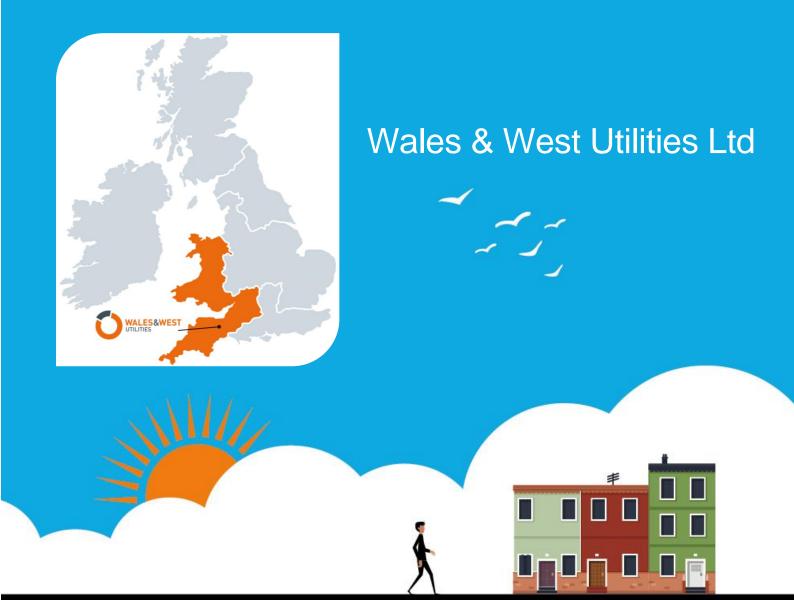
# 2022 Exit Capacity Planning Outcomes Report







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# Introduction

In December 2020 OFGEM published their RIIO-2 Final Determinations for the transmission and gas distribution price controls. These set out the key elements of the price control from 1 April 2021 to 31 March 2026. This included a new licence obligation for the gas transporter licence holders to comply with an enhanced obligations framework in relation to the exit capacity booking process.

Standard Special Licence Condition ("SSC") A57 (Exit Capacity Planning) of the gas transporter licences requires the licence holder ("licensee") to comply with the Exit Capacity Planning Guidance ("the Guidance") which is available here:

Exit Capacity Planning Guidance | Ofgem

The Guidance comprises a set of requirements relating to the following areas of capacity booking activity.

- Methodology: Gas Distribution Networks (GDNs) must provide information on the structure of their networks known as Network Topology, and both GDNs and National Grid Gas Transmission (NGGT) must provide information on their forecasts of demand and the details of the processes in place to calculate these forecasts.
- Engagement: The GDNs and NGGT must collaboratively work with each other and with other stakeholders to maximise booking efficiency across the gas transportation network as a whole.
- Reporting: licensees must report annually to the Authority on capacity booking methodology, stakeholder engagement, decision-making and data to demonstrate efficient booking outcomes.

The purpose of this document is to satisfy the requirement comprised within the Exit Capacity Planning Guidance (ECPG) document to publish a report, which details the outcomes of the application of the methodologies used.

If you have any queries, would like any further information or a version of the document in an unredacted state, then please contact our planning team to discuss: LTSAnalysisRequests\_NMU@www.utilities.co.uk



# **Analysis**

### **Demand Forecast Summary**

To meet our license obligations, the National Transmission System (NTS) Exit Capacity that we book needs to be sufficient to ensure we can meet demand on a peak 1-in-20 1:winter day. Every Gas Year (1st October to 30th September), we are required to book exit capacity and pressure for each of our 17 Offtakes.

As per the Exit Capacity Planning Guidance document (ECPG), which forms part of a new licence condition introduced under RIIO2 (Standard Special Condition A57: Exit Capacity Planning), Wales & West Utilities are obliged to closely align the capacity bookings to the 1-in-20 Peak Day demand forecast. This ensures we remain compliant with this licence obligation and that our customers' gas supply is not put at risk. We have used our own internal Growth forecast scenario as a basis for our peak day flat, flex and pressure bookings, which is consistent with last year's approach.

