specific range in the graphs.
Data point hover	• Hovering the mouse over a data point will provide details of the trading period and the associated block size as percentage of demand (%).

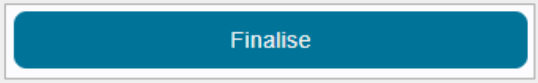
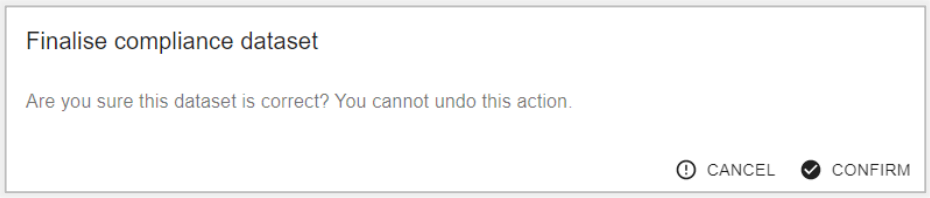
7.3 PUBLISH COMPLIANCE

During a submission period, load profile data covering a part of that submission period can be published for review purposes, but cannot be finalised until data for the full submission period is available.

Step	Description
1.	In the Compliance Dashboard, click the 'Publish' button at the bottom of the screen. 
2.	You will see the pop-up message below. Click 'Confirm' button. 
3.	You will be taken back to the Data Submissions page – the Submission Status will have updated to Published.

7.4 FINALISE COMPLIANCE FOR A SUBMISSION PERIOD

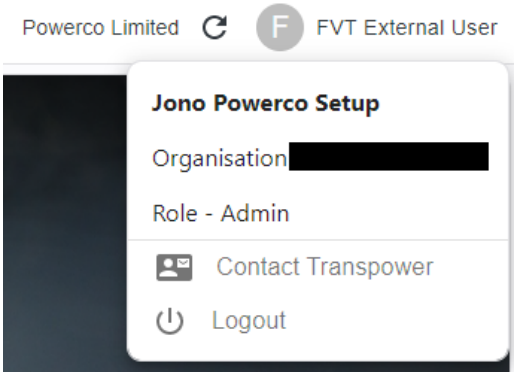
Load profile data can only be finalised for compliance assessment after the submission period has ended (e.g., data for the 2025 submission period can only be finalised in 2026). Finalisation must be completed within the submission window, i.e. no later than 1 April.

Step	Description
1.	In the Compliance Dashboard, click the 'Finalise' button at the bottom of the screen. 
2.	You will see the pop-up message below. Click 'Confirm'. 

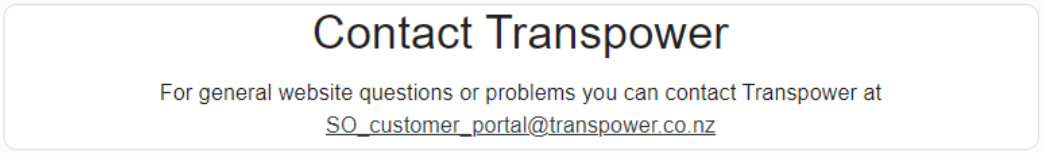
8 User Support

If you are unable to log into the Customer Portal or have any queries, please contact the System Operator on the following e-mail address *SO_customer_portal@transpower.co.nz* Note, this e-mail is manned during business hours (Monday to Friday, 8am – 5pm).

This email can also be accessed in the menu under your user name in the top right of the screen.



Clicking on the e-mail address in the pop-up will invoke your e-mail client so you can send an e-mail.



9 DEFINITIONS OF KEY TERMS

Term	Definition
Submission period	A calendar year (from 1 January 00:00 to 31 December 23:30) for which load profile information is to be submitted.
Submission window	A period from 1 January 00:00 to 1 April 23:59, during which the load profile information for a submission period must be submitted to meet the Code obligations.
Compliant trading period	A trading period where the AUFLS block size (as a percentage of Connected Asset Owner sum of feeders' load) is equal to or greater than the minimum required percentage mandated for that AUFLS block.
Non-compliant trading period	A trading period where the AUFLS block size (as a percentage of Connected Asset Owner sum of feeders' load) is less than the minimum required percentage mandated for that AUFLS block.

10 APPENDIX A – FILE UPLOAD ERROR MESSAGES

Below is an overview of the error messages that you may see when uploading load profile files and what the required action is to resolve these. Note that '%' is a variable which may represent a file, row, column or value that the error relates to.

