

Gas National Transmission System April Maintenance Programme

April 2017 - March 2020

Final Version 1.0

Contents

	Page
1. Introduction	3
2. NTS Maintenance work Monthly Summary	4
3. ASEP Capability	9
4. Maintenance affected exit points	10
5. Appendix	12

1. Introduction

Each year National Grid Gas Transmission 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 2017 to March 2020. This programme supersedes all previous plans.

This document provides an overview of work scheduled at NTS compressor stations and NTS pipelines. Where this work affects the capability at an Aggregate System Entry Points (ASEPs), 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 notice to our customers by 1st February or 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 (DFO's) 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.

2.1 Planned In Line Inspections

National Grid Gas Transmission 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.

Area	In Line Inspections	2017							2018				2019				2020	
		Apr	May	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
NE	Feeder 6 Paull to Saltend BP																	
SC	Feeder 11 Longtown to Grayrigg																	
NE	Feeder 6 Paull to Burton Agnes																	
SC	Feeder 11 Kirriemuir to Bathgate																	
SE	Feeder 24 Hatton to Silk Willoughby																	
SC	Feeder 12 Aberdeen to Kirriemuir																	
EA	Feeder 27 Cambridge to Matching Green																	
NE	Feeder 7 Bishop Auckland to Pannal																	
SC	Feeder 10 Boon to Penicuik																	
SC	Feeder 10 Bathgate to Glenmavis																	
SW	Feeder 20 Kenn South to Choakford																	
WS	Feeder 2 Treadow to Dowlais																	
SW	Feeder 7 Michelmerch to Braishfield																	
SW	Feeder 14 Wormington to Pucklechurch																	
EM	Feeder 7 Gosberton to Hatton																	
NW	Feeder 16 Barrow to Lupton																	
SW	Feeder 14 Barrington to Kenn (South)																	
EM	Feeder 9 Brocklesy to Stallingborough																	
NE	Feeder 1 Easington to Paull																	
NO	Feeder 6 Little Burdon to Billingham																	

EM	Feeder 7 Hatton to Gosberton																		
SC	Feeder 11 Bathgate to Longtown																		
SC	Feeder 12 Bathgate to Longtown																		
NO	Feeder 15 Longtown to Plumpton Head																		
NE	Feeder 19 Easington to Paull																		
NT	Feeder 26 Huntington to Steppingly																		
NW	Feeder 15 Lupton to Bretherton																		
EA	Feeder 27 Bacton to Kings Lynn																		

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 2018 pipeline works are yet to be planned.

= Pressure Restriction

= Pipeline Shutdown

= Provisional period

Area	Pipeline	2017								2018				2019				2020
		Apr	May	Jun	Jul	Aug	Sep	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
SE	Feeder 5 Shorne to Isle of Grain																	
SC	Feeder 10 Aberdeen to Kirriemuir																	
SO	Feeder 7 Aylesbury to Chalgrove																	
NO	Feeder 12 Longtown to Towlaw																	
SO	Feeder 7 Hardwick to Steppingley																	
SC	Feeder 10 Penicuik to Boon																	
SC	Feeder 10 Kirriemuir to Bathgate																	
WM	Feeder 14 Rugby to Leamington																	
NW	Feeder 11 Salmesbury to Blackrod																	
WM	Feeder 14 Leamington to Stratford																	
SW	Feeder 7 Chalgrove to Ilchester																	
SW	Feeder 7 Ilchester to Kenn																	
NE	Feeder 6 Elton to Pickering																	
EA	Feeder 7 Sutton bridge to Tydd St Giles																	
EA	Feeder 7 Holbeach to Sutton Bridge																	
SW	Feeder 14 Pucklechurch to Ilchester																	
SW	Feeder 14 Broadway to Cotleigh																	
WM	Feeder 14 Austrey to Alrewas																	
SC	Feeder 12 Balgray to Drum																	
SE	Feeder 3 Great Wilbraham to Royston																	
WM	Feeder 14 Austrey to Churchover																	
SW	Feeder 7 Chalgrove																	
SE	Feeder 3 Clothall to Whitwell																	
SE	Feeder 3 Roudham Heath to Great Wilbraham																	
NE	Feeder 7 Towton to Cawood																	
SW	Feeder 7 Aylesbury to Hardwick																	

SW	Feeder 9 Aylesbury to Slapton																		
NE	Feeder 9 Paul to Goxhill																		
SW	Feeder 23 Newbold Pacey to Churchover																		
WM	Feeder 14 Leamington to Eathorpe																		
SW	Feeder 2 Newbold Pacey to Frankton																		

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.

= Confirmed period

= Provisional period

Compressor Station Outages	2017							2018				2019				2020
	Apr	May	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 (DFO) maintenance outages.