Every year we also receive a forecast from National Grid ESO (NG-ESO) based on four different future of energy scenarios, as well as a central forecast which is their view of a more accurate representation of what NTS expect demand to be over the next 5 years for the DNs. As stated in our methodology document, we consider the information provided by NG-ESO for annual projections but for peak demand have used our own internal demand forecast since 2010.

The three internal Wales & West Scenarios considered this year are as follows:

Growth
 Non-Domestic Growth
 No Growth Post 2025

The Wales & West Network Management Committee approved the Growth forecast for use in this year's process. This scenario included a conservative view on continued flexible generation and vehicle fuelling growth over the forecast period. It is important to note that the included growth levels have reduced compared to last year's process in line with latest market intelligence in these areas of industry. As a result, the overall trend on each network area is as follows:

#### Wales South

Peak forecasts for Gas Year (GY) 2022/23 are 2% greater than the highest recently observed demand of the 1st March 2018. The peak demand forecast has increased by 3% compared to last year's forecast for GY 2022/23 due to connected growth in the Local Distribution Zone (LDZ). We are anticipating a 0.9% increase in peak demand out to 2025/26 due to a continued but lower-level growth in flexible generation and vehicle fuelling sites predominantly.

#### Wales North

Peak forecasts for GY 2022/23 are 11% greater than the highest recently observed demand of 1st March 2018. The peak forecast for GY 2022/23 is slightly higher when compared to last year's forecast, 3.7% higher in this year's forecast due to higher than anticipated connected growth. We are expecting a 1.7% increase out to 2025/26, again due to some projected growth in flexible generation and vehicle fuelling connections. This growth has reduced by 6% for the same period in last year's process.



#### South West

Peak forecasts for GY 2022/23 are 8% greater than the highest recently observed demand of 1st March 2018. The peak forecast has increased slightly compared to last year's with a 2% increase for GY 2022/23. This is largely to do with flexible generation and vehicle fuelling sites expected to connect, growth in these areas also account for the further 1.5 % increase out to 2025/26 which has reduced from 2.7% forecasted last year.

It is important to note that we have not included any impact of the increase in energy or cost of living prices in this year's forecasting process.

See Tables 1, 2 & 3 for specific details of the booking outcomes when comparing this year to last year:

# Significant Changes to OCS Bookings

Table 1: This year versus last year - Flat Capacity

Offtake Name	2021/22 OCS Flat booking (GWh/d)	2022/23 OCS Flat booking (GWh/d)	Changes to Annual 22/23 (GWh/d)	Changes to Enduring from 2022/23 (GWh/d)	Reason for Change to last year
			Wales Sout	h	
			Wales Nort	L	
			wates Nort	n	
	•		South Wes	t	



Offtake Name	2021/22 OCS Flat booking (GWh/d)	2022/23 OCS Flat booking (GWh/d)	Changes to Annual 22/23 (GWh/d)	Changes to Enduring from 2022/23	Reason for Change to last year

Table 2: This year versus last year – Assured Operating Pressure (AOP)

Offtake Name	2021/22 AOP, Start of Day (bar)	2022/23 AOP, Start of Day (bar)	2021/22 AOP, End of Day (bar)	2022/23 AOP, End of Day (bar)
	We	ales South		
				-
	Wo	ales North		
	Sc	outh West		





Start of Day (SOD), End of Day (EOD)

Table 3: This year versus last year – Flex Capacity





# Summary

#### Flat Capacity

Table 1 shows the main differences between this and last year's bookings for peak flat, comparing GY 2021/22 with GY 2022/23.

We have increased our annual flat capacity overall in South Wales due to connected load growth. We have made some small increases to annual capacity at 7 Offtakes in the South West area in line with our model outputs; connected growth in the Non-Daily Metered load band, flexible generation and vehicle fuelling sites are the main drivers for the flat increases. There has also been a small increase in the annual flat capacity booking for North Wales for the same reasons. Where we have made changes in this year's process, the numbers are highlighted in orange for clarity. We attempted to reduce our annual flat bookings at 5 Offtakes in the South West area but were unable to make these changes due to existing User Commitment (UC) periods. It has been confirmed that only UC triggered in last years and this year's process will be reduced to 2 years following the changes to National Grid's Exit Capacity Release Methodology Statement in 2021. All other UC entered in previous years remains at 4 years.

