

Policy & Procedure Guide: RSPPG_E022

Title: Winter Service

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Version : 15
Implementation Date: To be effective from the date issued
Date issued to users: 6th June 2024

Classification

Level 1 (Title / Key Words) : Winter, Salt, Snow, Grit
Level 2 : Network Services
 (Directorate/Owner):
Level 3: (DfI ROADSHQ or HoBU Managed) Network Maintenance Group
Level 4 : (Work Areas) Winter Service

Notes

This document is a revision of the existing RSPPG E022 Version 14.

Certification

This document complies with DfI Roads Policy. For Implementation and Issue Dates, see above.

(Signed) Director of Engineering

Certification Date:

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1. Introduction

1.1. Purpose

This DfI Roads Policy & Procedure Guide (RSPPG) is aimed at all DfI Roads staff involved in the provision of our winter service operation which, as far as possible, will permit main road traffic to move safely and freely in wintry conditions.

1.2. Definitions

- 1.2.1. Precautionary salting – The application of salt to roads to prevent the formation of ice on the roads.
- 1.2.2. Post salting – The application of salt after ice has formed, or after snow has fallen.
- 1.2.3. Snow removal – The use of snow clearing equipment, such as snowploughs or snow blowers, to prevent the build-up and compaction of snow.
- 1.2.4. Salting Schedule – The network of roads selected for salting determined on a rational, criteria based system as defined in Section 2.1. Also known as the primary salting network.
- 1.2.5. Through Route - In rural areas a through route means one linking towns and villages; in urban areas a through route is one where the majority of vehicles appears to be using the street for purposes other than local access to that or adjacent streets. This will be assessed using professional judgment; origin-destination surveys or similar analysis are not appropriate on value for money grounds.
- 1.2.6. Thermal Maps – The thermal profile of the salting schedule, showing which parts of the route may remain warmer or colder than others. The road surface temperature varies according to the characteristics of the road and weather conditions.
- 1.2.7. **Winter Service Season** - The season starts on the 1st October and ends on the 30th April each year.
- 1.2.8. **Winter Service Stand-by Period** - The period when DfI Roads staff are available to deal with hazardous road conditions caused by winter conditions. The period shall be a minimum of 24 weeks normally starting at midnight on Sunday in mid October each year and ending at midnight on Sunday in mid April the following year.
- 1.2.9. WS Duty Controller – The decision-maker who decides if salting is required, the timing of the operation and the extent of the salting schedule to be treated.
- 1.2.10. WS Duty Supervisor – The supervisor in charge of winter service operations at the salting depot.

- 1.2.11. Target Treatment Time - the time needed to complete a route within the salting schedule (gate to gate) and includes driving while salting and driving salt-free. This should be a maximum of three and a half hours.
- 1.2.12. Target Reporting Time - the time taken by Winter Service staff to reach their depot and is a maximum of thirty minutes for unplanned actions.
- 1.2.13. Target Response Time – the time taken from the decision to begin treatment until the salt spreading machinery is loaded, manned and ready to leave the salting depot. This should be a maximum of 1 hour. This does not apply to pre-planned actions.
- 1.2.14. Traffic Information Control Centre (TICC) – TICC manages the Trafficwatch website and social media. TICC prepares an early morning report to the media, informing them of road conditions and potential problems
- 1.2.15. Scheduled Start Time – The time stated by the Winter Service Duty Controller for the Vehicles to leave the depot.
- 1.2.16. Finish Time - the actual time when the salting treatment is complete.
- 1.2.17. A Route Action - one treatment of an individual route, which forms part of the salting schedule.
- 1.2.18. Route Efficiency (%) – salted length of route x 100/ total route length.
- 1.2.19. Secondary Salting. Salting of any roads that are not on the salting schedule. A Secondary action that takes place subject to the availability of resources, following completion of salting actions to the primary route network. This secondary salting will only be undertaken during particularly severe and prolonged hazardous weather conditions.
- 1.2.20. Pre Wet Salting.- The application of salt that has been coated with brine prior to being spread to prevent the formation of ice on roads

1.3. Costs and Benefits

As this RSPPG is to replace an existing DfI Roads Manual Section the Costs and benefits are not relevant at this time.

