Maintenance Programme 2013/14 Review

National Grid Gas Transmission

Version 1: 30 May 2014

Introduction

This report is a summary of work that took place in the previous year and details the changes that were made to the maintenance plan. It is published in line with our obligations in Special Condition 8G (Maintenance and Operational Planning) in our gas transporters licence in respect of the NTS.

To ensure a high level of safety and reliability in operation, it is essential that a system of inspection and maintenance exists for assets associated with the transmission of natural gas. Effective maintenance is essential to minimise the safety and environmental risks caused by failure of pipelines and plant.

In order to facilitate work on the gas National Transmission System (NTS), it is sometimes necessary to take an outage of a part of the network or reduce the flexibility available (e.g. where steady gas flows may be required). This may affect one or more parties connected to the network including:

- Gas fired power stations and large industrial consumers connected to the NTS;
- Gas Storage Facilities;
- Gas Entry facilities; and
- Distribution Networks.

This document covers work scheduled including maintenance activities on the NTS, between 1st April 2013 to 30th September 2013. 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.

We work closely with our customers to ensure minimum impact to supply and endeavour to meet our firm exit obligations. There is a process set out in the Uniform Network Code (UNC) that enables us to inform industry parties of intended Maintenance Days where work has an impact on a specific site connected to the NTS. These Maintenance Days are notified in advance of the work to provide industry parties with an opportunity to discuss the timing and impact and for us to respond to any industry requests for further information.

Wherever possible National Grid tries to align maintenance around our customers' outages. In this situation the customer would be issued with an advice notice, notifying them of our planned work. This is the preferred method of working as no disruption to our customer's activities is caused.

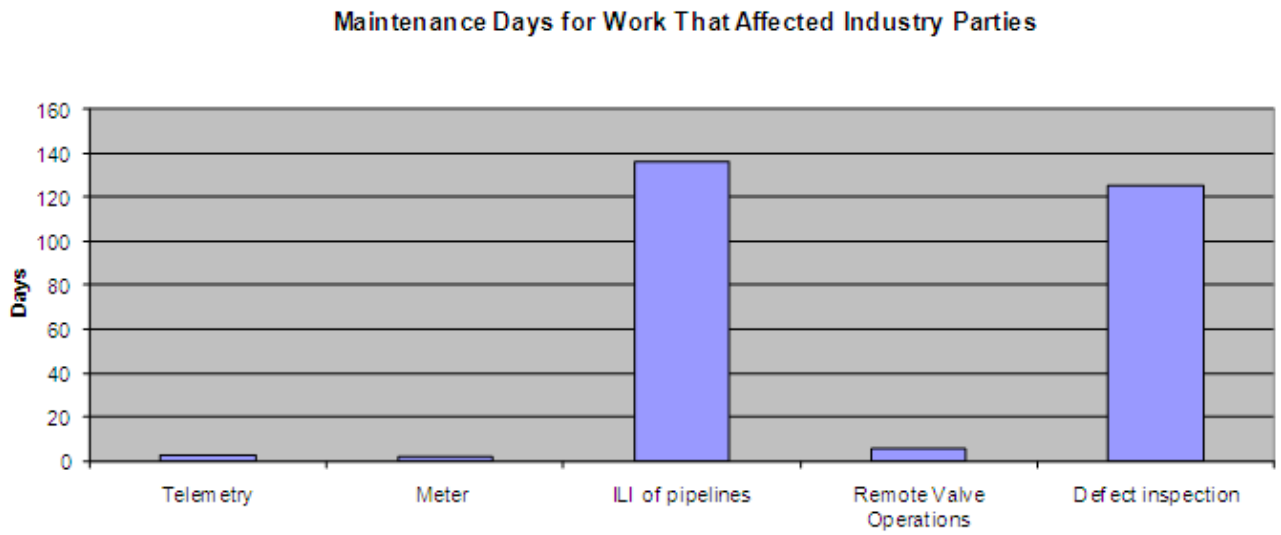
If you have any queries, questions or feedback regarding the information contained within this document, please contact us via e-mail on NTSAccessPlanning@Nationalgrid.com

Maintenance Work in 2013/14

Primarily the work that affects our customers is as a result of routine maintenance, asset replacement, pipeline and feature inspections, emergencies and faults as well as work to facilitate investment in the network which may be as a result of a new connection or capacity requirement.

A large proportion of the work carried out last year was In Line Inspections (ILI) and feature inspections. This work is vital in monitoring the health of our assets.

