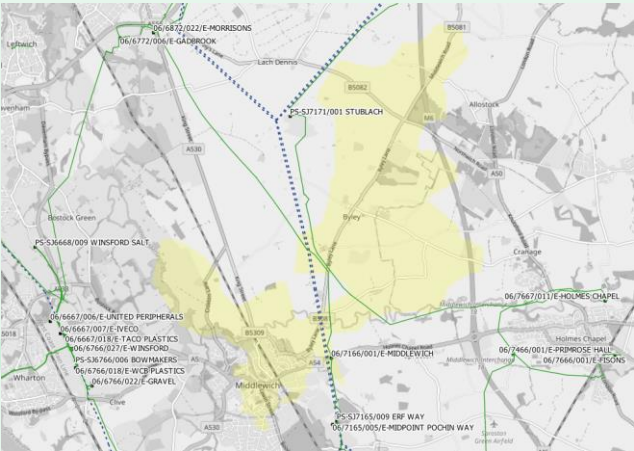


Middlewich primary reinforcement

Reinforce, supported by flexibility



The Middlewich primary substation comprises of a single 7.5MVA 33/11kV transformer which is supplied from the 33kV Elworth/Knutsford grid group. The Middlewich primary network group supplies ca. 2,600, predominantly domestic customers. The 11kV group network is normally operated split from the adjacent primary group network.

Constraint

THERMAL
Network studies indicated that with the additional demand and LCT uptake across the network thermal loading on the 33/11kV 7.5MVA transformer at Middlewich will exceed the firm capacity by 2026/27, along with thermal overloads on 33kV circuits between Knutsford and Elworth. This demand was partly driven by 2MVA additional loading for an HS2 crossing point, which is no longer forecast to materialise.

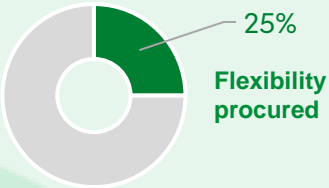
Decision

Reinforce, supported by flexibility
Install a new 10MVA 33/11kV transformer at Middlewich to provide more capacity, and transfer neighbouring Morrisons primary out of the Elworth/Knutsford grid group into a neighbouring grid group (Hartford/Lostock/Winsford) to relieve circuit constraints. Contract flexibility services to support the network during the project delivery.

Justification for decision

Insufficient flexibility had been procured to manage the risk of overload and so works are being progressed. Work had commenced before cancellation of HS2 was announced. Nevertheless, demand and LCT growth is still forecast to exceed the 7.5MVA capacity of Middlewich T1 by 2029/2030 and so the works futureproof the area.

Flexibility product	N/A
Constraint season(s)	Year round
Flexibility guide price	N/A
Reinforcement timescale	2025/26



Flexibility position at March 2024	2023/24	2024/25	2025/26	2026/27	2027/28
Risk duration (hours)	0.0	8.5	73.0		
Peak flexibility required (MW)	0.0	0.3	0.9		
Flexibility procured (MW)	0.9	0.9	0.0		
Flexible MW capacity met (%)	>100%	>100%	0%		

Flexibility Tendering

Open

We are tendering for flexibility services at this location.

More information is available on the [PICLO Flex website](#)

Technical Appraisal

More detailed technical information on the nature of the constraint, network impacts, solutions considered and selected intervention are available in this scheme's [Engineering Justification Paper](#)

To ensure that our plans and publications cover the needs of our stakeholders, customers, and the communities we serve, we welcome ongoing feedback.

Feedback can be emailed to: systemdesignteam@spenergynetworks.co.uk