

	Winter Maintenance Safe System of Working– Carriageway Operations	Reference: VFOR-OP-051
		Version: 1.0
		Issue Date: 07-11-2017
	Document Owner: Team Manager, Environmental & Operational Support	Review Date: 07-11-2018

1.0 Summary

- This document details the management methods and controls that are to be applied to the Carriageway Winter Service Operations.

2.0 Definitions and Responsibilities

- For works undertaken on highways throughout the County of Nottinghamshire

3.0 Overview / Flowchart

N/A

4.0 Procedure

4.1 Work equipment and resource requirements

- Suitable Trained Winter Service Vehicle Operators, and ancillary Operators and Staff
- Loading Shovel, Spreader Vehicle, Snow Plough, Wash Down Facility

4.2 Method of carrying out the work

Deliveries of Salt

Deliveries of salt will generally be delivered in articulated tipper vehicles, these require additional controls due to the problems of the tipper body overturning.

- Articulated tippers should be guided by a banksman to the tipping location.
- The tipper location should be flat and firm
- The tipper driver will raise the tipper body and tip the load.
- The tipper driver should not drive forward and stop suddenly to clear blockages
- The tipper body must be fully lowered prior to the tipper driving away from the unloading area.

Storage of Salt

Salt will be stored in a covered salt barn, with:

- All outside spillages are to be cleaned, as soon as practicable.
- Vertical faces in the salt pile should be eliminated, as soon as practicable.

Operation of Loading Spreader Vehicles Salt Storage Facilities

A dedicated 'Wheeled Loading Shovel' will be generally used to stockpile salt in the salt dome / bar, to minimize stability issues with 'Telehandlers',

Should a 'Telehandler' be required to be used, the 'Telehandler' user must only be operated within the specific telehandlers capabilities (see Operators Manual), and Operators must:

- Wear Seatbelts when operating a 'Telehandler',
- Keep buckets or any loads low to the ground when travelling,
- Avoid travelling across slopes, uneven or unstable ground (keeping all four wheels on solid level ground,

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Loading Spreader Vehicles

Salt will be loaded via a 'Telehandler / Loader', this will be operated by any trained (CPCS or other approved) and authorised person. Sequence of Loading:

- Ensure the loading area has adequate lighting,
- Ensure the loading area is safe from other hazards, vehicles, pedestrians, ground conditions
- Park Spreader Vehicle in a suitable location for loading.
- Using the 'telehandler / Loader' remove salt from the stockpile.
- Load onto gritter being careful not to overload the safety grid, and avoid unnecessary spillage.
- Continue operation until gritter is adequately loaded.
- Check no lumps are left on the safety grills.
- Unless required for further loading, ensure no vertical face has been left in the salt stockpile.

Spreader Operations

- Once loaded proceed to your Spreader Route from the loading depot with due caution
- On arrival at your Gritting Route commence the travel and gritting, as required by the Route card
- Do not divert from the Route Card, unless instructed to do so by the Supervisor, or Line Manager responsible
- If you consider conditions are different to conditions expected contact the Winter Maintenance Duty Officer for further instructions (i.e. heavy snow on a pre-cautionary grit)
- If you need to leave the cab of your vehicle for any reason contact the Duty Officer, also inform the Duty Officer of your return to the vehicle cab (this is to ensure your safety whilst you are lone working).
- On completion of your route return to depot using due caution

Fitting of Snow Ploughs

The Fitting of snow plough blades will only be carried out by competent trained operatives, on firm, flat level ground.

Snow Plough Operations should be carried out by Double Manned Spreader Vehicles, in the following circumstances:

- When the Plough / Spreader Vehicle Operator is inexperienced, and in these circumstances the Spreader Vehicle should be double manned with one inexperienced, and one experienced Operator,
- After conditions have been dynamically Risk Assessed, by the Winter Service Duty Manager and a decision has been made to double man Spreader Vehicles. Assessing the hazards of extreme weather conditions, remote gritting routes, potential attacks on Spreader Vehicles, etc.

In all other situations Spreader Vehicles will be single manned.