We have been able to make a further small decrease in our enduring flat capacity at 1 offtake supplying South Wales due to a revalidation of the model. We haven't made any further changes to our enduring flat capacity other than the change mentioned here.

#### Pressures

We were unable to accept all requested pressure reductions due to the impact it has on our Local Transmission System (LTS) storage volumes, but we do consider and accommodate reductions where we can, albeit usually on a temporary basis. We considered the impact of accepting the additional pressure reductions requested at peak and the following table illustrates the additional network requirements/investment which would allow us to accept:

Table 4: Network impact if requested pressure reductions were accepted

Offtake Name	Additional Flex required* (mcm/d)	Full or Partial Offtake Rebuild Required?	Pipeline Reinforcement Solution Feasible?

<sup>\*</sup>This is in addition to our existing flex capacity requirements



#### Flex Capacity

Table 3 gives a summary of our flex bookings agreed for this year compared to last year's figures.

NGGT has agreed to most of our incremental flex increase requests this year, in total 6 requests were accepted. The small increases that we request each year reflect the growth in flexible generation sites which cause an increase in our network storage requirements. We are currently operating with a small storage deficit at peak 1 in 20 in some extremity parts of the network for our full potential load. 2 requests for additional flex capacity at NTS Offtakes were rejected, due to the extremity location from an NTS perspective. We therefore rely on a commercial solution, a daily capacity process carried out in the control room via Offtake Profile Notices (OPNs) and commercial arrangements with customers to mitigate the risk of not being able to meet 1 in 20 peak storage requirements.

# **ECPG Scenarios**

The range of demand scenarios covered in this year's booking cycle are detailed in our methodology statement and summarised in our demand summary on page 3 of this document.

We consider the balance between NTS Capacity products as follows:

- Flat capacity Flat capacity is required to meet our end of day demand projections and is not interchangeable with Flex or Assured Offtake Pressure (AOP).
- Assured Offtake Pressure (AOP) There is an interaction between AOP and Flex Capacity. We would prioritise AOP over Flex capacity where we are able to use this in our network to generate linepack storage. Linepack storage is significantly more usable than Flex capacity as it can be used as needed without notice. Whereas the use of Flex Capacity has an impact on, and is impacted by the OPN requirements specified in Uniform Network Code Offtake Arrangements Document (UNC-OAD) Section I. On occasions and particularly to support maintenance we may agree to use Flex Capacity in place of AOP on a short term basis outside of the ECPG process.
- Flex Capacity Flex capacity can be used in place of NTS Pressure in circumstances such as to support maintenance, where we are unable to use AOP to generate linepack and where NTS are unavailable to provide AOP but are able to provide Flex Capacity.

Table 5: The following table highlights the alternative offtake capacity booking patterns considered for the balance between offtakes by LDZ in the 2022 plan cycle

Scenarios Considered		
	South Wales	



# North Wales

#### **South West**

We booked annual flat increases for GY 2022/23 at 7 Offtakes as per our forecast requirement. We requested reductions in annual at the remaining 6 Offtakes for GY 2022/23 but were unsuccessful due to existing UC periods. Future UC at several of our Offtakes has also prevented any future changes we'd like to have made to bring our enduring bookings closer to our forecasts. We have included further information on UC periods just to highlight this issue:

Current UC period started in GY 2021/22 and ends GY 2024/25, triggered by increases made in the 2018 plan cycle at:

Aylesbeare, Coffinswell, Evesham, Fiddington, Ilchester, Choakford, Pucklechurch and Seabank.

Future UC periods are as follows:

Triggered in the 2019 planning cycle:

Littleton Drew, Seabank: 2023/24 - 2027/28

Triggered in the 2020 planning cycle:

Cirencester, Easton Grey, Kenn, Ross on Wye: 2024/25 - 2028/29



# Storage Outputs & Assumptions

The percentages used for LDZ storage requirement have been derived from our Storage Simulation Model. A summary of our storage position is detailed below by topology.

