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1. Introduction

Each year National Grid undertakes a variety of maintenance and investment activities on the gas National Transmission System (NTS). This work can take many different forms, including keeping our assets in good working order, replacing ageing assets with new equipment, inspecting assets and facilitating new connections and capacity requirements.

This maintenance programme is intended to provide an indication to the gas industry of the impact of these works on the NTS, and any associated impact on entry or exit capacity from April 2021 to March 2024. This programme supersedes all previous plans.

This document provides an overview of all work scheduled at NTS compressor stations and NTS pipelines. Where this work affects the capability at an Aggregate System Entry Point (ASEP), an indication of the revised ASEP's minimum daily capability is included for each month.

Although every effort is made to align work to any customer or associated asset outages which we have been made aware of, this is not always possible and where NTS Exit Points are affected, we will endeavour to issue Maintenance Day notices to our customers by 1st February and any revisions at least 42 days in advance of the scheduled Maintenance work.

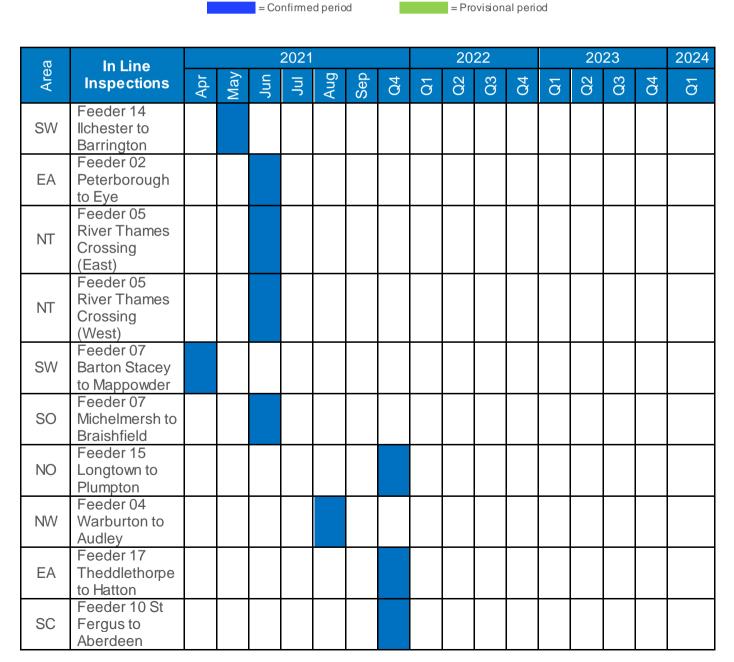
This document only includes maintenance activities on the NTS which are to be undertaken by National Grid NTS. It does not include maintenance carried out upstream of the NTS by Delivery Facility Operators (DFOs) and Producers or downstream of the NTS by the Distribution Networks and other NTS connected parties.

2. NTS Maintenance Work Monthly Summary

The following tables provide a summary of the NTS in line inspection work, other NTS pipeline work and NTS compressor outages. The month where the work is scheduled to take place has been high lighted in the tables. If it is the case that any work listed below has an effect on the flow of gas, affected sites and associated shippers will be contacted individually. The tables indicate which month the work takes place in, not that the work will take the whole of the month.

2.1 Planned In-Line Inspections

National Grid is required to carry out in-line inspections of our pipelines periodically in order to monitor and maintain their integrity, ensuring that they comply with the Pressure Systems Safety Regulations (PSSR). The in-line inspection process requires a number of Pipeline Inspection Gauges (PIGs) to travel through the pipeline in order to complete a full inspection. The number of "runs", and the associated time taken for the work, can vary from pipeline to pipeline.



	1		 						
	Feeder 13								
	Cowpen								
NE	Bewley to								
	Yafforth								
	Feeder 07								
NE	Susworth to								
	Cawood								
	Feeder 13								
	Corbridge to								
NW	Bishop								
	Auckland								
	Feeder 05								
NT	Gravesend								
INI	Thames to								
	Tatsfield								
	Feeder 04								
N II A /									
NW	Warburton o								
	Partington								
	Feeder 02	T							
- A	Bacton to								
EA	Wisbech Nene								
	West								
			-						
	Feeder 28								
WS	Herbrandston								
	to Felindre								
	Feeder 28								
WS	Felibdre to								
****	Cilfrew								
	Feeder 28								
WS	Felindre to								
	Three Cocks								
	Feeder 29								
NE	Pannal to								
	Asselby								
_ ^	Feeder 22								
EA	Peterborough								
	to Hatton								
Ε.Δ	Feeder 09								
EA	Paul to Hatton								
	Feeder 03		-						
	Bacton to								
EA									
	Roudham								
	Heath								
	Feeder 12		Ī						
A B 4 4	Longtown to								
NW	Bishop								
	Auckland								
	Loodor 44	+							
A B * *	Feeder 11								
NW	Samlesbury to								
	Blackrod								
	Feeder 10								
SC	Bathgate to								
	Kirriemuir								
	Loods: 07								
	Feeder 07								
NE	Pannal to								
	Cawood								
	•		 		 			 	