- Once the plough is fitted and checked, proceed to your ploughing route with due caution
- On arrival on your ploughing route commence ploughing
- If you consider conditions are different to conditions expected contact the Duty Officer for further instructions (i.e. packed snow, or slush)
- If you need to leave the cab of your vehicle for any reason contact the Winter Service Supervisor, also inform him of your return to the vehicle cab (this is to ensure your safety whilst you are lone working).
- Ploughing techniques will follow standard procedures, with:
 - o Snow being pushed to the nearside of the carriageway
 - o Leaving of windrows in the centre of carriageways or lane lines should be avoided

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Cleaning and Vehicle Checks

Spreaders, Ploughs and Loading Shovels are to be kept in a clean state at all times,

- Ensure the drivers cab is kept as clean as practicable and salt deposits in the drivers well are cleaned out.
- Unload unused / surplus salt daily, and clean vehicles (using pressure washer at washdown areas).
- Wash down and clean Spreaders thoroughly at the end of each gritting season. Using a steam cleaner and sheet vehicles bodies.
- All plant must be visually inspected prior to use, and any faults reported to your Supervisor.

Emergency Procedures

Vehicle breakdown

- Contact your supervisor or base by radio or telephone if safe to do so, give following information:
 - o location
 - o cause if known (this will aid repair or recovery)
 - o any safe routes to be taken if known.
- Stay with the vehicle and await recovery.
- If the engine will still run, use it to keep the heaters operating to stay warm, but if snow is falling make sure that the exhaust is kept clear or fumes may enter the cab.
- Deploy any warning signs if carried and if possible keep the beacon/hazard lights running.
- Only leave your vehicle if it is safe to do so.

Blocked Route

- Contact your supervisor by radio or telephone if it is safe to do so. Give as much information as possible.
- Await instructions from your supervisor. Do not try to take an alternative route unless instructed to do so, you may get into more difficulty and your supervisor will not know where you are.
- If communications are not possible return along your previous route to your depot, and report to your supervisor.

Road Traffic Accident

- Contact your Duty Officer by radio or telephone if it is safe to do so. Give as much information as possible to ensure that the correct emergency services can be dispatched.
- Check the further danger to any casualties that may be there, especially check the numbers as people can be thrown some distance from a vehicle involved in a road traffic accident.
- Give assistance if possible.
- Await the arrival of the emergency services before continuing on your route. If the route is blocked follow the action given for 'Blocked Route' above.

Do not put yourself at risk!

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5.0 Associated Documents

6.0 Records

Reference	Title / Description	Responsibility for Retention of Records	Location Held / Storage Medium Electronic (E) Hard Copy (H)	Retention Period Years (Y) Months (M)	Statutory (S) Commercial (C)

7.0 Revision Status

Rev	Date	Amendment	Content Owner	Mandated By

8.0 Appendices

- High Level / Low Level and contract specific risk assessments for the Generic Risk Control arrangements. The main points are listed below;

Should this document be printed the below documents should be attached

	H30 Winter Maintenance Risk Assessment
	VG 03 First Aid risk assessment
	VG07 Lone Working risk assessment
	VG05 inclement weather risk assessment
	H29 Use of plant and tools risk assessment
	H22 pressure washing risk assessment

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ID	Hazard	Adverse Effects	Persons Affected	Control Measures	
Storage of Materials					
1	Salt Storage	Potential serious or fatal injuries from falling salt stockpiles	Workforce	All vertical faces formed during loading to be ramped down	ViaH30
2	Spillages	Potential slip and trip injuries	Workforce	All spillages to be cleaned up	ViaH30
Storage of Equipment					
3	Snow Ploughs	Serious injuries from falling snow ploughs or trapped fingers	Workforce	- Store Snow Plough on purpose made stand if available - Or in an upright stable position on firm level ground	ViaH30
Loading Shovels and Telehandlers					
4	Use of Telehandlers for loading	Various Injuries from Overturning Telehandlers	Workforce	A dedicated 'Wheeled Loading Shovel' will be generally used to stockpile salt in the salt dome / bar, to minimize stability issues with 'Telehandlers', Should a 'Telehandler' be required to be used, the 'Telehandler' user must only be operated within the specific telehandlers capabilities (see Operators Manual), and Operators must: - Wear Seatbelts when operating a 'Telehandler', - Keep buckets or any loads low to the ground when travelling, - Avoid travelling across slopes, uneven or unstable ground (keeping all four wheels on solid level ground,	ViaH30
Training					
5	Spreader Vehicle Operators	Potential for serious or fatal incidents	Workforce and Public	All Operators to be formally trained and assessed minimum 1 day training and 0.3 day assessment (City and	ViaH30