2. Dfl Roads Policy & Procedure

2.1. Criteria for Inclusion of Roads on the Salting Schedule

- 2.1.1. The following routes shall be included in precautionary salting schedules:
- 2.1.2. Motorways and Trunk Roads.
- 2.1.3. Main Routes – (i.e.) through routes carrying more than 1,500 vehicles per day.
- 2.1.4. Other Busy Routes with special difficulties – (i.e.) through routes carrying between 1,000 and 1,500 vehicles per day where the following factors give rise to special difficulty: -
 - a) severity, frequency and extent of gradient
 - b) frequency of bends
 - c) height above sea level
 - d) railway level crossing
 - e) abnormally high junction frequency

In categories 2.1.3 and 2.1.4, account shall be taken of the availability of alternative or parallel routes. Where such parallel routes are available, the routes qualifying under 2.1.3 and 2.1.4 need not be salted.

- 2.1.5. Links to small settlements containing 100 dwellings or more (via the shortest route to the salting schedule).
- 2.1.6. Exceptions – to be agreed jointly by the DRM and Dfl Roads HQ .
- 2.1.7. All other routes are normally not salted.

2.2. The Assessment of Traffic Volumes.

- 2.2.1. For these purposes, traffic volumes should be assessed between October and April (inclusive), to reflect flows during the treatment period. The thresholds given above refer to a 7-day average flow.

- 2.2.2. The level of precision used in assessing traffic volumes shall be commensurate with the likelihood of flows being close to the appropriate threshold. For example, if professional judgment indicates that flows are significantly less than (or significantly greater than) the threshold, then an informal survey will be appropriate; for example, a manual count over a one hour period, suitably factored to give an average daily flow. If this indicates flows within 75% to 125% of the threshold, then a formal survey using traffic counting equipment should be used.

In assessing traffic flows, origin-destination surveys or similar traffic modelling analyses are not appropriate on value for money grounds.

2.3. The appraisal of requests for additional salting.

- 2.3.1. All changes to the salting schedule must be assessed in accordance with the criteria and shall be implemented on an annual basis.
- 2.3.2. Unscheduled and Emergency Requests – during prolonged snow or ice, secondary salting may be undertaken outside the scheduled routes on request for the following reasons:
- In the event of an emergency or to relieve particular hardship.
 - In unforeseen circumstances such as funerals or to provide access for emergency services and other vital infrastructure facilities.
 - In cases where animal welfare is endangered e.g. access to provide fodder.
 - Roads affected by multiple road traffic collisions or considered impassable due to icy conditions may be treated.

This secondary salting should generally be undertaken once the integrity of the scheduled network has been assured and subject to the availability of resources.

Travelling to and from schools (Other than those Schools covered in 2.5 below), up hills in estates, etc, are not emergencies and in such cases the response may be to provide salt boxes/grit piles in accordance with the guidelines for use on a self- help basis.

2.4. Bus routes.

- 2.4.1. Commercial or school buses in service receive special consideration and each bus shall be counted as the equivalent of a number of private cars equal to the full seating capacity of the bus (i.e) a 40-seat bus is counted as 40 vehicles.
- 2.4.2. Where the operation of a Park & Ride (P&R) facility requires a bus to leave the main salted road network to service it, the route taken shall be scheduled for treatment including any portion of the bus route within the confines of the car park.

2.5. Winter Service around Rural Schools

- 2.5.1. Enhanced communications and priority secondary salting will be provided to schools which have had to close due to inaccessibility, associated solely with the presence of snow or ice on the adjacent network. The secondary salting will be carried out on the shortest route from the school to a road on the salting schedule.
- 2.5.2. A list of schools with particular difficulties should be maintained for each DfI

Roads Section Office Area and their management provided with Dfl Roads contact names and telephone numbers to improve communications and to ensure that any problems are identified at the earliest opportunity. The list will change and adapt over time due to climatic variations.

