

State of Maine
Department of Transportation
Bureau of Maintenance & Operations

For the period of 7/01/2018 to 06/30/2019

I. GENERAL REQUIREMENTS

VENDOR/CONTRACTOR QUALIFICATIONS: Any vendor that has not been awarded a State of Maine Road Salt Master Agreement in the last 5 seasons will need to furnish the following to prove sufficient infrastructure is in place to meet the high demand during the resulting award period:

- Location of current salt stockpile for testing purposes, in New England preferably. (Shipped samples are not acceptable)
- Three references from current State or municipal customers
- Confirmation that the company has access to space within the state (e.g. confirmation of pier access and storage space from the Port Authority), or nearby location in an adjacent state or Canadian province, where sufficient quantities of salt can be received, managed and distributed out to the contract locations for this award period.
- Confirmation of available trucking over the contract period from a company that is located either in-state or reasonably local to the source material located in an adjacent state or province.

Any vendor that has not been awarded a State of Maine Road Salt Master Agreement in the last 5 seasons and does not, or cannot, furnish all of the above will be disqualified.

ESTIMATED USAGE:

The estimated salt usage for the upcoming winter season is in Exhibit B. The quantities listed are based upon typical past usage and the amount of material that is currently stockpiled at each location. These estimated quantities reflect a reasonable approximation of the salt required for an “average” winter. They do not represent a minimum or a maximum amount that will be ordered. However, in aggregate, these quantities are expected to be within 25% of the total indicated, either above or below, depending upon the winter.

PARTICIPATING MUNICIPALITIES:

Please see Exhibit B Municipalities2017 bid.xls which is attached to this RFQ and shows Municipalities/Political Subdivisions and estimated tonnage.

BASIS OF AWARD:

Municipalities/Political Subdivisions will have the option to make a best value determination for the award of any salt area. Such determination will be made with consideration of the price difference between the lowest bidders and the past history.

AUDITS AND ACCOUNTING:

The successful bidder shall allow representatives of the State of Maine to have complete access to all records for the purpose of determining compliance with the terms and conditions of this bid invitation and in determining the award and for monitoring any resulting contract.

At intervals during the contract term, and prior to the termination of the contract, the successful bidder may be required to provide a complete and accurate accounting of all products and quantities ordered by each agency and institution and by political sub-divisions and authorized non-profit organizations.

INVOICING:

Separate invoices are required for each order number. Invoices shall include the stockpile location the order is taken from. Each load is to be listed separately with the date delivered on the invoice. Partial orders will not be paid for unless the

Municipality/Political Subdivision has over-ordered for a particular location. Matching delivery slip numbers for each order should be included on the invoice. Invoices received with the delivery slip numbers will be processed prior to invoices without delivery slip numbers.

ORDERING PROCEDURE:

Political sub-divisions and authorized non-profit organizations shall utilize their own individually established ordering procedures.

MUNICIPALITIES/POLITICAL SUBDIVISIONS: After notification of bid results, the Municipalities will have two weeks to individually accept or reject their low bid. If they choose to accept the bid, they are committing to buying at least 75% of that quantity and the prices received will also be held for up to 125%. If they reject the bid or no response is received, they will be out of the contract and will need to obtain salt through separate channels. Political sub-divisions and authorized non-profit organizations shall utilize their own individually established ordering procedures. Participating municipalities are 100% responsible for whatever they commit to and the State of Maine and/or MDOT will not pay for salt the municipalities do not pay for.

MEASUREMENTS:

The term ‘Ton’ shall mean the short ton consisting of 2,000 pounds avoirdupois. Each truck used to haul salt shall bear a plainly legible identification mark, and a tare weight shall be taken prior to each load.

WEIGH SLIPS:

Each truck delivery shall be accompanied by a weigh slip, which shall be left with an employee who works at the delivery point of load. The employee will sign a copy of the weigh slip to acknowledge the receipt of the load.

Contractor shall provide numbered weigh slips, which show the following information:

- Name and address of the contractor
- Name and address of the owner of the scales
- Location of the scales
- Consignee and destination
- Date of delivery
- Order number
- Gross, tare and net weights
- Signature of weigher
- Current vehicle registration number and/or other legible identification mark and signature of vehicle operator
- Space for signature of the department employee accepting the shipment

The State of Maine/Municipalities/Political Subdivisions reserves the right to weigh any truck at a designated location before or after delivery to any particular storage site.

STORAGE REQUIREMENTS

All salt distribution piles shall be covered to prevent the salt from becoming excessively damp. Salt distribution piles shall be covered, or stored within a building, within five (5) days of being established.