#### Table 6: Storage Outputs

#### South West LDZ

Offtake Name	Topology	Storage requirement (SSM) (mcmd)	Linepack and Bullets (mcmd)	Flex Requirement (mcm/d)	Flex booked (GWh/d)	Flex booked (mcm/d) CV @ 39	Commercial process (mcmd)

#### Wales South LDZ

Offtake Name	Topology	Storage requirement (SSM) (mcmd)	Linepack and Bullets (mcmd)	Flex Requirement (mcm/d)	Flex booked (GWh/d)	Flex booked (mcm/d) CV @ 39	Commercial process (mcmd)

#### Wales North LDZ

	Offtake Name	Topology	Storage requirement (SSM) (mcmd)	Linepack and Bullets (mcmd)	Flex Requirement	Flex booked (GWh/d)	Flex booked (mcm/d)	Commercial process
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The inputs to our Storage Simulation Model cover all load bands from domestic to large industrial users. However, we have found that the inclusion of our Very Large Daily Metered Customers (VLDMCs) in the calculation for LDZ storage affects the general spread of storage needed and artificially increases it across the whole LDZ.

We periodically revalidate the usable volumes of our High Pressure Storage Vessels (HPSVs) using the latest observed pressure data to ensure this information is kept up to date.

We employ a strategy to book capacity products (flat, flex and pressure) to ensure that our bookings are efficient and so that network line pack storage is optimised.

# Interaction with other Networks

Internal to Wales & West Utilities

There are no inter LDZ transfer points.



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# Final Outcomes

#### Year 1

Our bookings for GY 2022/23 can be found in Tables 1, 2 and 3 above along with any changes made to flat, pressure and flex capacity respectively. We have booked in line with the Wales & West Utilities Growth forecast which is 5% higher than the Central Forecast supplied by NG-ESO. Existing and future UC periods restrict the way in which we can book capacity to be close to our forecasted values.

# Conclusion

#### Forecast Versus Bookings

For year 1, our bookings are in line with our agreed Peak Day forecast. For Years 2 to 7, we have kept our enduring levels of flat capacity at current levels as we have not identified the need to increase as per our longer-term forecast.

We believe that we have met the requirements of the ECPG by booking an efficient amount of capacity at each Offtake. Discrepancies between the forecast and booking are due to UC as detailed in Table 1.

The table below shows the Peak Day Forecast and our corresponding capacity booking:

Table 7: Peak Day Forecast versus Flat Capacity Booking

		<u>'</u>	<u>'</u>	0			
GWh/d	Yr 1 2022/23	Yr 2 2023/24	Yr 3 2024/25	Yr 4 2025/26	Yr 5 2026/27	Yr 6 2027/28	Yr 7 2028/29



# Off Peak Demand Data

The following tables contain 'down the curve' or what is referred to as UNC section H information on Peak Flowrate, Flat and Flex Capacity by LDZ/Offtake and Topology (listed separately in Table 26). It gives our networks requirements for those demand conditions at and away from peak 1 in 20 demand level.

Peak 1 in 20 winter demand is referred to in the UNC as Day 0, Day 300 is a representative of a typical summer day demand, Day 13, Day 46, and Day 150 represent different demand profiles throughout the year in order of demand from high to low respectively: Day 0, Day 13, Day 46, Day 150, and Day 300. For further information, please refer to Section H of the UNC-TPD.

Microsoft Word - OAD Section H - NTS Long Term Demand Forecasting.doc (gasgovernance.co.uk)



#### Table 8: Forecast Information per Demand Level: Peak day to Day 300 for 2022/23 (UNC Section H)

Wales South LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Gilwern															
Dowlais															
Dyffryn															

# Table 9: Forecast Information per Demand Level: Peak day to Day 300 for 2022/23 (UNC Section H)

Wales North LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Maelor															



#### Table 10: Forecast Information per Demand Level: Peak Day to Day 300 for 2022/23 (UNC Section H)

					<u>'</u>			<u> </u>	00 101 202			-7			
South West LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Aylesbeare															
Cirencester															
Coffinswell															
Easton Grey															
Evesham															
Fiddington															
Ilchester															
Kenn															
Littleton Drew															
Choakford															
Pucklechurch															
Ross On Wye															
Seabank															