- 2.5.3. Notwithstanding the above if Dfl Roads staff become aware of ice or snow adjacent to the listed schools, they should act without waiting to be contacted by the school.
- 2.5.4. As normal, each Dfl Roads Division will retain client responsibility for salting routes to policy within its boundaries. These responsibilities will now include winter service linked to Listed Rural Schools.
- 2.5.5. Divisions are required to amend their List independently and to add any rural school that has had to close due to inaccessibility difficulties associated solely with the presence of snow or ice on the adjacent network.
- 2.5.6. The Dfl Roads Section Engineer is responsible for the setup of individual arrangements between Listed Schools and Dfl Roads in relation to winter service around them. The Section Engineer will compile an Annual List of Schools that are subject to such arrangements within their Section. The Section Engineer is responsible for keeping a record of feedback and quantities relating to resource usage with regard to secondary salting / ploughing on links to Listed Rural Schools.
- 2.5.7. The Dfl Roads Divisional Winter Service Representative is responsible for collating all Section Office arrangements within their Division in relation to winter service to Listed Schools. This documentation will form part of the divisional arrangements as referred to in the annual Dfl Roads Directors Winter Service Internal Memo.
A List of such Rural Schools should be sent to the Dfl Roads HQ Winter Service Working Group Representative in the first week of September each year, prior to the Winter Service season.
- 2.5.8. The 2008/09 review of Winter Service around rural Schools, has amended the criteria for the provision of grit/salt piles and salt bins for rural Schools.

2.6. **Snow Removal**

- 2.6.1. Each Dfl Roads Division is required to have a Snow Plan. Normally the DBFO Contractors are fully responsible for snow clearance on all DBFO Level 1 routes. However, under exceptional circumstances, (on request / instruction from a Dfl Roads Director), Divisional Snow clearance resources may be required to assist the DBFO Contractors on snow clearance of the Level 1 routes on DBFO networks.
- 2.6.2. The severity of snowfall can be described as:
Light (up to 15mm)
Moderate / Heavy (> 15mm)

Light snow shall be treated normally by increasing the quantity of salt to 40 grams per square metre in conjunction with trafficking. Where **Moderate or Heavy snow** is forecast different procedures will be required and it will be necessary to prioritise the order of treatment however it is crucial that salt is spread before snow starts to fall.
- 2.6.3. Given the limited resources available it is necessary to prioritise and define the sequence in which the road network will be 'attended' to during snow events. Treatment should begin on the highest category roads already on the salting

schedule, which are affected and should continue until the condition of those roads is assured in both directions before moving onto the next category.

- 2.6.4. Treatment of each category within a specific area will be dependent on the particular circumstances. **5 Levels of Treatment** have been identified.

Category 1a – Trunk Roads and Motorways (depending on the circumstances it may be necessary to prioritise the trunk road network within each Section Office area)

Category 1b – Provision of links to hospitals, ambulance stations, fire and police stations.

Category 2 - Remaining A Class roads and the link to isolated settlements containing 100 dwellings or more.

Category 3 – 50% of the remaining salted schedule.

Category 4 – Remainder of the salting schedule

Category 5 – Roads outside of the normal salting schedule including requests for treatment to facilities such as water treatment plants.

It may be necessary to respond to ad-hoc requests for assistance particularly during prolonged periods of snow. These should be considered on a case by case basis and should be prioritised where human or animal welfare or environmental concerns are an issue.

2.7. **Practice for moderate and heavy snow.**

It is recommended that snow blade mounting shall be practised as follows:

Once in October (pre stand-by period).

Once in December.

Once in February.

It is also recommended that familiarisation / practice with snow clearance routes should be taken at least once per year or more frequently if appropriate.

2.8. **Use of external resources.**

In prolonged periods of lying snow, DfI Roads Section Offices may employ contractors and/or farmers to clear blocked roads using loading shovels, tractors and ploughs; and to seek the assistance of local councils to salt heavily used town centre footways. Only those parties who have entered into a formal agreement with the Department may be employed.

2.9. **Salt Bins and Grit Piles**

- 2.9.1. Criteria for salt bins and grit piles.

- 2.9.2. The point scoring system set out below shall be used for assessing the need for salt bins, which are generally located in Urban locations..

If the point score is greater than 50 then a salt bin shall be installed.

To qualify for consideration the following factors must apply : -

- (a) Gradient equal to or greater than 5%.

- (b) No reasonable alternative route available.

2.9.3. Point Scoring System.

Points are calculated from the formula $A \times B \times C (D + E + F + G)$ where the score is obtained from each of the appropriate tables.

In selecting the score for D, use only the table that corresponds to the geometry of the site being assessed.