DELIVERY REQUIREMENTS:

The sodium chloride shall arrive at the delivery location in a free flowing and useable condition. All truck deliveries shall be dumped at a specific location, either inside or immediately outside a storage building, as directed by the on-site personnel.

Deliveries of trucked salt shall be protected in transit by tight, waterproof coverings to avoid spillage and to prevent additional accumulation of moisture during transit to ensure the least possible moisture content upon delivery. Torn, ripped or permeable load covers or excess water running out of the delivery truck are unacceptable conditions and are likely to result in rejection of the load (ref. “Delivery Rejection” section below).

The State of Maine/Municipalities/Political Subdivisions requires that all deliveries of salt be made in complete compliance with existing state, national, provincial laws or regulations. **Violation of any laws or regulations, including but not limited to weight limitations, shall be considered as grounds for disqualification of the supplier, hauler or both.**

DELIVERY:

Orders for salt shall be delivered within **five (5) working days** of order notification to the contractor. Contractor will make every effort to have delivery vehicle arrival times spread out so as not to exceed the capacity of the equipment used to pile the salt at the delivery location. Should several vehicles arrive at the delivery point at the same time, some vehicles may be delayed before being allowed to dump their load.

NOTICE OF DELIVERY:

The contractor must provide a minimum twenty-four (24) hour notice to each Municipality/Political Subdivision office prior to any delivery. Notice must include scheduled delivery date, estimated time and quantity of salt to be delivered

DELIVERY TIMES:

Truck deliveries will be accepted only during the hours of 6:00 am to 4:00 pm Monday through Friday, unless otherwise arranged with the Municipalities/Political Subdivisions prior to each delivery. Delivery times outside of the normal working hours noted above may require the contractor to reimburse for the actual cost of personnel brought in to receive the delivery.

STATE HOLIDAYS:

Deliveries will not be arranged or accepted on any official State of Maine holiday or shut-down day unless specifically requested and approved. A listing of official holidays and shut-down days will be provided upon request. (Shut down days normally exist on a single work day either immediately prior to or following an official holiday.)

FAILURE TO DELIVER:

If a contractor fails to furnish salt in accordance with all requirements, including delivery through the end of the contract period, the Municipalities/Political Subdivisions may re-purchase the same item from another source, without competitive bidding, and the original contractor may be liable to the state for any excess cost. Experience from past winters has shown that, during periods of heavy storm activity, the ability to provide a trucking capacity of at least twelve (12) 30-ton deliveries, per day, per region, will be necessary at times. Contractors that are unable to reliably provide salt deliveries may become ineligible to receive future contract awards.

INSPECTIONS:

The State of Maine/Municipalities/Political Subdivisions shall be provided free entry and access at the Contractor's storage areas for sampling. It is anticipated that determination for initial compliance will be made from samples obtained from the supplier's storage areas or from rail cars if no storage areas are provided within the state. Shipments to the delivery locations may be randomly sampled for compliance. Said samples shall be representative of all salt delivered to a location on that day. Penalties, if any, will be assessed against the accumulated and mixed samples of each day's delivery to each location. Details of penalties and percentages are outlined in Section III, *Penalties and Price Adjustments*. Laboratory results will be provided to the Contractor when penalties are assessed.

Contractor is strongly encouraged to sample and test their product prior to shipping product to the buyer so that any necessary corrective action may be taken to assure conformity to specifications.

DELIVERY REJECTION:

The State of Maine/Municipalities/Political Subdivisions reserves the right to reject or refuse any salt or deliveries which do not conform to these specifications for screen size, chemical quality or moisture content, or which are not delivered in good condition. Shipments that are rejected will be returned to the Contractor at no cost to the state. Contractor shall promptly replace all deliveries of salt that are rejected.

II. SPECIFICATIONS FOR MINED ROCK SALT

CHEMICAL COMPOSITION:

The sodium chloride shall conform to a chemical composition of a minimum of 95%. Variations of less than 95% but above 93% will result in acceptance at reduced payment as provided in Section III, *Penalties and Price Adjustments*.

GRADING:

Rock salt shall conform to the following particle size distribution specifications as determined by laboratory sieves:

- Passing a 1/2" sieve (12.50mm) 100%
- Passing a 3/8" sieve (9.50mm) 95% - 100%

- Passing a No. 4 sieve (4.75mm) 20% - 80%
- Passing a No 8 sieve (2.36mm) 10% - 50%
- Passing a No 30 sieve (0.60mm) 0% - 10%

Because of restrictions used to calibrate salt on Department sanders, the 1/2" gradation requirement is critical. The contractor will be required to re-screen the sodium chloride for continued oversize deliveries.

