



DBFO2 Operator's Winter Maintenance Report 2016 - 2017

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Table of Contents

1.0	WINTER MAINTENANCE PLAN.....	4
2.0	STAFF AND TRAINING.....	4
3.0	WEATHER SUMMARY.....	4
	3.1 October.....	4
	3.2 November.....	5
	3.3 December.....	5
	3.4 January.....	6
	3.5 February.....	6
	3.6 March.....	7
	3.7 April.....	7
4.0	STATISTICS.....	7
5.0	SALT STOCKS.....	8
6.0	END OF SEASON REVIEWS.....	8

1.0 Winter Maintenance Plan

Amey's Winter Maintenance Plan was submitted under the Review Procedure and the Final Revision was accepted in March 2017. The plan contained no major changes to the previous year.

2.0 Staff and Training

Amey provided a Met Office Open Road training course and a Vaisala Scenario Training course to all new Winter Service Duty Officers (WSDO) for the DBFO Package 2 Contract prior to the start of the season. This enabled new team members to understand the science around adverse weather conditions and gave an insight on how, why and when decisions are made. Simulated weather conditions were given and each trainee was asked to make both proactive and reactive decisions according to information provided. All new and some existing WSDO also attended a Transport NI Winter Training event which provided a familiarisation with the required technology and software packages to be used.

As with previous years, each new team member was allocated a dedicated experienced WSDO to 'shadow' during winter decision making and treatment follow-up processes. All new team members were trained to deal with both day and night-time responsibilities to increase their skill set and each was given an opportunity to cover both aspects of the role.

An internal workshop was organised and scenario training based on actual events from previous seasons were given as examples.

3.0 Weather Summary

The Winter Maintenance Service period runs between the 1st October and 30th April. There was no requirement to extend the service into May as was the case in recent years; however, Winter Service Duty Officers and drivers were asked to remain on stand-by until 7th May 2017 as a precaution.

There was a decrease in the total number of treatments required for the winter of 2016-2017 in comparison to the year before. November 2016 and January 2017 were the busiest months in terms of treatments and patrols while October 2016 and April 2017 required no winter service presence on the Network due to milder conditions than recent years. A summary of the weather experienced and the actions taken for each month are given below:

3.1 October

October started with low pressure moving away eastwards, then easterly winds prevailed for most of the month, bringing mostly dry weather with variable amounts of cloud, and near-average temperatures. It turned more unsettled between the 15th and 19th as a low pressure system tracked slowly north-eastwards, and the last week was mostly cloudy but increasingly warm, with high pressure and mainly westerly winds.

The mean temperature for October was 0.6 °C above the long-term average. It was a dry month, particularly in the west, with 38% of average rainfall overall, the fifth driest October in a series from 1910. Sunshine was near to slightly above average, with 102% of average overall.

Road Surface Temperatures for the month of October 2016 ranged from 4.0°C to 11.0°C with no winter hazards forecast or experienced. No winter treatment actions or patrols were required within the month.

3.2 November

November began dry, bright and quite cold with high pressure in charge and a weak northerly flow. Cold and quiet weather remained frequent during the month, especially from the 20th onwards, although there was an unsettled spell mid-month.

The mean temperature for November was 1.3 °C below the long-term average. It was a dry November except in the north-west, with 73% of average rainfall. Sunshine was 141% of average, making it the equal-third sunniest November in a series from 1929.

November 2016 saw the first patrols of the year on 4th and 5th of the month when predicted temperatures hovered just above 0°C. This was followed by the first full winter treatment on 6th November 2016. The latter half of the month was particularly busy with 15 of the 17 winter treatments taking place between 17th and 25th of the month. The 17th saw the first snowfall of the year although this was not significant enough to cause any travel disruption.

In addition to the 17 winter treatments, there were 15 no. patrols in the month.

3.3 December

December began dry and settled with high pressure and variable amounts of cloud. A fortnight of mostly cloudy and mild weather followed, and it was particularly mild between the 6th and 9th. It was changeable and stormy between the 21st and 26th. Storm Barbara on the 23rd brought storm-force winds, with gusts of 60 mph recorded at Ballypatrick (County Antrim) and heavy rain at times. There were scattered showers and strong winds for all areas on the 24th in the wake of Storm Barbara and winds exceeded 50 mph in places. The first half of the month was very dull, but the second half was much sunnier, especially in the east.

The mean temperature for December was 2.0 °C above the 1981-2010 average, the equal-seventh warmest December in a series from 1910. Rainfall was below average everywhere with 68% of average overall. Sunshine was 105% of average, with amounts generally above average in the east but near or slightly below average in the west and north-west.