			-	_	T		1			ī	T T		
	Feeder 06												
NE	Burton Agnes												
	to Pickering												
	Feeder 10												
NO													
NO	Thrunton to												
	Saltwick												
	Feeder 04												
NW	Shocklach to												
1 44 4	Weston Point												
	Feeder 16												
NW	Pennington to												
	Sellafield												
	Feeder 13			1	1								
NO	Corbridge to												
	Bishop												
	Auckland												
	Feeder 09												
SO	Steppingley to												
00													
	East IIsley												
	Feeder 21												
NW	Audley to												
	Alrewas												
	Feeder 10			1									
SC	Aberdeen to												
30													
	Kirriemuir												
	Feeder 10												
SC	Bathgate to												
	Penicuik												
-	Feeder 06			+	 	1							
NO	Teesside to												
	Cowpen												
	Bewley												
	Feeder 12												
SC	Aberdeen to												
00													
	Kirriemuir												
	Feeder 10												
SC	Bathgate to												
	Glenmavis												
	Feeder 22												
EA	Goxhill to												
EA													
	Hatton												
	Feeder 29												
NE	Pannal to												
	Nether Kellet												
	Feeder 03	1 1											
NT													
INI	Whitwell to												
	Peters Green	ļļ		4									
	Feeder 03 Gt												
EA	Wilbraham to												
	Whitwell												
	Feeder 05	1		+				 					
NT	Braintree to												
	Horndon												
	Feeder 10												
SC	Coldstream to												
	Thrunton												
	IIII UIIIUII	i l			1								

NW	Feeder 25 Bridge Farm to Mickle Trafford								
NO	Feeder 10 Thrunton to Saltwick								
SE	Feeder 18 Shorne to Farningham								
WS	Feeder 02 Treaddow to Dowlais								

2.2 Pipeline Work

= Pressure Restriction

Pipeline work listed in this table below can include diversions of existing pipelines, facilitation of connections to the NTS, and replacement or maintenance of pipeline and associated assets (pipes, valves, pig traps etc.) which require some form of pressure restriction or isolation. Some work can be performed by restricting the pressure of gas in the pipeline; however some work requires a full shut down (often termed "isolation" or "outage") of a section of the pipeline which would then be reinstated back to operational pressures once the work is completed. The 2023 and 2024 pipeline works are yet to be fully planned.

= Pipeline Shutdown

	= 1 Tessure Resulterior	=1 Tperme officialism															
ŭ					2021					20	22			20	23		2024
Area	Pipeline	Apr	Мау	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
EM	Feeder 24 Hatton to Silk Willoughby																
SC	Feeder 11 Moffat to Longtown																
WM	Feeder 14 Leamington to Stratford																
SC	St Fergus to Pettymuick																
SW	Feeder 14 Sapperton to Easton Grey																
SC	Feeder 11 Moffat to Elvanfoot																
EA	Feeder 18 St Neots to Little Barford																
EM	Feeder 09 Brocklesby to Stallingborough																
SC	Feeder 12 Abernyte to Rhynd																

= Provisional period

SC	Feeder 11 Bathgate to Elvanfoot								
WM	Feeder 14 Rugby to Churchover								
SC	Feeder 12 Moffat to Longtown								
WM	Feeder 02 Wormington to Frankton								
NE	Feeder 07 Towton to Cawood								
SC	Feeder 12 Drum to Blackness								
SC	Feeder 12 Bathgate to Elvanfoot								
NW	Feeder 21 Audley to Alrewas								
NW	Feeder 04 Audley to Shocklach								
NW	Feeder 04 Audley to Alrewas								
SE	Lower Thames Crossing								

Please note: where a pipeline is required to be shut down the specific isolation points may differ from those displayed above. Any parties impacted by the works are contacted directly.

2.3 NTS Compressor Stations

Compressors are used to help move gas around the NTS to where it is needed, maintaining pressures required at exit points whilst avoiding over-pressurising pipelines. In order to maintain our capability at Compressor Stations, routine maintenance is performed as well as a variety of other projects to maintain and improve the fleet.



