

# Albrighton Primary



DNOA Decision

**Signposting**

## Constraint description

An outage of T1 is forecast to cause an overload on T2 and vice versa.

## Reinforcement description

Replacing the existing 12/24 MVA transformers (commissioned in 1967) with 20/40 MVA units. Replacing the 1250 A 11 kV board with a 2000 A rated switchboard. Reinforcement of the 33 kV feeder circuits.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2029.

## Constraint management timeline

**2026 H1** Signposting

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	12 MWh	46 MWh



For more information, see the **Bushbury GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Bartley Green BSP



DNOA Decision

**Reinforce with Flexibility**

## Constraint description

An outage of GT1 is forecasted to cause an overload on GT2 and vice versa.

## Reinforcement description

Extending the 132 kV busbars at Bartley Green to become a 3-section single busbar arrangement with the two new bus-section circuit breakers. Installing a third 132/11 kV transformer rated 15/30/39 MVA. Installing an additional 2-section 11 kV board suitably interconnected with the existing.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

Reinforcement works are being progressed. Flexibility will be utilised as required to manage the constraint in the interim.

## Constraint management timeline

**2026 H1** Procurement

**2024 H2** Procurement

**Time to Reinforce:** 3 years

**Constraint Type:** Demand

## Estimated flexibility price and volumes per year under Holistic Transition:

	2026	2027	2028	2029	2030
Availability	£3 / MWh	£2 / MWh	£1 / MWh	£1 / MWh	£0.45 / MWh
	28,267 MWh	38,013 MWh	49,161 MWh	61,104 MWh	155,662 MWh
Utilisation	£157 / MWh	£109 / MWh	£85 / MWh	£68 / MWh	£27 / MWh
	283 MWh	380 MWh	492 MWh	611 MWh	1,557 MWh



For more information, see the **Kitwell GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Bentley BSP



DNOA Decision

**Signposting**

## Constraint description

Arranged outage of either transformer at Bentley overloads the other.

## Reinforcement description

Installing a fourth 132/11kV GT at Willenhall BSP and upgrading the 11 kV network to pick up future load growth.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2030.

## Constraint management timeline

**2026 H1** Signposting

**Time to Reinforce:** 3 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.0 MWh	8 MWh



For more information, see the **Willenhall GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Bromyard Primary



DNOA Decision  
**Signposting**

## Constraint description

Bromyard primary has two 66/11 kV transformers. Following an arranged or fault outage on one of the transformers the full site demand is picked up by the other transformer causing it to be overloaded.

## Reinforcement description

The proposed reinforcement is to uprate the transformers.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2030.

## Constraint management timeline

**2026 H1** Signposting

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.0 MWh	3 MWh



For more information, see the **Bishops Wood GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Brockworth Primary



DNOA Decision  
**Signposting**

## Constraint description

Brockworth substation is fed from Castle Meads BSP. An N-1 condition on either circuit between Castle Meads and Brockworth could overload the remaining circuit.

## Reinforcement description

Upgrading the limiting Current Transformers (CTs) and switchgear at Brockworth primary substation.



Constraint Season  
Winter and Summer



Outage Type  
N-1



## Justification for decision

No flexibility requirement under Holistic Transition until 2030.

## Constraint management timeline

2026 H1 **Signposting**

2024 H2 Procurement

2024 H1 Procurement

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.0 MWh	2 MWh



For more information, see the **Bishops Wood GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Craven Arms Primary

 DNOA Decision  
**Signposting**

## Constraint description

Craven Arms Primary substation is made up of two transformers, T1 and T4. Transformer T4 at Craven Arms Primary is forecasted to overload when there is an outage of T1.

## Reinforcement description

Replace T4 with a 12/24 MVA unit.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2030.

## Constraint management timeline

2026 H1 **Signposting**

2024 H2 Signposting

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.0 MWh	0.1 MWh



For more information, see the **Bishops Wood GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Hammerley Down Primary



DNOA Decision

**Reinforce with Flexibility**

## Constraint description

An outage of either of the two transformers at Hammerley Down primary substation is forecasted to cause an overload of the other transformer at Hammerley Down primary substation.

## Reinforcement description

The addition of a third transformer and completion of associated works at Hammerley Down primary substation, including installation of a 33 kV bus-section circuit breaker and a 33 kV busbar extension.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

Reinforcement works are being progressed. Flexibility will be utilised as needed to manage the constraint in the interim.

## Constraint management timeline

**2026 H1 Procurement**

**2024 H2 Procurement**

**Time to Reinforce: 3 years**

**Constraint Type: Demand**

## Estimated flexibility price and volumes per year under Holistic Transition:

	2026	2027	2028	2029	2030
Availability	£9 / MWh 2,436 MWh	£4 / MWh 4,356 MWh	£3 / MWh 6,585 MWh	£2 / MWh 10,489 MWh	£1 / MWh 16,527 MWh
Utilisation	£552 / MWh 24 MWh	£244 / MWh 44 MWh	£162 / MWh 66 MWh	£101 / MWh 105 MWh	£64 / MWh 165 MWh



For more information, see the **Iron Acton GSP Network (West Midlands) NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Hereford - Ledbury Ring



DNOA Decision

**Reinforce with Flexibility**

## Constraint description

The Hereford 66 kV ring consists of five primary substations and 66 kV connected customers, all fed via two 66 kV circuits from the Hereford Bulk Supply Point (BSP), within Bishops Wood Grid Supply Point (GSP). An outage of one of the infeeds to the ring can cause voltages to drop below statutory limits.