MOISTURE:

Salt shall be in a free-flowing condition when received at the delivery location with a moisture content not to exceed 1%.

ANTI-CAKING ADDITIVE:

Salt shall be loose and free of lumps and shall contain not less than 20ppm of pure anti-caking agent. All bidders are required to identify type of anti-cake additive used in their product. Bidders are required to submit the appropriate Material Safety Data Sheets (MSDS) and Product Information/Data Sheets to the State of Maine at the time of bid response.

Please State Anti-Cake Additive : _____

III. PENALTIES AND PRICE ADJUSTMENTS

CHLORIDES:

Penalties will be assessed against the accumulated and mixed samples of each day's deliveries to each location for salt that does not meet the chemical composition of total chlorides as specified in Table 1.

TABLE 1 – Percent Sodium Chloride

Percent (%) of Sodium Chloride	Percent (%) of Payment of Unit Bid Price
95.0 % - 100%	100%
94.0 % – 94.9 %	96%
93.0 % - 93.9 %	92%
Below 93.0 %	Not Acceptable

MOISTURE:

Delivered rock salt shall not normally exceed one percent (1.0 %). Salt which exceeds the moisture content as specified will be subject to penalties according to Table 2.

TABLE 2 – Moisture Content for Rock Salt

Moisture Content	Percent (%) of Payment of Unit Bid Price
0 – 1.0 %	100%
1.1 – 2.0 %	98%
Above 2.0 %	Normally rejected. If accepted, see ** below

** Rock salt with a moisture content in excess of 2% will normally be rejected. If the state elects to accept salt with a moisture content exceeding 2%, the price reduction shall be calculated as follows:

$$\text{Percentage (\%)} \text{ of payment of unit bid price} = 100 - 3.5 (\text{moisture content in \%} - 1)$$

Example: *Rock salt with a moisture content of 3.0 %*
 % of Payment of unit bid price = 100 – 3.5 (3.0-1.0)
 % of Payment of unit bid price = 93.0 %

GRADATION:

A penalty will be assessed for gradations that exceed the maximums specified in Section II, *Grading*. The bid price of the salt will be reduced by one (1) percent for each percent by which gradation exceeds the maximums allowed.

CONTAMINATION:

Each load of salt having contaminants in it (e.g. trash, pavement chunks, tarps, etc...) shall be subject to rejection at no cost to MaineDOT. If MaineDOT elects to keep the delivery, a penalty of 5% will be applied to each load, in addition to any other applicable penalties that may be in effect.

ASSESSMENT OF PENALTIES:

Random sampling and testing of rock salt shall be obtained and tested by Maine Department of Transportation personnel. Failing test reports will be used to calculate reduced payments when penalties and price adjustments are to be applied. The reduction in payment shall continue until such time as a new passing test is obtained. When onsite inspections and tests indicate that the salt being supplied is an inferior product, the Contractor will be notified that the salt is unacceptable. If acceptable rock salt is not provided within five (5) working days (or as otherwise authorized by the MaineDOT/Municipalities/Political Subdivisions), then the MaineDOT/Municipalities/Political Subdivisions may pursue such actions as described in Section I, *Failure to Deliver*.

EXCESSIVE PENALTIES:

Contractors that are unable to reliably provide salt meeting the specifications set forth in Section II, without penalties, may become ineligible to receive future contract awards.

IV. SAMPLING AND TESTING

SAMPLING:

Each sample submitted for testing shall consist of a minimum of three increments selected at random from the material. Each increment shall be at least a pound in weight and not include the top inch of stored material. Every attempt shall be made to insure a composite sample representative of the pile. Samples for chemical composition, gradation and anti-caking may also be obtained at the time of delivery to the purchaser's delivery destination.

METHOD OF TESTING:

1. Chemical composition testing for sodium chloride shall conform to the rapid method of testing given in Appendix A1 of AASHTO M-143-86. A second method of rapid analysis could be the use of Gran's plot titration method developed by Orion Research Incorporated. In case that the coarse salt sample is used 100.00 g sample is taken and dissolved in a 2-liter volumetric flask quantitatively. An aliquot of 5.00 ml or 2.00 ml of this solution is then pipetted out to the titrated according to either of these two methods.

If controversy occurs, analysis shall be made in accordance with the method specified for "Salt" in the current "Official Methods of Analysis for the Association of Official Agricultural Chemists".