In 2013/14, we carried out the following work that affected industry parties using Maintenance Days:



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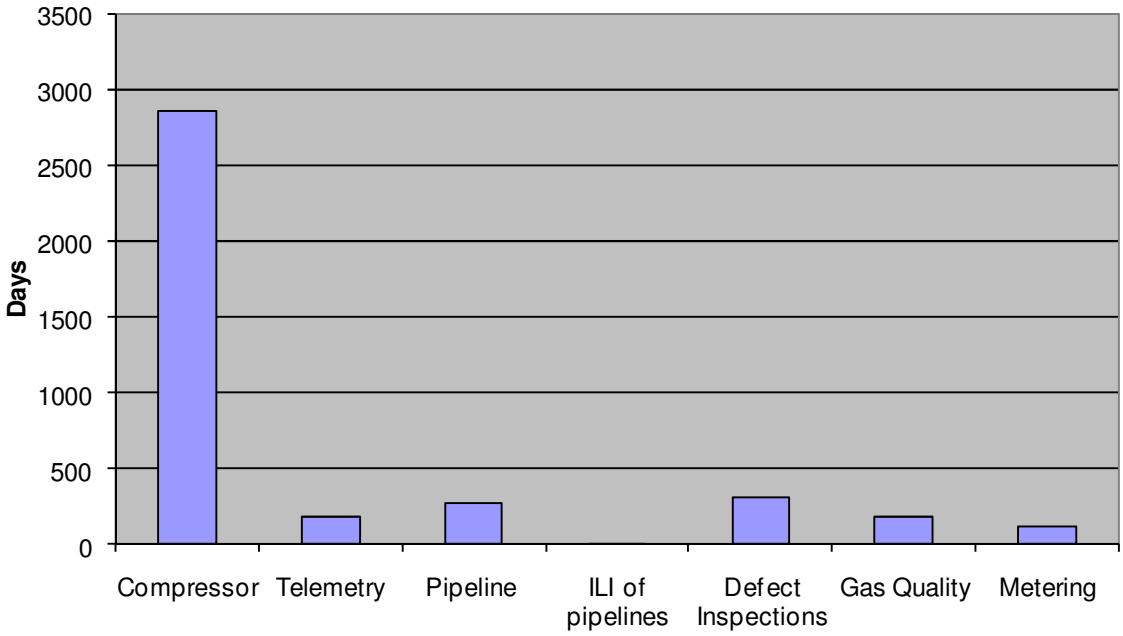
[1] The information above considers 1 calendar day that affects 3 customers as 3 days. In addition National Grid carries out work that does not impact industry parties.
Please note that this data includes maintenance days that are not within the scope of the maintenance day incentive e.g. Work that affects distribution networks.

In 2013/14, we also carried out the following maintenance jobs without the use of maintenance days that did not impact customers. For example, this may be because the work does not affect any customers, or that the work is aligned with customer outages to mitigate any potential impact. As you can see much of the work we completed had no effect on our customers.

Work Completed That Did Not Require Maintenance Days



To give more of an incite into the kind of work we carry out, listed below are the most common types of maintenance undertaken on our gas network.

In-line inspection (ILI) of pipelines
National Grid is required to carry out In-line inspections of our pipelines periodically in order to maintain their integrity, by ensuring that they comply with the Pressure Systems Safety Regulations (PSSR) 2000.

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.

In order for the PIG to record accurate information we need to ensure that a steady gas flow through the pipeline section is maintained. This is done by manipulating the flow of gas into the pipeline, the demands within the section of pipeline and the demands downstream of the section of pipeline being inspected.

Planned Feature Inspection
The results from an In-line inspection may require a “Feature Inspection” to investigate features found during the In-Line Inspection. This involves a visual inspection, and where appropriate a repair of any identified defect. The severity of the defect will determine the pressure reduction required and this may result in the pipeline being isolated (shutdown). Any sites within the isolated section of the pipeline will normally need to be on full cessation for the duration of the works. It may be possible to maintain a small supply to an offtake point by continuously topping up the isolated section whilst maintaining the reduced pressure, however, this is dependent on the individual job requirements.

Remote Valve Operation (RVO) Maintenance
Valves form an integral part of the National Gas Transmission System (NTS). They are used to control the flow of gas on the system and to isolate pipelines in an emergency. Valves can be either controlled remotely from the Gas National Control Centre or need to be operated locally on site.

To ensure the safe continual operation of these valves, National Grid has a policy to maintain key valves on an annual basis. In addition to this annual maintenance there may be a requirement to prove remote operation of the remote valves following faults, upgrades to software, etc.