There were significantly less winter treatments and scouting events than previous years. Only 6 no. winter treatments were carried out, less than half of the same period in 2015. There were 12 no. patrols within the month.

3.4 January

January began mostly dry and cold, with high pressure close by. It turned unsettled during the second week, mild initially but with some snow for many places between the 11th and 13th. There was a mostly dry and settled spell from the 15th to 24th, with variable amounts of sunshine, then the rest of the month was mild and unsettled.

The mean temperature for January was provisionally 0.9 °C above the 1981-2010 average. Rainfall was well below average everywhere with 46 % of average overall, making it the 8th driest January in a series from 1910. Sunshine was above average in the east but below average in the west, with 102 % of average sunshine overall.

January 2017 was our busiest month of the Winter Maintenance season with 19 no. winter treatments and 12 no. scouting events carried out. This month also saw our first significant snow event with snow falling and lying on all routes on 12th January 2017.

3.5 February

February began unsettled and mild, but it turned colder into the second week with frequent easterly winds and some wintry showers, mainly for the east. The second half of the month was mostly mild and cloudy, and it was often wet and windy from the 21st onwards.

The mean temperature for February was provisionally 1.0 °C above the long-term average. Rainfall was generally near or a little below normal, with 89% of average overall. It was a cloudy month, especially in the south, with 71% of average sunshine.

This was also a month of stormy conditions with strong winds on the 6th February causing localised reports of fallen trees and associated transport disruption in Northern Ireland. Storm Doris arrived on 23rd and Storm Ewan was named by the Irish Met Office for the conditions of 25th and 26th of the month. While England, Wales and Scotland suffered significant disruption during the last week of the month, impacts from the storms were limited in Northern Ireland.

Within the month of February there were 13 no. winter treatments and 14 no. scouting events carried out, a substantial decrease on the same time period in 2016.

3.6 March

March was unsettled and mild with westerly or south-westerly winds until the 19th, though with a brief drier interlude from the 13th to the 15th. After a brief colder spell, it was dry and often sunny from the 23rd to 27th, but unsettled again to end the month.

The mean temperature for March was provisionally 1.4 °C above the long-term average. Rainfall was mostly near or slightly above normal, with 112% of average overall. It was a sunny month except in the south-west, with 123% of average sunshine.

The milder conditions meant less winter treatments than March 2016 with only 6 being carried out compared to 11 the previous year. In addition, only 1 scouting event was required to cover a marginal forecast towards the end of the month.

3.7 April

April started with a day of sunshine and showers but then it turned mostly settled and warm with high pressure in charge, albeit often cloudy. From the 10th onwards it was generally cooler, and there were some wintry showers from a northerly outbreak between the 24th and 26th. The month ended mostly settled but often cloudy.

The mean temperature for April was provisionally 0.7 °C above the long-term average, mainly due to high overnight minima and few frosts. It was a dry month with only 38% of average rainfall, making it the 7th driest April in a series from 1910, but it was also the 7th dullest April in a series from 1929 with 71% of average sunshine.

There were no winter actions necessary within the month of April 2017.

4.0 Statistics

A breakdown of tonnage of salt used per month of the 2016 to 2017 winter season can be seen in the table on the next page.

Month	Number of Grits (Year 10)	Tonnage of salt used by month (Year 10)
October	0	0
November	15	1003
December	6	312.5
January	19	1083
February	13	845.5
March	6	274
April	0	0
Total	59	3518

Tonnage of salt used per month in Year 10

5.0 Salt Stocks

During the winter period accurate records of incoming and outgoing salt were kept for stock-taking purposes and to ensure levels did not fall below the minimum standard required. Replenishment of salt took place regularly and as with previous years, an emergency stock was held with our supplier and was available as and when required.

6.0 End of Season Reviews

End of season reviews took place both internally and externally; a face-to-face meeting with Vaisala provided an opportunity to assess the winter season that had just passed and discuss any improvements to technology or equipment that would be of benefit in the future. The recent upgrade of Communications Equipment to 3G at Cabragh and Newry weather stations were also discussed with analysis indicating the new technology was a great success at these sites.

Met Office provided details and statistics relating to forecast accuracies for each weather station and a breakdown of weather conditions for each month of the season.

Further reviews were held internally. These assessed the reliability and efficiency of plant, the winter decision making process, and periods of cover for engineers and drivers. Requests for improvement strategies were welcomed from all involved in the winter decision making process.

In terms of Amey Winter Service in Northern Ireland, this season was deemed to be successful in its delivery with no winter related incidents recorded. Although this was a milder winter than recent years with very few snow events, the continued policy of Amey to err on the side of caution and the deployment of patrols on marginal nights is still considered to be both effective and reassuring in keeping road users safe during the winter months.