Refer to the 'AUFLS Data Template Guide' for more detailed information on how to populate the load p

Error Message	Action Required
You are missing files	Load all three load profile files (Feeder, GXP, Total) at the same time
Uploaded file must be of type CSV	Ensure the file you are trying to upload is in CSV format. The file extension should be .csv.
The first cell in the *column %s* must be 'Trading Period'	Ensure that the first cell in the first column in each file is labeled 'Trading Period'.
Column %s in the header of file %s contains no value	One of the cells in the header row is empty and needs to be populated with the appropriate value
Feeder load value must be greater than or equal to zero	Ensure all feeder load values are zero or positive. Update any negative values accordingly.
GXP off-take value must be greater than or equal to zero	Load values cannot be negative – remove any negative GXP load values
Total load value must be greater than zero	Load values must be positive – update any negative or zero values
Incorrect datatype for value	Data is not of the correct datatype (e.g. – load profile values should be a numeric not an alpha character)
<trading period> is not a valid trading period	Trading period format needs to be corrected
% is missing a valid time zone (NZST or NZDT)"	Time zone needs to be entered as NZST or NZDT
<trading period> duplicated	Remove one of the duplicate trading periods
<trading period> is earlier than *<submission period>*	Trading period(s) in the file are earlier than the start of the submission period
%s is missing required trading periods	Add in the trading periods that are missing from the file
%s requires the following columns: *<list of columns>*	Add in the required columns to the relevant file
Feeder is duplicated: *<list of feeders>*	A feeder appears twice in the feeder load profile data – remove the duplicate record
% is missing data for the following feeders: *<list of feeders>*	Populate missing load values in the feeder load profile file.
Does not match existing configuration. Feeder name: *<list of feeders>*	A feeder is provided in the file that does not exist in the current configuration – the feeder needs to be added in the portal before the load data can be uploaded

Error Message	Action Required
GXP is duplicated: <*list of GXPs*>	A GXP appears twice in the GXP load profile data – remove the duplicate record
GXP not found: <*list of GXPs*>	Uploaded a feeder connected to a GXP that doesn't exist in current configuration
% is missing data for the following GXPs: <*list of GXPs*>	Populate missing load values in the GXP load profile file.
Mismatch of trading periods between files	The trading periods in each of the three uploaded files must be the same (i.e. – all files cover the same period)
No trading periods were provided in file	Populate trading periods in the first column on the file
Please ensure feeder block allocation is correct before uploading load profiles.	Standard message, a user is uploading load profiles *Note*: The uploaded feeder load profiles will be allocated to AUFLS blocks based on the current block allocation of feeders - ensure feeders have been correctly allocated to blocks before uploading load profiles
Header is not the first record in the <*filename*> file being uploaded.	Header is not the first record in the submitted Load Profile. Ensure the header is the first line of the .csv file, so the system could recognise this correctly.
There is data missing in row <*row count*>.	Fields in load profile row not as per the template or missing. Ensure there are no missing fields, and entered data is of correct data types.
Incorrect data type for value <*field value*> of <*field name*> in <*row count*>	Data type of field on load profile not as expected. Correct data to match the data type in the template. Ensure no blank fields and negative values in the submission.
<*Feeder/GXP name*> does not match existing configuration	Feeder/GXP does not exist in the confirmed feeder configuration. Correct the feeder/GXP names in the submitted load profile.
<*trading period*> in row <*row count*> is not valid. *Line num | value | Is not a valid trading period*	Trading period is invalid. Correct the trading period, ensuring NZDT and NZST are followed.
<*trading period*> in row <*row count*> is not valid for the selected submission year. • e.g., is earlier than 2021 • e.g., is later than 2021 • e.g., is not a valid trading period	Trading period is not for the chosen submission year. Ensure the load profile has correct trading periods for the chosen submission year. Note: the provided template only includes trading periods for 2021. Trading periods for the following years would need to be adjusted accordingly.
Data must be provided from the first trading period *01 Jan 00:00* of the selected submission year.	Data does not start from the first trading period of the selected submission year. Check the submitted data starts from 01 Jan 00:00. Add data where necessary.
There are trading periods missing between the first and last trading period. • e.g., extra trading periods; • e.g., contains the following extra trading periods:	One or several trading period(s) missing between the first and the last in the submitted load profile. Note: the number of trading periods is 17,520 in a normal year and 17,568 in a leap year.

Error Message	Action Required
etc...	
There is data missing for <*list of <demand units>*>.	Data missing in the submitted load profile. Check data is entered for all feeders and trading intervals
Could not upload <*demand unit*> data. Please fix the errors and retry uploading the file. • "A server error occurred while processing an uploaded file"	File is rejected. Ensure the correct template is used. Check that filename excludes special symbols and is saved as .csv file. Check data types, blank cells.
<*list of trading periods*> in <*demand unit*> profile not found in <*demand unit*> profile.	Trading periods between load profiles do not match.
Failure while validating feeder load profile Feeder | <*Feeder name*> must have 0 load after deactivated on <*Deactivation date*>. |	Ensure the load data for the specified feeder shows zero load after the deactivation date. If not, update the load profile accordingly. After making corrections, reupload the load profiles to resolve the error.

11 Document Information

11.1 Copyright Information

11.2 Revision History

SharePoint Revision	Date	Change	Section
1.0	June 2021	First published version.	
2.0	Feb 2024	Regular revision	
3.0	Oct 2024	Cyclic Review: Minor updates made.	
4.0	16/1/2025	**BAU Review:** Minor Update: AUFLS Portal Enhancements - First Release	
5.0	8/9/2025	**BAU Review:** AUFLS Portal Enhancements - Third Release	

11.3 METADATA

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Level of Risk:	Low		

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	L3: 01-01 Assess Asset Capability	*L4:* [Business Model L4]
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