2. Particle size analysis shall consist of using sieves with square openings mounted on substantial frames or interlocked in a manner as to prevent loss of material during sieving. Woven wire cloth shall conform to AASHTO M92. Gradation analysis shall be made on oven dried material and the sample shall weigh after drying at least 500 grams. In no case shall the fraction retained on any sieve at the completion of the sieving operation weigh more than four grams per square inch of sieving surface (this is 200 grams for 8 inch diameter round sieves).

If sieving is completed by hand, the procedure will include shaking with lateral and vertical motion with occasional jarring action so as to keep the material moving continuously over the surfaces of the sieves for a time of not less than three minutes. The balance or scale shall be sensitive to within 0.2% of the weight of the sample to be tested.

3. Moisture content shall be determined by a method of weighing before and after oven drying at 110° + 5° C (230° + 9° F) for a minimum of four hours.

4. The test for anti-caking material shall be made following the attached method for colorimetric determination of YPS or YPP treated salt. For an anti-caking material other than YPS or YPP the successful bidder shall indicate the chemical nature of the material and shall furnish a laboratory procedure for determining the amount of anti-caking material to the Maine Department of Transportation, Testing Engineer, P.O. Box 1208, Bangor, Maine 04401 within 30 days of the award of the bid by the Bureau of Purchases.

METHOD FOR THE COLORIMETRIC DETERMINATION - YPS TREATED ROCK SALT

Scope of Method

This colorimetric procedure is applicable in determination range 0-100 ppm of Sodium Ferro cyanide $\text{Na}_4\text{Fe}(\text{CN})_6 \cdot 10 \text{H}_2\text{O}$ (YPS) utilizing a colorimeter such as the Coleman Jr. II spectrophotometer.

Reagents

1. Sodium Ferro cyanide $\text{Na}_4\text{Fe}(\text{CN})_6 \cdot 10 \text{H}_2\text{O}$
2. Ferrous Sulfate $\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$
3. Sulfuric Acid, concentrated
4. Sodium Chloride, reagent grade
5. Sodium Hydroxide, reagent grade

Reagent Solutions

A. Sodium Ferro cyanide Solutions

1. 0.1% solution - weigh exactly 1.000 gram of Sodium Ferro cyanide, dissolve in distilled water and dilute to 1 liter.
2. 0.05% (500 ppm) solution - take 50 ml aliquot of the above 0.1% solution and dilute to 100 ml.

B. Ferrous Sulfate (5% solution)

Dissolve 5 grams $\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$ in approximately 50 ml of water, add 2 ml concentrated Sulfuric Acid and dilute to 100 ml.

C. Sodium Hydroxide Solution (2%)

Dissolve 20 grams of NaOH in 1 liter of water.

D. Sulfuric Acid, 1:5

Add 20 ml of conc. H_2SO_4 slowly into 100 ml of water, mix well and let cool.

Note: Solutions A and B should be prepared fresh daily or as required.

Preparation of Standards

Six 25 gram samples of reagent grade NaCl are weighed (to 0.01 g) and placed in 250 ml beakers. To each of the samples add 0, 1, 2, 3, 4 and 5 ml of 0.05% sodium Ferro cyanide solution, respectively, (0 ml being a blank) mix well. Prepare standard solution by adding NaOH and H_2SO_4 as described in the sample preparation except NO filtration is needed. To all six flasks add 5 ml of the Ferrous Sulfate solution, bring to 100 ml mark with water, cover flasks with stoppers and mix well. Maximum intensity of color develops in 15 minutes. The standards now indicate 0-100 ppm of Sodium Ferro cyanide in increments of 20 ppm with respect to the original salt sample.

Determination of Sodium Ferro cyanide in Rock Salt

The bulk sample is split down to representative sample of about 300 grams. This portion is then pulverized such that it will all pass a 70 mesh sieve and is mixed thoroughly to ensure good homogeneity. A 25 gram portion of this material is mixed with 5 ml 2% NaOH, stirred and let set for 10 min., 60 ml of water is then added into this solution and the pH is adjusted to 2 with H_2SO_4 (1:5). The solution is filtered through a #1 Whatman filter paper into a 100 ml volumetric flask. Five ml of Ferrous Sulfate solution is added, the volume brought to mark, the flask stoppered, the contents well mixed and allowed to stand 15 minutes. The absorbance of each of the standard solutions is determined against the blank solution at 775 nm. A calibration curve of absorbance vs. ppm is constructed. The absorbance of the samples is then determined and the concentration is read off the calibration curve.