## Reinforcement description

Installing a Statcom at Dymock 66/11 kV substation to mitigate the voltage constraint.



Constraint Season  
Winter and Summer



Outage Type  
N-1



## Justification for decision

Reinforcement works are being progressed. Flexibility will be utilised as required to manage the constraint in the interim.

## Constraint management timeline

2026 H1 Procurement  
 2024 H2 Procurement  
 2024 H1 Procurement  
 2023 H2 Procurement  
 2023 H1 Procurement  
 2022 H2 Procurement  
 2022 H1 Procurement  
 2021 Procurement  
 2020 Procurement

**Time to Reinforce:** 3 years

**Constraint Type:** Demand

## Estimated flexibility price and volumes per year under Holistic Transition:

	2026	2027	2028	2029	2030
Availability	£39 / MWh	£15 / MWh	£8 / MWh	£3 / MWh	£2 / MWh
	2,356 MWh	5,815 MWh	11,173 MWh	27,536 MWh	56,405 MWh
Utilisation	£2,319 / MWh	£891 / MWh	£464 / MWh	£188 / MWh	£92 / MWh
	24 MWh	58 MWh	112 MWh	275 MWh	564 MWh



For more information, see the **MISSING NDP report:**

[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Knighton



DNOA Decision

**Reinforce with Flexibility**

## Constraint description

Knighton primary is a 66/11 kV single transformer site fed out of Hereford BSP. Its firm capacity is estimated at 5.5 MVA limited by 11 kV interconnection.

## Reinforcement description

Installation of a new 66 kV circuit and 66/11 kV transformer at Knighton.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

Reinforcement works are being progressed. Flexibility will be utilised as required to manage the constraint in the interim.

## Constraint management timeline

**2026 H1** Procurement

**2024 H2** Procurement

**Time to Reinforce:** 3 years

**Constraint Type:** Demand

## Estimated flexibility price and volumes per year under Holistic Transition:

	2026	2027	2028	2029	2030
Availability	£30 / MWh 1,449 MWh	£18 / MWh 2,237 MWh	£13 / MWh 2,987 MWh	£10 / MWh 4,062 MWh	£5 / MWh 8,026 MWh
Utilisation	£1,816 / MWh 14 MWh	£1,050 / MWh 22 MWh	£787 / MWh 30 MWh	£579 / MWh 41 MWh	£293 / MWh 80 MWh



For more information, see the **Bishops Wood GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Ludlow to Craven Arms

 DNOA Decision  
**Signposting**

## Constraint description

An outage of the 33 kV cable circuit between Ludlow BSP and 1L3 at Craven Arms primary substation is forecasted to cause an overload on the 33 kV circuit between Ludlow BSP and 4L3 at Craven Arms primary substation.

## Reinforcement description

Uprate the 33 kV circuit between Ludlow BSP and 4L3 at Craven Arms primary substation.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2030.

## Constraint management timeline

**2026 H1** Signposting

**2024 H2** Signposting

**Time to Reinforce:** 2.5 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.0 MWh	7 MWh



For more information, see the **Bishops Wood GSP Network NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Netherhills Primary



DNOA Decision

**Reinforce with Flexibility**

## Constraint description

An outage of either of the two transformers at Netherhills primary substation could cause an overload of the other transformer at Netherhills primary substation.

## Reinforcement description

Replace transformers at Netherhills primary substation with 20/40 MVA units and replace the 1250 A 11 kV board with a 2000 A 11 kV board.  
Uprate the circuit from Netherhills to Ryeford.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

Reinforcement works are being progressed. Flexibility will be utilised as required to manage the constraint in the interim.

## Constraint management timeline

**2026 H1 Procurement**

**2024 H2 Procurement**

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility price and volumes per year under Holistic Transition:

	2026	2027	2028	2029	2030
Availability	£25 / MWh 1,625 MWh	£11 / MWh 3,352 MWh	£10 / MWh 3,727 MWh	£6 / MWh 6,049 MWh	£4 / MWh 9,637 MWh
Utilisation	£1,501 / MWh 16 MWh	£644 / MWh 34 MWh	£579 / MWh 37 MWh	£357 / MWh 60 MWh	£224 / MWh 96 MWh



For more information, see the **Iron Acton GSP Network (West Midlands) NDP report:**  
[dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

# Princess Royal Primary

 DNOA Decision  
**Signposting**

## Constraint description

Princess Royal primary has two 33/11 kV transformers. Following an arranged or fault outage on one of the transformers the full site demand is picked up by the other transformer causing it to be overloaded.

## Reinforcement description

Replace the transformers at Princess Royal primary substation with 12/24 MVA units.



Constraint Season  
Winter and Summer



Outage Type  
N-1

## Justification for decision

No flexibility requirement under Holistic Transition until 2029.