# Table 11: Forecast Information per Demand Level: Peak Day to Day 300 for 2023/24 (UNC Section H)

Wales South LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Gilwern															
Dowlais															
Dyffryn															

# Table 12: Forecast Information per Demand Level: Peak Day to Day 300 for 2023/24 (UNC Section H)

Wales North LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flow (mcm/d) (mcm/d)			Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Maelor															



# Table 13: Forecast Information per Demand Level: Peak Day to Day 300 for 2023/24 (UNC Section H)

South West LDZ	ı	Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Aylesbeare															
Cirencester															
Coffinswell															
Easton Grey															
Evesham															
Fiddington															
Ilchester															
Kenn															
Littleton Drew															
Choakford															
Pucklechurch															
Ross On Wye															
Seabank															



# Table 14: Forecast Information per Demand Level: Peak Day to Day 300 for 2024/25 (UNC Section H)

Wales South LDZ	P	eak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Gilwern															
Dowlais															
Dyffryn															

# Table 15: Forecast Information per Demand Level: Peak Day to Day 300 for 2024/25 (UNC Section H)

Wales North LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Maelor															



# Table 16: Forecast Information per Demand Level: Peak Day to Day 300 for 2024/25 (UNC Section H)

South West LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Aylesbeare															
Cirencester															
Coffinswell															
Easton Grey															
Evesham															
Fiddington															
Ilchester															
Kenn															
Littleton															
Drew															
Choakford															
Pucklechurch															
Ross On Wye															
Seabank															



# Table 17: Forecast Information per Demand Level: Peak Day to Day 300 for 2025/26 (UNC Section H)

Wales South LDZ		Peak 1 in 20 Peak Flat Flex			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Gilwern															
Dowlais															
Dyffryn															

#### Table 18: Forecast Information per Demand Level: Peak Day to Day 300 for 2025/26 (UNC Section H)

Wales North LDZ		Peak 1 in 20			D13			D46			D150			D300	
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Maelor															



# Table 19: Forecast Information per Demand Level: Peak Day to Day 300 for 2025/26 (UNC Section H)

Peak Flow mcm/h)	Flat (mcm/d)	Flex	Peak											
		(mcm/d)	Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)



# Table 20: Forecast Information per Demand Level: Peak Day to Day 300 for 2026/27 (UNC Section H)

Wales South LDZ	Peak 1 in 20			DI3			D46				D150		D300		
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Gilwern															
Dowlais  Dyffryn															

# Table 21: Forecast Information per Demand Level: Peak Day to Day 300 for 2026/27 (UNC Section H)

Wales North LDZ	Peak 1 in 20			D13			D46				D150		D300		
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Maelor															



# Table 22: Forecast Information per Demand Level: Peak Day to Day 300 for 2026/27 (UNC Section H)

South West LDZ		Peak 1 in 20		D13			D46				D150		D300			
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)													
Aylesbeare								<del> </del>	<del> </del>							
Cirencester																
Coffinswell																
Easton Grey																
Evesham																
Fiddington																
Ilchester																
Kenn																
Littleton Drew																
Choakford																
Pucklechurch																
Ross On Wye																
Seabank																



# Table 23: Forecast Information per Demand Level: Peak Day to Day 300 for 2027/28 (UNC Section H)

Wales South LDZ	Peak 1 in 20			DI3			D46				D150		D300		
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Gilwern															
Dowlais															
Dyffryn															

# Table 24: Forecast Information per Demand Level: Peak Day to Day 300 for 2027/28 (UNC Section H)

Wales North LDZ	Peak 1 in 20			D13			D46				D150		D300		
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)
Maelor															



# Table 25: Forecast Information per Demand Level: Peak Day to Day 300 for 2027/28 (UNC Section H)

South West LDZ		Peak 1 in 20		D13			D46				D150		D300		
Offtake Name	Peak Flow (mcm/h)	Flat (mcm/d)	Flex (mcm/d)												
Aylesbeare															
Cirencester															
Coffinswell															
Easton Grey															
Evesham															
Fiddington															
Ilchester															
Kenn															
Littleton Drew															
Choakford															
Pucklechurch															
Ross On Wye															
Seabank															



# Table 26: Topology Info Per Offtake