The value represents 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	112 (1232)	94 (1034)	112 (1232)	95 (1045)	95 (1045)	106 (1166)	No Impact
Teesside	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Barrow	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Easington	No Impact	No Impact	117 (1287)	No Impact	No Impact	No Impact	No Impact
Theddlethorpe	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
Bacton	107 (1177)	112 (1232)	No Impact	No Impact	No Impact	115 (1265)	No Impact
Isle of Grain	44 (484)	44 (484)	43 (473)	49 (539)	42 (462)	41 (451)	No Impact
Milford Haven	63 (693)	No Impact	53 (583)	53 (583)	45 (495)	57 (627)	No 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 by working with our customers and 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 or via phone (01926 655958)

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 have been issued directly to all relevant parties for the work detailed in this maintenance programme for the period April to October 2017. Where work has been aligned to outages, or there is no anticipated impact for other operational reasons, we have issued Advice Notices 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, email: box.GTAM.contracts@nationalgrid.com

General Queries

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

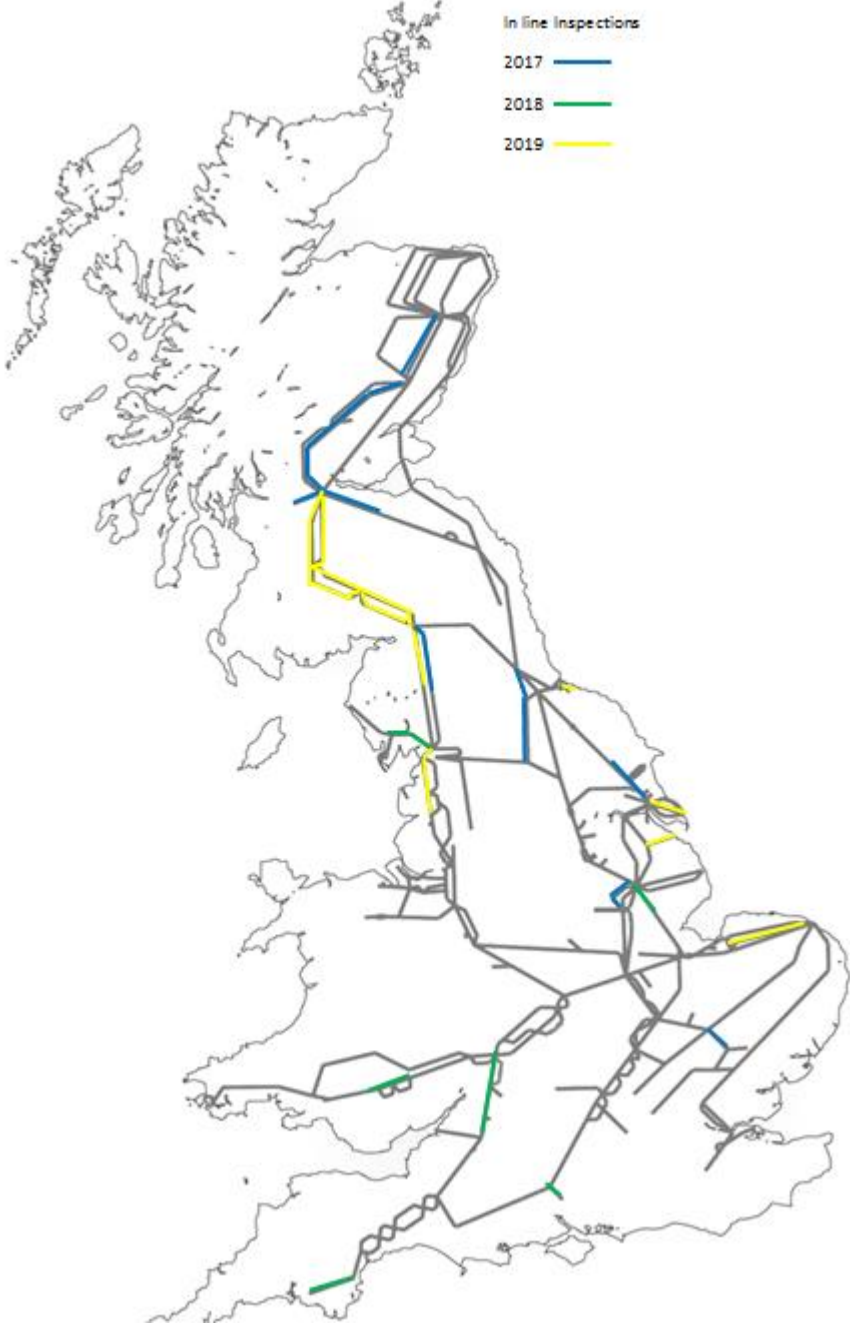
If you have any queries or questions regarding the information contained within this document, please contact:

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¹ <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/maintenance/>

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: NTSuccessplanning@nationalgrid.com

Appendix 1: ILI Maps



Appendix 2: Pipeline Outages Map