A Gradient Gradient Score % 0 to < 5 0 5 to < 6 1.0 6 to < 7 1.1 7 to < 8 1.2 8 to < 9 1.3 9 to < 10 1.4	X	B Alternative Route Availability Score Easy 0 Difficult 1.0 Non- Existent 1.2 or Impractical	X	C Historical Usage Factor Residential Factor and/or Community Welfare Factor and/or Commercial Factor Score No significant change over 10 years 1.0 1 Factor Changed 1.1 2 or more factors changed 1.2
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GEOMETRY – USE D (i), D (ii) OR D (iii)

D (i) Radius on or within 50m of bottom of hill Radius Score (m) >1000 0 > 100 5 100 – 50 10 50 – 20 15 90° Bend 20	or	D (ii) Hill with <50m flat approaching Main Road junction Main Road Score Volume (vpd) <1000 0 1000 - 2000 5 2000 - 5000 10 5000 – 10000 15 >10000 20 Level Crossing Approach 20	or	D (iii) Length of Gradient Length Score (m) >10 0 10 – 20 5 20 – 50 10 50 – 100 15 >100 20
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E Residential Usage Number of Residences Served Score 0 – 4 0 5 – 10 5 10 – 50 10 > 50 15	+	F Community Welfare Location Score Pedestrian Access to: (a) School / Hospital 10 (b) Old Peoples Home/Development 15	+	G Commercial Usage Number of Workforce Served Score <10 0 10 – 20 5 20 – 100 10 >100 20
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- 2.9.4. New salt bins shall not be considered unless requested by a member of the public.
- 2.9.5. Irrespective of whether or not they meet the criteria for the provision of Salt Bins and Grit Piles, Schools affected by snow or ice on the adjacent network, shall, if requested, be provided with a Salt bin on the public road frontage and /or Grit Piles on the shortest route connecting the school to the salting schedule.
- 2.9.6. Salt bins shall be available on site from November to March inclusive and may be removed during the summer to prevent theft or damage.
- 2.9.7. An Inventory of Salt Bins and their locations shall be compiled by each DfI Roads Section Engineer and updated annually.
- 2.9.8. During the winter months the Salt Bins shall be inspected during inclement weather and restocked if necessary.
- 2.9.9. Normally Salt Bins shall not be provided within 100 m of another bin.
- 2.9.10. The provision of Grit Piles.**
- 2.9.11. Piles of grit or a mixture of grit and salt may be placed in rural locations if the location qualifies under the criteria as set out in Table 2.4.11.1.

TABLE 2.4.11.1 – PROVISION OF GRIT PILES (RURAL) – POINTS SYSTEM

			POINTS
A	Gradient	> 1 in 10	2
		1 in 10 to 1 in 20	1
B	Bus Route	School Bus, Translink Bus or Milk Tanker	1
C	Previous Use	Not used last year (assuming weather was inclement)	0
		Used last year	1
D	Alternative Safe Route	Yes	0
		No	1

Points are calculated from $(A + B) \times C \times D$.

If the total is 2 points then the provision of a grit pile shall be retained.

New grit piles shall not be considered unless requested by a member of the public. (ie) $C = 1$.

A new pile shall also meet the above criteria.

- 2.9.12. Grit piles shall be inspected during inclement weather and restocked if necessary. The recommended size of grit piles is given in Table 2.4.12.1

TABLE 2.4.12.1 – RECOMMENDED SIZE OF SALT/GRIT PILE

Gradient	Distance Apart	Size
Greater than 1 in 10	25 m to 30 m	150 - 200 kg
1 in 10 to 1 in 20	30 m to 50 m	200 - 250 kg

The use of grit only is recommended for environmental reasons and pure salt piles shall not be used as salt could be washed away by rain.

- 2.9.13. An Inventory of Grit Pile Locations and Size shall be completed by each Section Engineer and reviewed annually.

2.10. Salt Requirements

- 2.10.1. The salt is to be Rock Salt and is to conform in all respects to BS 3247:1991. Salt in all externally stored stockpiles shall be tested for compliance twice per season. Resilience stock piles need only be tested on delivery. No further testing is required unless the covers are disturbed.
- 2.10.2. Each Division shall calculate its base line salt requirement based on a single 10 g/m² action on all salting routes. The requirement shall be reviewed annually.
- 2.10.3. In order to assess the base line salt requirement as accurately as possible each Route shall be divided into segments having reasonably consistent individual widths as indicated by the Road Maintenance Client System.

The mode width shall be established for each segment. The width of spread is obtained by subtracting 1 metre and rounding up or down to suit the available salt spreader spread width settings. For example a 7.3m mode width requires a 6m width of spread. The spread width shall not be less than the road width minus 2m.

