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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 2020 to March 2023. 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.

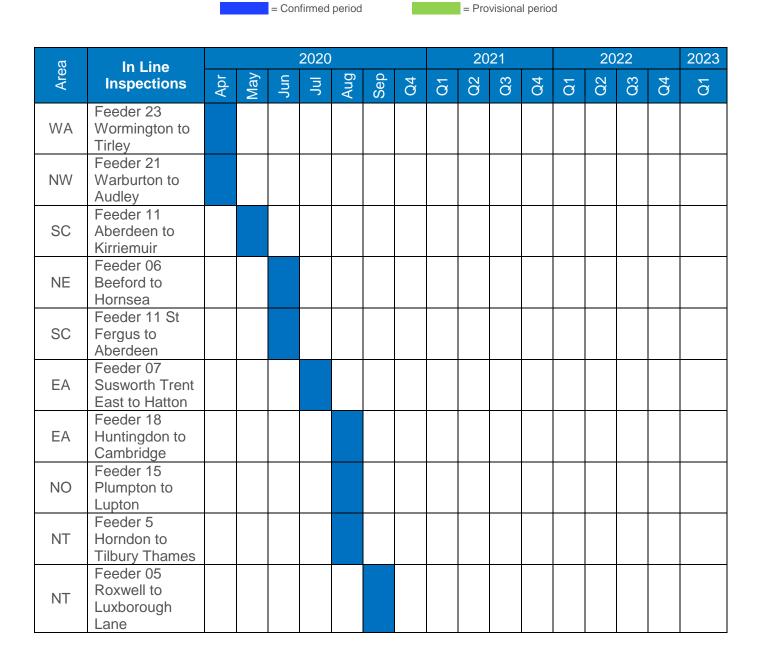
This document only includes maintenance activities on the NTS which are to be undertaken by National Grid NTS. It does not include maintenance carried out upstream of the NTS by Delivery Facility Operators (DFOs) and Producers or downstream of the NTS by the Distribution Networks and other NTS connected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



SC	Feeder 13 St Fergus to Aberdeen								
WA	Feeder 02 Dowlais to Dyffryn Clydach								
SC	Feeder 24 St Fergus to Lochside								
SC	Feeder 10 Boon to Coldstream								
NE	Feeder 09 Easington to Paull								
NW	Feeder 16 Pennington to Sellafield								
EA	Feeder 18 Matching Green to Rye House								
SW	Feeder 14 Barrington to Kenn South								
SW	Feeder 14 Sapperton to Cirencester								
NO	Feeder 06 Pickering to Elton								
SW	Feeder 14 Ilchester to Barrington								
EA	Feeder 02 Peterborough to Eye								
NT	Feeder 05 River Thames Crossing (East)								
NT	Feeder 05 River Thames Crossing (West)								
SW	Feeder 07 Barton Stacey to Mappowder								
SO	Feeder 07 Michelmersh to Braishfield								
NO	Feeder 15 Longtown to Plumpton								
NW	Feeder 04 Warburton to Audley								

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	Feeder 17										
EA	Theddlethorpe										
	to Hatton										
	Feeder 10 St										
SC	Fergus to										
00											
	Aberdeen		1								
	Feeder 13										
NE	Cowpen										
INL	Bewley to										
	Yafforth										
	Feeder 07										
NE	Susworth to										
INL											
	Cawood										
	Feeder 13										
NW	Corbridge to										
INVV	Bishop										
	Auckland										
	Feeder 05										
	Gravesend										
NT											
	Thames to										
	Tatsfield										
	Feeder 09										
SO	Steppingley to										
	East IIsley										
	Feeder 04										
NW	Warburton o										
INVV											
	Partington										
	Feeder 21										
WM	Audley to										
	Alrewas										
	Feeder 02										
	Bacton to										
EA	Wisbech Nene										
	West										
00	Feeder 10										
SC	Aberdeen to										
	Kirriemuir										
	Feeder 10										
SC	Bathgate to										
	Penicuik										
	Feeder 10										
SC	Kirriemuir to										
30											
	Bathgate										
	Feeder 06										
NO	Teesside to										
	Copen Bewley										
	Feeder 12										
SC	Aberdeen to										
	Kirriemuir										
			1								
	Feeder 11										
NW	Longtown to										
	Grayrigg					 					
	Feeder 10										
SC	Bathgate to										
	Glenmavis										
<u> </u>	Cicinnavio	 i		1	<u> </u>		<u> </u>	<u> </u>	<u> </u>		

2.2 Pipeline Work

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 2021 and 2022 pipeline works are yet to be fully planned.

	= Pressure Restrict	ion				= F	Pipelin	e Shuto	down			= Provisional period							
æ					2020					20	21			20	22		2023		
Area	Pipeline	Apr	Мау	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	۵ ک		
EM	Feeder 22 Silk Willoughby to Braceborough																		
SW	Feeder 28 Tirley																		
EA	Kings Lynn AGI																		
WS	Feeder 02 Garway to Dowlais																		
SC	Feeder 11 Moffat to Waterbeck																		
EA	Feeder 03 Bacton																		
SC	Feeder 10 Bathgate to Glenmavis																		
NE	Feeder 09 Paull to Hatton																		
NW	Feeder 11 Dolphinholme to Samlesbury																		
WM	Feeder 02 Newbold Pacey to Frankton																		
SC	Feeder 10 Boon to Coldstream																		
SO	Feeder 07 Didcot																		
WM	Feeder 23 Newbold Pacey to Churchover																		
NO	Feeder 13 Guyzance to Pigdon																		

WM	Feeder 04 Alrewas to Drointon								
EM	Feeder 24 Hatton to Silk Willoughby								
NE	Feeder 09 Paull to Hatton								
EM	Feeder 07 Kirkstead to East Heckington								
SC	Feeder 11 Crieff to Stirling								
WM	Feeder 05 Lower Thames Crossing								
EA	Feeder 18 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				2020					20	21			2023			
Outages	Apr	Мау	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Aberdeen																
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	102	93	78	82	92	No
	(1155)	(1122)	(1023)	(858)	(902)	(1012)	impact
Teesside	No						
	Impact						
Barrow	No						
	Impact						
Easington	No	No	No	110	No	No	No
	Impact	Impact	Impact	(1210)	Impact	Impact	impact
Theddlethorpe	No						
	Impact						
Bacton (including IUK)	90	65	70	65	80	80	No
	(990)	(715)	(770)	(715)	(880)	(880)	impact
Isle of Grain	44	41	39	39	39	39	No
	(484)	(451)	(429)	(429)	(429)	(429)	impact
Milford Haven	No	45	45	60	60	No	No
	Impact	(495)	(495)	(660)	(660)	impact	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

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

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