## Constraint management timeline

2026 H1 **Signposting**

2024 H2 Signposting

**Time to Reinforce:** 2 years

**Constraint Type:** Demand

## Estimated flexibility volumes per year under Holistic Transition:

2026	2027	2028	2029	2030
0.0 MWh	0.0 MWh	0.0 MWh	0.8 MWh	20 MWh



For more information, see the **Port Ham (Walham) GSP Network NDP report:** [dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)

## Barlaston / Meaford BSP

### Scheme description

Both N-1 and N-2 constraints seen at Meaford BSP (N-1 for either GT and N-2 for both GTs). Reinforcement solution is to install a new feeder circuit and GT at Meaford BSP.

.....

### Justification for decision

Flexibility is not suitable here due to the N-2 loss of supply constraint.

.....

### Constraint Information

**Outage Type** N-1 / N-2  
**Constraint Type** Security of Supply



DNOA Decision  
**Reinforce**

## Bayston Hill to Malehurst

### Scheme description

Part of the Shrewsbury ring has thermal, voltage, step change, and generation driven constraints. Reinforcement solution includes upgrading and reconfiguring the existing network and installing a new Bayston Hill – Malehurst 33 kV circuit.

.....

### Justification for decision

Flexibility is not suitable here due to the complex constraints, severe voltage restrictions, and step change restrictions.

.....

### Constraint Information

**Outage Type** N-1  
**Constraint Type** Thermal and Voltage



DNOA Decision  
**Reinforce**

## Berrington Primary

### Scheme description

Transformer is expected to overload under intact and N-1 conditions. In addition to this, the transformer is protected via fuses and there are no analogues on site to facilitate flexibility services. Reinforcement solution is to uprate the transformer and the 11 kV interconnection.

.....

### Justification for decision

Flexibility is not suitable here due to the lack of monitoring equipment. The transformer is also being replaced on condition.

.....

### Constraint Information

**Outage Type** Intact  
**Constraint Type** Thermal



DNOA Decision  
**Reinforce**



## Cellarhead Network

### Scheme description

The constraints include thermal (demand and generation), fault level, and operability limitations. The reinforcement solution is to install an additional 132 kV circuit into the group and reconfigure the network.

---

### Justification for decision

Flexibility is not suitable here due to fault level, operability, and generation constraints.

---

### Constraint Information

**Outage Type** N-2  
**Constraint Type** Thermal



DNOA Decision  
**Reinforce**

## Chipping Sodbury

### Scheme description

Both N-1 and N-2 constraints at Chipping Sodbury BSP (N-1 for either GT and N-2 for both GTs). The reinforcement solution is to establish a new BSP.

---

### Justification for decision

Flexibility is not suitable here due to the complex constraints and being unable to resolve the N-2 loss of supply restriction.

---

### Constraint Information

**Outage Type** N-1 / N-2  
**Constraint Type** Security of Supply



DNOA Decision  
**Reinforce**

## Shrewsbury GSP

### Scheme description

Thermal constraint following an N-2 outage on two SGTs at Shrewsbury GSP. The reinforcement solution is to install a new SGT at Shrewsbury and reconfigure the 132 kV network.

---

### Justification for decision

Flexibility is not suitable here due to the N-2 loss of supply constraint.

---

### Constraint Information

**Outage Type** N-2  
**Constraint Type** Thermal



DNOA Decision  
**Reinforce**



## Stockton

### Scheme description

Stockton is a single transformer site with an N-1 constraint triggered for loss of its transformer. Reinforcement solution is to add a second transformer.

---

### Justification for decision

Flexibility is not suitable here due to the complexity of the constraint.

---

### Constraint Information

**Outage Type** N-1  
**Constraint Type** Security of supply



DNOA Decision  
**Reinforce**

## Lea Marston to Copt Heath

### Scheme description

An outage affecting supplies to the Lea Marston-Elmdon 132 kV circuit causes a thermal constraint on the Lea Marston-Copt Heath circuits. Reinforcement solution is to uprate these tower line circuits.

---

### Justification for decision

Flexibility is not suitable here due to the complexity of the constraint.

---

### Constraint Information

**Outage Type** N-1  
**Constraint Type** Thermal



DNOA Decision  
**Reinforce**

## Stowfield to St Weonards

### Scheme description

St Weonards is a single transformer site with an N-1 constraint triggered for loss of its transformer. Reinforcement solution is to add a second transformer.

---

### Justification for decision

Flexibility is not suitable here due to the complexity of the constraint.

---

### Constraint Information

**Outage Type** N-1  
**Constraint Type** Security of supply



DNOA Decision  
**Reinforce**



# Alderton Primary

## Scheme description

The transformers at Alderton overload for the outage of the other transformer. The reinforcement solution is to uprate the transformers.

.....

## Justification for decision

Flexibility is not suitable here as the transformers are being replaced due to their condition.

.....

## Constraint Information

**Outage Type** N-1  
**Constraint Type** Thermal



DNOA Decision

**Reinforce**



For more information visit: [dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan](https://dso.nationalgrid.co.uk/planning-our-future-network/network-development-plan)