- 2.10.4. Annual salt requirements shall be based on 100 actions at 15 g/m² plus an allowance for snow based on 4 loads x 7 tonnes x 6 days per salt spreader.
- 2.10.5. DfI Roads Divisional salt requirements shall be calculated based on the salting lengths determined in accordance with Section 2.1 and the salt requirements above. The results shall be summarised in the format shown on the Salt Requirements Table in Appendix 2 and submitted to DfI Roads HQ .
- 2.10.6. To ensure DfI Roads maintains sufficient salt stocks throughout the Winter Season, the following 'reorder level' criteria shall be applied;-
- During the period from the 1st October to 1st January each year, the minimum 're order level' should be set as 90% of full capacity.
 - From 1st January each year, onwards, salt stocks should be maintained in linear fashion against a minimum holding calculated on

the basis of 6 days supply x 2 runs per day at 20 gramme spread rate per run at the 31 March.

- 2.10.7. Pre-wetted salt treatments can be used instead of dry rock salt where required. Pre-wetted treatments should comprise of a 70:30 ratio by weight of dry salt to sodium chloride brine with a maximum dry salt component moisture content of 4% and a brine concentration of between a minimum of 20% and a maximum of 23%.
eg 10g of pre-wetted salt mixture (as spread) will contain 7g of dry rock salt plus 0.69g of (pure) salt in the 3g of brine when the brine concentration is 23%

2.11. Number of Routes, Depots and Spreading Machines

- 2.11.1. The number of routes; the location and number of depots; and the number of salt spreading machines shall be calculated taking into account the factors noted below, to produce the optimum efficiency.
- 2.11.2. The average Design Treatment Time for an individual salting route shall normally be 3 hours, with an individual time not exceeding 3.5 hours.
- 2.11.3. Target Reporting Time, is a maximum of 30 minutes.
- 2.11.4. Salt free driving shall be kept to a minimum. The recommended target for Route Efficiency shall be 75%, but the Salting Schedule shall not be enlarged simply to achieve the target.

The Salting Schedule shall be selected in accordance with the requirements of Section 2.1. Individual Routes on the Salting Schedule shall then be selected taking into account the following: -

- (a) Target Treatment Times
- (b) Minimum salt-free driving

2.12 High Ground Routes

- 2.12.1 Each Division maintains a schedule (usually in map format) of High Ground Routes. These routes are:
- on the current salting schedule
 - generally over 150m above sea level (the specific minimum altitude may vary between Divisions);
- 2.12.2 Although the height is defined as being over 150m (may vary between Divisions), for operational purposes the start and end point of any salting action on high ground routes will generally be to or from the nearest obvious landmark such as the junction of a side road.

2.13 Salting Extra Wide Carriageways

- 2.13.1 DfI Roads Section Engineers in conjunction with the DfI Roads Operations and Maintenance (DfI Roads (O&M)) Area Engineer should satisfy themselves, by carrying out a risk assessment, that

(a) the whole carriageway is adequately treated and,

(b) That the method of carrying out the treatment does not put the crew nor the public at risk

- 2.13.2 The maximum width covered by our current Fleet of Spreaders is 11 metres, this may require route design to include treatment of the carriageway in both directions.

2.14 Decisions and Action Codes

2.14.1 Meteorological Reports.

DTN Meteogroup provides DfI Roads with an 'advisory' service that provides weather forecasts and road hazard warnings of frost, ice and snow.

This service, the **DTN Roadmaster Forecast service**, starts on the 1st October each year and ends on the 30th April on the following year. Unless conditions dictate otherwise, a partial system is provided during the months of October and April, with a full service for the other months.

The full **DTN Roadmaster Forecast service** consists of :-

- (a) A 24 hour forecast – a forecast for each DfI Roads Domain, for the period from 12:00 (midday) on the day of issue to 12:00 (midday) the following day. An early morning preliminary forecast will be supplied by 9:00 with the full forecast delivered by 11:00 and any additional evening updates received by 17:00 daily.
- (b) The Service also includes provision of a 24 hour consultancy service to DfI Roads, who can provide advice to WS Duty Controllers and DfI Roads Staff on any adverse forecast weather likely to impact the Roads Transport Network.
- (c) Updates – a forecast that updates the 24 hour forecast and is only issued in accordance with the standard amend criteria agreed with DTN Meteogroup.
- (d) 2 – 5 day forecast – a daily text forecast (for planning purposes), covering the period 2 to 5 days ahead.
- (e) Morning Individual Site Graphs – site specific forecasts for each sensor site giving details pertinent to that site and issued between 10:00 and 15:00.
- (f) Morning summary – a summary, supplied the following morning, summarising the actual weather conditions experienced in the whole of Northern Ireland.