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ID	Hazard	Adverse Effects	Persons Affected	Control Measures	
				- Guilds 6159) - And familiarised with the particular machine they are using.	
6	Loading Vehicles	Potential for serious or fatal incidents	Workforce	- All Operators to hold CPCS or other approved certification - And familiarised with the particular machine they are using.	ViaH30
Spreader Vehicles					
7	Lack of maintenance	Vehicle accident related injuries including death	Workforce and Public	Ensure Permanently Mounted Spreader Unit is regularly serviced as per manufacturers recommendations	ViaH30
8	Accessing vehicle and Spreader	Falls from vehicle causing broken bones, abrasions and bruises	Workforce	- Operators to use hand and footholds or spreader access ladder when accessing or egressing the vehicle or spreader - Take extra care in cold and wet weather	ViaH30
9	Defects to equipment	Vehicle accident related injuries including death	Workforce and Public	- Vehicle and Spreader to be inspected for defects prior to use and defects recorded - All defects to be reported to the Supervisor - If the equipment is transferred (hired, borrowed or purchased) the last inspection must accompany the equipment.	ViaH30
10	Rotating spinner	Contact with moving machinery causing serious injuries	Workforce	- Ensure all guards are in place before operating the spreader - Do not walk through the spread to make adjustments - Do not adjust any part of the machine when it is running. Stop the spreader and the vehicle engine before making any adjustments	ViaH30
11	Rotating conveyor	Contact with moving machinery causing serious injuries	Workforce	Do not climb into the hopper or use the access ladder unless the engine is stopped and ignition key removed	ViaH30

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12	Corrosion of Body or Chassis	Vehicle and spreader damage leading to defects	Workforce and Public	- Ensure load spill deflectors are fitted correctly (if fitted) - Wash Spreader and vehicle thoroughly down after use	ViaH30
13	Testing or Emptying Spreader	Eye injuries from flying debris	Workforce	Restrict pedestrians from the area when testing or emptying the spreader unit	ViaH30
Spreading of Salt					
14	Projected salt	Damage to vehicles and potential to cause RTA's	Workforce and Public	- Operator to ensure vehicle driven at correct speed - Operator to ensure that correct spin / spread settings are engaged - If the vehicle is stopped in traffic or for any other reason the gritting should be stopped	ViaH30
15	Faults during Spreading	Damage to vehicles, potential to cause RTA's, and undue use of salt	Workforce and Public	- Observation of correct spreading operation should be maintained though on board sensors and / or visual checks of mirrors - If there are any defects noticed that require attention. The driver should inform the Supervisor or the Network Response Centre of his location and that he is leaving the cab, and after investigation will inform the above of his re-starting or other	ViaH30
16	Gritting in Heavy Traffic	Damage to vehicles and undue use of salt	Workforce and Public	- To be avoided where possible - If not possible may require Police Assistance	ViaH30
17	Strong Winds	Potential to cause RTA's due to untreated road surfaces	Workforce and Public	Strong winds can affect the treatment of a carriageway substantially. If encountered inform the Supervisor or the Network Response Centre of the location and conditions for onward transmittal to Duty Officer	ViaH30
18	Observation of conditions not expected	Potential to cause RTA's due to untreated road surfaces	Workforce and Public	The driver should inform the Supervisor or the Network Response Centre of the location and conditions for onward transmittal	Refer

