

APPENDIX 2 - SALT USE REDUCTION AND PRESERVATION OF STOCKS PROTOCOL (2020 REVISED)

ARGYLL AND BUTE COUNCIL WINTER SERVICE – OPERATIONS 2023 - 2024

Protocols for the reduction in use of salt and preservation of remaining stocks.

Storage Capacity, Stock Transfers and replenishment times

Storage capacity in all 15 “Operational” salt stores has been increased by 3,500tonnes to approximately 14,000tonnes, since 2009, through phase 1 of the covered tunnel construction programme. The 3,000tonne plus capacity Dome in Helensburgh, although an operational store, has an element of strategic storage.

For national salt resilience purposes, daily usage is calculated on 2 Priority WRC1-3 network treatments and one WRC4 “other routes” treatment in each 24hr period. This equates to 370 tonnes/day at normal use levels, 600 tonnes/day for heavy snow.

The West of Scotland Co-ordination Group, Roads sub-group agreed that Roads Authorities should achieve a minimum storage capacity of equivalent to 70% of the average total salt usage of the last three severe winters. ***This equates to a minimum 10,283 tonnes for Argyll and Bute for 2023.***

The target tonnage for the start of each season, 1st November may vary, as replenishment of some stores are related to shipping capacity and availability, however a minimum 11,000tonnes is considered reasonable. This equates to 28 continuous days supply at Winter Policy treatment levels.

As the national salt supply contract has an allowance of 21 days to fulfil delivery from point of order, the minimum resilience required in normal conditions equates to four weeks operations or approximately 60% of the new capacity, at 10,000tonnes. In practice, reduced quantities of 6,000tonnes before replenishment are acceptable. This equates to a resilience of 16 days operations, at normal treatment levels.

Within this total quantity, material may require to be moved between stores to preserve a degree of individual resilience in each of the operational stockpiles around the network. Internal transfers between stores ensure adequate stocks are available as much as practicable to maintain a consistent treatment regime throughout the network. In this way the hierarchy of route treatments can be preserved as per the policy, for as long as practicable within any delivery shortage period.

Operational Decision techniques to Manage Salt use

Winter Service Policy already recognises the need to preserve salt primarily for the prevention or treatment of ice on higher speed carriageways. 3Grit:1Salt mixes are already utilised in Grit Heaps and Bins and in the reactive treatment of footways.

Salt preservation techniques can be instigated on carriageway treatments where forecasts or conditions indicate that a mixture of salt and grit will provide the best treatment to aid traction. The winter operations decision to use 50/50 mixes should only be for this purpose, rather than to preserve supplies. In periods of falling snow, Grit only should be used on “return” ploughing legs until such time as snowfall ceases and there is an expectation that salt will melt any residual snow after ploughing.

In settled constant dry conditions Residual Salt levels on carriageways allow the curtailment of further treatments, as part of the daily operational plan.

Reduction in Salt use in treatments, to preserve remaining stocks

Where salt stock levels reduce and replenishment activities are doubtful in either quantity or timescale, the use of salt will be curtailed under the following procedures.

Salt Preservation level	Circumstances	Authorised by
SP1	Total Operational Stocks reduce to 6,000tonnes	Winter Manager

This level will be reached in conditions of reasonably prolonged hazardous conditions or where extreme conditions reduce the effectiveness of salt. The supply chain for salt replenishment may become of national importance and Transport Scotland and West of Scotland Co-Ordination Group advice may be received.

First Operation:- Activate replenishment from Strategic Stockpile at Helensburgh Dome

Depending on the likely delay in replenishment, part of the Strategic stockpile may be moved to other operational stores. The quantity will be determined by the potential delivery date for shipping, to replenish the Helensburgh store from King George 5th Dock Glasgow and other western stockpiles, via Argyll ports. The transfer of each 1,000 tonnes of stock will provide a further 4 days resilience within the operational stores, at normal use rates.

Resilience:- 4 - 12days at normal use levels 375t/day : 2 - 6 days heavy snow 600t/day

Second Operation:- Activate Salt Preservation Measures

Salt treatments will be reduced. Spread rates adjusted from 40g/m² to 20g/m², or 20g/m² to 10g/m². Further reductions in the salt content of all carriageway treatments will be achieved by mixing Grit and Salt together, firstly at 1Grit:1Salt then 2Grit:1Salt.

In extreme frosts where RSTs remain below -5C all day, and salt is considered to be ineffective, additional treatments of pure Grit on all routes can be instructed to aid traction. Grit heaps, bins and footway treatments will remain at 3grit:1Salt.

Resilience:- 32days at reduced use SP1 = 188t/day : 20days heavy snow

<u>Salt Preservation level</u>	<u>Circumstances</u>	<u>Authorised by</u>
SP2	Total stocks reduce to 4,000tonnes	Head of Service

Salting treatments will be curtailed to Priority 1&2 pre-treatment routes only (1233km – rev 2021)

The SP1 salt mixing techniques will be used in all further SP levels.
All other treatments will be of pure Grit including replenishment of grit bins / heaps.

Resilience:- 25 days at reduced use SP2 = 156t/day : 15 days heavy snow

<u>Salt Preservation level</u>	<u>Circumstances</u>	<u>Authorised by</u>
SP3	Total Stocks reduce to 2,000tonnes	Executive Director

Salting will be reduced to one treatment per 24hr forecast period, of the Priority 1&2 network, usually 06:00hrs mornings, in advance of the majority of traffic movements.

All other treatments will be of pure Grit including replenishment of grit bins / heaps

Resilience:- 25 days at reduced use SP3 = 78t/day : 15 days heavy snow

<u>Salt Preservation level</u>	<u>Circumstances</u>	<u>Authorised by</u>
SP4	Total stocks reduce to 1,000tonnes	Chief Executive

Salting reduced to Priority 1 and Priority 2 “A” class routes only 06:00hrs. (492km)
All other roads and mobilisation times, Grit only.

Resilience:- 32 days at reduced use SP4 = 31t/day : 20 days heavy snow

<u>Salt Preservation level</u>	<u>Circumstances</u>	<u>Authorised by</u>
SP5	Total Stocks reduce to 700 tonnes	Chief Executive

Effectively **2 days resilience at original policy normal use**. The trigger point for application to Scottish Executive Emergency Salt stockpile. Release of salt, allowing replenishment out with the normal constraints of the national salt supply contract.

Resilience:- 22 days at reduced use SP5 = 31t/day : 13 days heavy snow

Total resilience: SP1 (2nd Op) > SP5 (end) = 68 days : 41 days heavy snow