2.15 Decision Making.

- 2.15.1 The WS Duty Controller shall decide on the action required including what routes to include as part of any salting action - for example full scheduled network; certain routes out of particular depots; high ground routes or inclusion of school routes. This is done after taking into account all available information including

thermal maps and the latest DTN Roadmaster model and any additional information.

- 2.15.2 The WS Duty Controller shall issue instructions using the action codes contained in the "Winter Service Action Codes" Table in Appendix 1.
- 2.15.3 Dfl Roads Divisional arrangements shall be put in place to assure the WS Duty Controller that WS Duty Supervisors have responded to the action call and that the salting operation has commenced as per instructions.
- 2.15.4 At least 2 decisions of each WS Duty Controller, taken on 'marginal nights' over the winter season, are to be reviewed by the relevant Dfl Roads PPTO Network Maintenance Manager or other appropriate senior manager. Details of these reviews should be recorded on the 'Controls Assurance Process - **Checklist for Winter Service**', as attached as Annex 3 in this document. Completed copies should be forwarded to Dfl Roads HQ for record purposes.

2.16 Route Completion Times

- 2.16.2 Finish times shall accommodate the actual travel patterns of an area and be established from traffic information already available to Dfl Roads.

2.17 Route Action Records

- 2.17.2 The Dfl Roads Section Engineer shall control the use of salt at the point of usage.

The following information shall be established for each Winter Service Depot :
 - (a) The capacity of each loading shovel bucket expressed in tonnage of salt;
 - (b) The tonnage of salt required for each route at 10 g/m².
- 2.17.3 Data logging equipment shall be used to record that the treatment action requested by the WS Duty Controller is carried out in accordance with instructions.
- 2.17.4 The WS Duty Supervisor shall update all winter service actions, including snow, and record it in the Winter Service Database immediately after each salting operation.
- 2.17.5 The WS Duty Controller shall record their decision in the database.
- 2.17.6 At the end of the Winter Service season, each Dfl Roads Division shall confirm to Dfl Roads HQ that their details held on the Winter Service Database are correct. Dfl Roads HQ shall then prepare the Winter Service Report, which shall contain the Winter Service analysis for the season past, including the number of 'route actions' carried out, salt used, etc.

2.18 Communications

- 2.18.2 Real time information shall be provided to the media.
- 2.18.3 The Winter Service Database shall be available to the TICC traffic control room

operator who shall inform the Media, particularly radio media, at 06:30 in the morning.

- 2.18.4 TICC's early morning Media Report shall be a brief summary of the situation in Northern Ireland, prior to the rush hour. And the afternoon report a brief summary of the situation predicted for later that evening / overnight
- 2.18.5 During 'normal working hours' the reporting of newsworthy incidents reverts to the existing system; (i.e.) each affected DfI Roads Section Office sends follow-up incident reports to the DfI Roads Incident Desk no later than 09:30.
- 2.18.6 A Winter Service Information Leaflet incorporating a map (to a suitable scale) of salted roads shall be made widely available for members of the public. The leaflet shall contain useful information on winter driving and precautions.
- 2.18.7 Winter Service leaflets shall also be made available on our public facing web page, DfI Roads Section Offices and other appropriate public buildings in each DfI Roads Division.
- 2.18.8 Maps of the salting schedule shall be made available in GIS format, to the Emergency Services on an annual basis if requested.
- 2.18.9 The DfI Roads Director of Network Services shall issue instructions, via the Winter Service Memo, to relevant Heads of Business Units, prior to the start of each new winter season. These instructions shall contain the start and end dates for each new winter season and any instructions the DfI Roads Director may feel are relevant. The instructions shall be distributed to relevant DfI Roads Divisional staff.

