Defect Sample Report

Defect ID: DEF-001

Title: **ENSEK Energy Portal (Buy Energy – Electricity) allows purchase of more units than available (Inventory becomes negative)**

Severity: High

Affects core business logic; allows invalid transactions and will lead to financial/accounting inconsistencies by allowing a user to deplete an Energy store which would result in an incomplete order.

Priority: High

Must be fixed prior to UAT and Pre-Production / Production release.

Environment

- URL: https://ensekautomationcandidatetest.azurewebsites.net
- Browser: Chrome 124
- Platform: MacOS Sonoma 14.4.1
- Date of Test: 09-05-2025

Preconditions

- Valid registered user has logged in (Test User – ENSEK01)
- Electricity Store Level is currently greater than 0.

Steps to Reproduce

1. Navigate to the **Buy Energy** page.
2. For the Electricity Energy Type, enter a value for the "Number of Units Required" that is greater than the "Quantity of Units Available" (e.g. 4323)
3. Click the **Buy** button.

Expected Result

- UI should block the action or show an error message: *"You cannot purchase more than the available quantity."*
- Inventory should remain unchanged.
- No backend transaction should be initiated.

Actual Result

- Purchase is accepted.
- Quantity available becomes negative (-1).
- No error or warning is displayed to the user.

Impact

- Violates store inventory logic.
- Creates inconsistent state that could impact:
  - Order reconciliation
  - Reporting
  - UI behaviour in dependent modules

Recommendations

- Add frontend validation to limit purchase quantity to available stock.
- Add backend validation to reject invalid requests even if bypassed via API or dev tools.
- Consider disabling "Buy" button if quantity is unavailable or invalid.

Attachments

Image 1 – Units Required value entered greater than current Units Available value. User then clicks on Buy button.

Energy Type	Price	Quanity of Units Available	Number of Units Required	
Gas	£0.34 per m3	3000	0	Buy
Nuclear	£0.56 per MW	0	Not Available	
Electricity	£0.47 per kWh	4322	4323	Buy
Oil	£0.50 per Litres	20	0	Buy

Image 2 – Sale is confirmed when user clicks Buy, and Electricity Store Level has dropped below 0 (i.e. -1).

Sale Confirmed!

Thank you for your purchase of 4323 units of Electricity We have popped it in the post and it will be with you shortly.
There are now -1 units of Electricity left in our stores.

Image 3 – Navigating back to the Buy Energy screen shows the Electricity Store level below 0.

Energy Type	Price	Quanity of Units Available	Number of Units Required	
Gas	£0.34 per m3	3000	0	Buy
Nuclear	£0.56 per MW	0	Not Available	
Electricity	£0.47 per kWh	-1	Not Available	
Oil	£0.50 per Litres	20	0	Buy