Telemetry
National Grid Gas National Control Centre (GNCC) controls and monitors remote sites using telemetry systems made up of local computers and communication equipment. Elements of National Grid's telemetry system are being upgraded under a programme called IRIS in order to keep our systems up to date and functioning correctly. There is also routine maintenance that must be carried out on telemetry stations to make sure they are in good working order.

Compressor
Compressors are vital in running the National Transmission System, they move gas from its supply points to where it is required. To ensure these compressors are running as safely and efficiently as possible routine maintenance to the compressor and its auxiliary systems is conducted periodically.

Gas Quality
In line with Gas Safety (Management) Regulations (GSMR) National Grid monitors the quality of gas at various points. This is to make sure that legal limits of certain characteristics are not breached on the NTS. To monitor the gas effectively gas quality equipment requires calibration and maintenance to ensure National Grid can meet its obligation.

Metering
Metering equipment is used to measure the flow of gas. Metering equipment may be upgraded or replaced to suit current operating conditions to keep our measuring devices up to the latest standards, ensure accurate readings and replace out dated assets.

Pipeline
Our pipe system is vital to us in transporting gas to our customers. We continuously monitor the needs of our customers as well as the health and flexibility of our network and carry out work on our pipe whenever required.
Sometimes you may find that the new developments of work, impacts on National Grids existing pipes. If so, it is necessary to agree protection measures such as diverting the existing pipe to a new location.

Changes to the Maintenance Programme in 2013/14

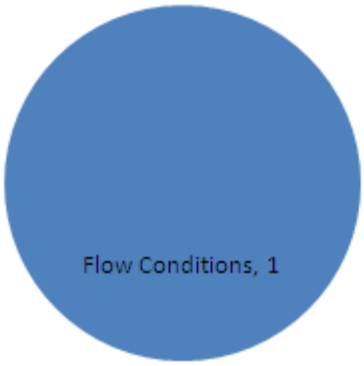
We aim to minimise the impact of our planned maintenance on customers through a transparent and flexible approach of endeavouring to align our work with their outages where feasible and practical.

Each year we ask when our customers' outages are to enable alignment of works. If their outages or other operational plans change at any time we request to be notified as soon as possible so that we can consider whether we also can realign our planned works.

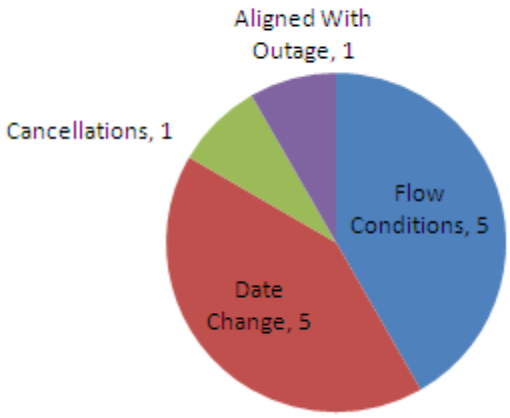
There may be occasions when either National Grid or our customers ask for work to be rearranged or altered in some way. In 2013/14, our initial draft plan was published in January, to enable feedback on our plan before it was finalised. The majority of changes took place during this consultation phase with 12 days that were impacted by customer initiated changes and 6 days by National Grid initiated changes.

Following the publication of our final plan by the 1st April, a further 13 days were subject to change. National Grid initiated a change to 1 day and we facilitated a further 12 days of change following requests from our customers. The level of changes by National Grid has significantly improved through better governance and planning in relation to changes. The reasons for the changes driven by National Grid and facilitated for our customers following 1 April 2013 are shown below:

National Grid Initiated Changes Post 1st April



Customer Initiated Changes Post 1st April



Enabling Flexibility

Sometimes standard maintenance approaches may not be optimal for our customers. Where this is the case, a bilateral contract (known as the Minor Works Agreement) can be utilised to enable parties to agree a different, one-off way of completing specific maintenance. This enables customers to pay the incremental costs of working flexibly outside normal working practices pending our ability to accommodate such a request. For example:

(a) Customer-initiated requests for us to change our planned maintenance to a non-standard arrangement; such as requesting planned maintenance during non-standard hours (e.g. weekend or bank holiday).

(b) Customer-initiated requests for National Grid work e.g. the isolation of the customer's supply using NGG plant to facilitate the customer's own works

If you would like to talk to us about potential options, please contact us on Transmission.Maintenance.Requests.NTS@nationalgrid.com