2.19 Plant

- 2.19.2 Standby costs and wages paid to fitters for winter service call-outs 'outside working hours' shall be charged to winter service plant or DfI Roads (O&M) Fleet Management overheads.
- 2.19.3 DfI Roads (O&M) Fleet Management shall submit end of year statements of winter service plant costs and income on a service wide and divisional basis for inspection by Heads of Business Units.
- 2.19.4 Users shall specify their requirements for winter service plant and DfI Roads (O&M) Fleet Management shall match plant specification with user requirements. Where DfI Roads (O&M) Fleet Management cannot fully meet the user specification, changes to the specification must be agreed with the DfI Roads Network Maintenance Committee before ordering.
- 2.19.5 The desired specification for winter service equipment shall be reviewed by the DfI Roads Network Maintenance Committee on a yearly basis, taking account of technical developments in the market.
- 2.19.6 Prior to the commencement of the Winter Service 'Stand-By Period', DfI Roads (O&M) Depot Management shall confirm calibration of each spreader by performing a Road Discharge Test in accordance with BS1622;1989 Appendix C. A further mid-season Road Discharge Test for each salt spreading machine should be completed at convenient time and as operations dictate and only those machines that fail the discharge test will require a full calibration check.

Should Roads (O&M) Fleet Management be required to carry out work which may affect the spreader calibration, as a result of damage, or user concerns the spreader should be re-calibrated at the earliest opportunity and a further Road Discharge Test performed. Where necessary settings shall be marked by DfI Roads (O&M) Fleet Management on salt spreading machines for use by drivers.

- 2.19.7 Fixed salt spreading machinery shall only be purchased where DfI Roads Divisions have identified a specific need for them.

2.20 Budgeting and Financial Costs

- 2.20.2 Budgeting shall be based on 100 actions at 15 g/m² which includes an allowance for salt bins and piles.

An additional contingency sum shall be retained to fund Winter Service Functions to cope with 6 days of snow.

3. Equality Impact Assessment (EQIA)

3.1. Equality Impact Assessment Section 75 of the Northern Ireland Act 1998.

- 3.1.1. An equality screening analysis has been carried out on Winter Service. The analysis did not identify a differential impact on any of the groups listed in Section 75 of the Northern Ireland Act 1998. A full Equality Impact Assessment has consequently not been deemed necessary.

4. References

4.1. General References

None

4.2. Endnote References

None

5. Appendices

5.1. Appendix 1. WINTER SERVICE ACTION CODES

PREDICTED ROAD CONDITIONS *	ACTION	ACTION CODES	RATE OF SPREAD Grams/m ²
No frost or snow.	NO ACTION:	Code 00	Nil
Risk of frost or snow.	PATROL: Defer decision pending update of forecast and thermal maps and/or reports from Scouts.	Code 01	Not Applicable
High risk of frost but timing unsure.	DRIVERS TO REPORT TO DEPOT: Defer decision pending update of forecast and thermal maps and/or reports from Scouts. All squads to report in advance.	Code 02	Not Applicable
Frost, isolated icy patches on some roads.	SELECTED ROUTES: Treat routes identified by Duty Controller.	Code 05	As directed
Slight frost, isolated patches on wet roads or widespread hoar frost on dry roads.	ALL ROUTES: Treat all routes on schedule.	Code 10	10
Moderate frost, risk of light showers	ALL ROUTES: Treat all routes on schedule.	Code 15	15
Heavy frost, wet roads; roads possibly in treacherous condition with icy patches.	ALL ROUTES: Treat all routes on schedule.	Code 20	20
Snow Forecast.	ALL ROUTES: Treat all routes on schedule. Consider mounting snow blades.	Code 30	30
Light Snow falling or packed ice.	ALL ROUTES: Treat continuously all routes on schedule and if necessary mount snow blades.	Code 40	40
Moderate to Heavy Snow falling.	SNOW PLAN: As directed Maximum effort to be concentrated on the more important traffic routes first; i.e. clearing snow from level 1 must be given priority before moving onto levels 2, 3, and 4. Mount snow blades. Mobilise snow blowers and snow cutters. Mobilise external resources as required.	Code 50	As directed

* Road conditions predicted by the Duty Controller after reference to all available data, (e.g.) Weather Forecasts, Thermal Maps and Scout Reports.

Note- When pre-wetted treatments are selected, the Duty Controller shall use the Action Code prefix "PW" followed by the spread rate e.g. PW08 equates to a spread rate of 8 g / sq m.