Compressor Station	2021								2022				2023			
Outages	Apr	Мау	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Aberdeen	'				1	0)										
Alrewas																
Avonbridge 1																
Avonbridge 2																
Aylesbury																
Bishop Auckland																
Carnforth																
Cambridge																
Chelmsford																
Churchover																
Diss																
Felindre																
Hatton																
Huntingdon																
Kings Lynn																
Kirriemuir																
Lockerley																
Moffat																
Nether Kellet																
Peterborough																
Warrington																
Wisbech																
Wooler																
Wormington																

3. ASEP Capability

The table below shows an indicative flow capability for each Aggregate System Entry Point (ASEP), taking into account the effect of the draft maintenance programme. The volumes are displayed month by month and are based on appropriate seasonal normal conditions.

In generating the ASEP capabilities, no account has been taken of any supply side (Delivery Facility) maintenance outages.

The values represent the ASEP's daily capability for each month, based on Seasonal Normal Demand conditions and for the period in the month where scheduled maintenance has most impact on capability. The analysis performed to produce the figures uses the assumption that a supply at a particular ASEP is favoured over other ASEPs. For example, in producing capability figures for St Fergus, it would be assumed that St Fergus ASEP would be flowing at its maximum for the season and the rest of the NTS supply was spread over other ASEPs.

Where "no impact" has been stated, this indicates that the maintenance scheduled is expected to have no adverse effect on the ASEP capability.

The capability volumes shown for the individual ASEPs are indicative only, but do represent a consistent operational view.

On any given day, the amount of capability that may be available at any ASEP will depend upon the level and distribution of the demand and the level of supplies at other terminals. In cases where scheduled maintenance has an adverse effect on an ASEP's capability, National Grid may be able to make additional capability available at other ASEPs.

	Apr	May	Jun	Jul	Aug	Sep	Oct
St Fergus	105	105	105	80	80	83	No
	(1155)	(1155)	(1155)	(880)	(880)	(913)	impact
Teesside	No						
	Impact						
Barrow	No						
	Impact						
Easington	No						
	Impact						
Theddlethorpe	No						
	Impact						
Bacton (including IUK)	No						
	impact						
Isle of Grain	57	51	51	53	52	56	No
	(684)	(561)	(561)	(583)	(572)	(616)	impact
Milford Haven	No	63	No	55	48	57	No
	Impact	(693)	Impact	(605)	(528)	(684)	impact

Values in millions of cubic metres & (GWh)

(Conversion from millions of cubic metres to GWh using Calorific Value of 39.6 MJ/m³)

4. Maintenance Affected Exit Points

We aim to minimise the impact of our maintenance on customers through transparency, aligning our work with their outages as appropriate and facilitating customer needs for flexibility.

Outages

Each year we ask when our customers' outages are to enable alignment of works. If your outages move, please get in touch as early as possible so that we can consider whether we can also realign our works to reduce any impact of these works. Please contact us to advise of any change to outage periods via email at NTSaccessplanning@nationalgrid.com.

Where possible, work is co-ordinated with the end user to avoid supply disruption, however in certain circumstances it may be necessary to schedule work at a time which may require disrupting the supply to an Exit Point whilst the NTS maintenance is undertaken.

Shippers, End-Users and Distribution Networks will be advised, in accordance with the Uniform Network Code (UNC) requirements and timescales, of any required disruptions to supply at an Exit Point by the issuing of a Maintenance Day(s) to the relevant party.

Maintenance Day notifications will be issued by February 1st each year to all relevant parties where our maintenance will impact gas flows for the period April to October. Where work is aligned to customer outages, or there is no anticipated impact, we will issue an Advice notice for your convenience to confirm these arrangements. Should any changes or additions to the requested Maintenance Days be required, all relevant parties will be notified in line with the timescales detailed in the UNC.

Minor Works Agreement

We recognise that sometimes standard maintenance approaches may not be optimal for our customers. Where this is the case the Minor Works Agreement can enable parties to agree different maintenance approaches through a bilateral contract with directly connected customers. Customers can pay the incremental costs of working flexibly outside normal working practices where we are able to accommodate these requests. For any questions relating to Minor Works Agreements, please contact the Business and Operations Planning Team on 01926 655625 or email via box.SCM.GTO@nationalgrid.com.

General Queries

Further information on the maintenance activities undertaken by us is available on our website¹.

If you have any queries or questions regarding the information contained within this document, please contact:

NTS Access Planning Team

National Grid

Gas System Operation

National Grid House

Gallows Hill

Warwick

CV34 6DA

NTSaccessplanning@nationalgrid.com

Tel: 01926 655958

We would welcome any feedback from you in relation to the maintenance programme or the way in which this information is provided. If you would like to provide feedback please contact us via email at: NTSaccessplanning@nationalgrid.com

National Grid | 31st January 2021 |

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¹ https://www.nationalgridgas.com/data-and-operations/maintenance

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