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Snow Ploughing					
19	Rubber Blade wear or damage	Increased risk of serious injury in the event of an incident	Workforce	- Inspect prior to fixing Snow Plough and periodically during use - Check rubber blade height and for damage / wear to rubbers	ViaH30
20	Carriage of a snow plough when not in use	Damage to vehicle	Workforce	Ensure the transit lock / safety bar is in place	ViaH30
21	Mounting a Snow Plough	Potential crushing and injection injuries	Workforce	- Only mount and snow ploughs on firm level ground. - Roll snow plough to the vehicle or drive the vehicle to the plough with the aid of a Banksman - Ensure snow plough is correctly fixed to the vehicle, and all hydraulic hoses are connected	ViaH30
	Obstructions to Ploughing	Potential RTC injuries, possible fatal injuries	Workforce and Public	Operator to assess the situation and decide the best cause of action, and report obstruction to the Supervisor and / or Network Control Centre	ViaH30
22	Ploughing into the Centre Reserve	Potential RTC injuries, possible fatal injuries	Workforce and Public	Speeds should be regulated to avoid snow being thrown or pushed into opposing carriageways	ViaH30
23	Ploughing over bridges	Potential RTC injuries, possible fatal injuries	Workforce and Public	Speeds should be regulated to avoid snow being thrown or pushed over bridge parapets	ViaH30
24	Ploughing adjacent to Junctions	Potential RTC injuries, possible fatal injuries	Workforce and Public	Avoid where practicable piling snow against junctions, pedestrian crossing points, etc.	ViaH30
25	Speed Humps and Ramps	Damage to vehicle and potential RTA injuries	Workforce and Public	- Operator to have local knowledge of area - Marker posts to be positioned at ramp / hump locations	ViaH30
26	Inexperienced Snow Plough / Spreader	Damage to vehicle and potential RTA injuries	Workforce and Public	When the Spreader Vehicle Operator is inexperienced, and in these circumstances the Spreader Vehicle should	ViaH30

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	Operators			be double manned with one inexperienced and one experienced Operator,	
27	Severe Weather Conditions, Remote Routes in Poor Weather Conditions, potential attacks on Plough / Spreader Vehicles	Damage to vehicle and potential RTA injuries	Workforce and Public	The Winter Service Duty Manager shall dynamically Risk Assess the ongoing non-generic hazards, and if required Ploughing or Spreader Vehicles should be Double Manned.	VG 05
Washing down of Vehicles					
28	Personnel Protection	Various injuries from slips, trips, spray and cold	Workforce	- Wear suitable waterproof boots or Wellingtons - Wear suitable weather and water proof clothing and gloves - Wear suitable protective goggles	VG10
29	Washdown Area – Lighting	Various injuries from slips and trips	Workforce	Washdown areas should be provided with suitable task lighting for working at night	Via H22
30	Washdown Area - Surfacing	Various injuries from slips and trips	Workforce	Washdown areas surfacing should be hardened and level to limit slips and trips	Via H22
31	Icy / Snowy Weather Conditions	Various injuries from slips and trips	Workforce	- Grit washdown and surrounding areas to prevent build up of ice or snow - Visually assess the wash down area and inform Supervisor if considered unsafe to proceed - Utilise internal wash down facilities when provided	VG11
32	Windy Weather Conditions	Various injuries from wind blown spray	Workforce	- Ensure adequate PPE is worn to protect from wind blown spray - Utilise internal wash down facilities when provided	VIA H22
33	Access to Height to Wash Down Vehicles	Potential for Fatal vehicle related injuries	Workforce	- Utilise vehicle access platforms, for access - Or where provided purpose made wash down platforms	VG14

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				- Do not stand on hopper grills, or other areas of the vehicles where suitable falls or slip protection is provided - Should the vehicle design require additional access arrangements inform your Supervisor	
34	Access to Height to Wash Down Vehicles in Icy / Snowy Weather Conditions	Potential for Fatal vehicle related injuries	Workforce	- Be aware of ice forming on the footholds - Remove build up snow or slush from access points and walkways	Via H22
Assessor Name:				Signature:	