5.2. Appendix 2. SALT REQUIREMENTS

Depot	Type O (Open) B (Barn)	Capacity	Treated Length (Km)	Number of Routes	Single Action at 10g/Sq m Tonnes	100 Actions at 15g/Sqm Tonnes	Allowance For Snow at 168 Tonnes per Salt Spreader	Totals

Controls Assurance Process -Checklist for Winter Service

Winter Season					
Division					
Network Maintenance Manager					
Duty Controller					
<p>Note: At least two decisions of each Duty Controller, taken on a Marginal Night, are to be reviewed over the winter season. A Marginal Night is defined as a night when the forecast road surface temperature is between plus 3 degrees Celsius and minus 1 degree Celsius.</p>					
Forecast Period					
Forecast Time					
Forecast Colour	Green		Amber		Red
Forecast State					
Action Called					
Time of Decision					
Note of Review					
Decision Valid	Yes		No		
Lessons Learnt	Yes		No		
Details of Lessons Learnt					
Distributed to the Winter Service Working Group for Discussion and Dissemination to Divisions for Lessons Learnt and area wide implementation. (Winter Service Review of DC Actions 12/13 January 2014 : Action 8 Recommended Actions Plan)			Yes		
			N/A		
Signed			Review Date		

6. Control Sheet – DfI Roads Policy & Procedure Guide: E022

Title: Winter Service

6.1 Document History

Version	Date	Author	Authorised by Document Control Panel Members Name : Signature
1	12/04/01	R Crilly	R Wilson
2	1/04/03	S McKinstry	R Crilly
3	21/09/04	S McKinstry	R Crilly
4	10/10/05	S McKinstry	R Crilly
5	30/9/07	S McKinstry	R Crilly
6	15/09/10	A Loughran	R Crilly
7	15/09/12	A Loughran	R Crilly
8	10/01/13	A Loughran	R Crilly
9	10/10/13	A Loughran	R Crilly
10	30/09/2016	A Loughran	J Lawson
11	22/5/2017	A Loughran	J Lawson
12	January 2019	J McIlwrath	J Lawson
13	September 2020	J McIlwrath	J Lawson
14	March 2022	J McIlwrath	J Lawson

6.2 Overall Reasons For This Version

Version	Reasons
1	First issue of RSPPG
2	Winter Service Review 2001
3	Clarification
4	Clarification
5	Clarification
6	Amendment to include <ul style="list-style-type: none"> • Winter Service around Rural schools • Amended Salt Bin & Grit Pile Criteria • Salting of Extra wide Carriageways • Salt Stock Re-Order Levels
7	Amendment to include <ul style="list-style-type: none"> • Winter Service to Park and Ride sites
8	Addition of DBFO Mutual Aid clause, to be used during exceptional circumstances in periods of heavy snow.
9	Amendment to Policy to reflect recommendations for the NWSRG Peer review of winter service carried out in July 2013. Amendments to include clarification of terms:

10	<p>Update to reflect the move from Department for Regional Development to Department for Infrastructure (DfI).</p> <p>Update to include Winter service Internal Controls Assurance Process as Annex 3.</p>
	<ul style="list-style-type: none"> • Target Treatment Time • Target Reporting Time • Target Response Time <p>Amendment of the use of Grit and Gritters to Salt and Salt Spreading Machinery</p> <p>Amendment of the requirement 2.9.4 in the criteria for Salt bins .</p> <p>“New Salt bins shall not be provided unless requested by a member of the public who shall agree to spread the salt as required”</p> <p>This requirement has been amended to</p> <p>“New Salt bins shall not be provided unless requested by a member of the public”.</p> <p>This change removes the requirement of the member of the public requesting the salt bin to undertake to spread the salt.</p>
11	<p>The introduction of 15 gram per square metre spread rate, approved by the DfI Roads Network Maintenance Committee. This code has now been added to Appendix 1 : Winter Service Action Codes (Page 19 of 23).</p>
12	<p>Update in preparation of the EU-Exit.</p> <p>Update to reflect the move from Transport NI to (DfI) Roads</p> <p>Update /Amendment to also include</p> <ul style="list-style-type: none"> • High Ground Routes • WS Duty Controller Decision Making • Switch from Met Office Open Road Forecasting Service to Met Office Transport Weather Manager (TWM) Forecast Service
13	<p>Amended with</p> <ul style="list-style-type: none"> • mid season calibration requirement • to reflect the use of pre-wet salt • TICC now operational 24x7 and replacing Lead Communicators for media reports
14	<p>Amended with</p> <ul style="list-style-type: none"> • Updated Appendix 1 footnote for Pre Wet treatments • Updated 2.3 The appraisal of requests for additional salting • Amended 2.14 and throughout with change from Met Office to DTN Meteogroup
15	<p>Revised 2.6 Snow Removal section from 4 to 5 categories of snow removal and splitting category 1 into 1a and 1b.</p>