

| CONTRACT AWARD | | | |
|--|---|--|--|
| CONTRACT TERM: JANUARY 24,2020 TO JANUARY 23,2022 | | | |
| RESOLUTION NUMBER-2019-626 | | | |
| | <u>PRIMARY VENDOR FOR UNTREATED ROCK SALT AND SOLAR SALT</u> | <u>PRIMARY VENDOR FOR TREATED ROCK SALT ; SECONDARY FOR UNTREATED ROCK SALT</u> | <u>SECONDARY VENDOR FOR TREATED ROCK SALT</u> |
| NAME OF BIDDER | RIVERSIDE CONSTRUCTION MATERIAL, INC. | MORTON SALT, INC. | CHEMICAL EQUIPMENT LABS INC. |
| ADDRESS | 355 NEWBOLD ROAD | 444 . LAKE STREET, SUITE 3000 | 3920 A. PROVIDENCE RD. |
| CITY, STATE, ZIP | FAIRLESS HILLS, PA 19030 | CHICAGO, IL 60606 | NEWTOWN SQUARE, PA 19073 |
| CONTACT | W. TIM KURZ | ANTHONY T. PATTON | JOHN P. MORGAN |
| TELEPHONE | 267-566-1802 | 855-665-4540 | 610- 497- 9390 |
| FAX | 267-907-1905 | 630-214-0725 | 610 -497 -9524 |
| E-MAIL | TKURZ@SILVI.COM | BUYROADSALT@MORTONSALT.COM | JPM@CHEMICAL EQUIPMENT LABS.COM |
| PORT LOCATION: PICKUP AVAILABLE | YES | YES | YES |
| ADDRESS | 7900 N. RADCLIFF STREET | 1121 BORDENTOWN ROAD | ONE BEN FAIRLESS DRIVE |
| CITY, STATE, ZIP | BRISTOL , PA 19007 | MORRISVILLE, PA 19067 | FAIRLESS HILLS, PA 19030 |
| CONTACT FOR ORDERING OF SALT | JOHN SANCHEZ | CUSTOMER SERVICE DEPT. | PAULA TURNBACH |
| ADDRESS | 355 NEWBOLD ROAD | 444 W. LAKE STREET, SUITE 3000 | 3920 A PROVIDENCE RD |
| CITY, STATE, ZIP | FAIRLESS HILLS, PA 19030 | CHICAGO IL, 60606 | NEWTOWN SQUARE, PA 19073 |
| TELEPHONE | 1800-426-6273 | 1855-665- 4540 | 610- 497- 9390 |
| FAX | | 630 -214 -0725 (ATTN:ROAD SALT DEPT) | 610- 497- 9524 |
| EMAIL | SALTORDERS@SILVI.COM | BUYROADSALT@MORTONSALT.COM | PTURN@CHEMICAL EQUIPMENT LABS.COM |

CK09MERCER2019-28 PROPOSAL PAGE FOR TREATED AND UNTREATED ROCK SALT AND SOLAR SALT FOR THE COUNTY OF MERCER AND THE MERCER COUNTY COOPERATIVE CONTRACT PURCHASING SYSTEM FOR A PERIOD OF TWO (2) YEARS

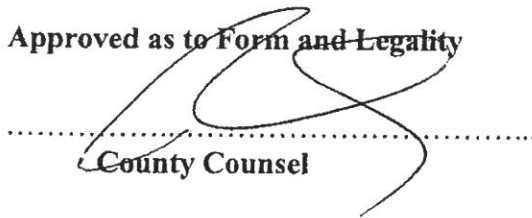
| | RIVERSIDE CONSTRUCTION MATERIAL INC. | | MORTON SALT | | CHEMICAL EQUIPMENT LABS OF DE INC.- |
|---|--------------------------------------|--------------|--|-----------------|--|
| | UNTREATED TONS | SOLAR SALT | UNTREATED TONS (SECONDARY VENDOR) | TREATED TONS | TREATED TONS (SECONDARY VENDOR) |
| COUNTY OF MERCER: (D.O.T. - 1,500 UNTREATED & 16000 TREATED; P.C. - 600 TREATED AND 500 SOLAR SALT) | 1,500 | 500 | 1,500 | 16,600 | 16,600 |
| COST PER TON DELIVERED | \$ 50.93 | \$ 50.93 | \$ 51.50 | \$ 64.50 | \$ 67.03 |
| TOTAL COST *BASIS OF AWARD* | \$ 76,395.00 | \$ 25,465.00 | \$ 77,250.00 | \$ 1,070,700.00 | \$ 1,112,698.00 |
| COST PER TON FOR PICK-UP BY CONTRACTING UNIT | \$ 50.93 | \$ 50.93 | \$ 51.00 | \$ 64.00 | \$67.03 |

COUNTY COOPERATIVE MEMBER QUANTITIES

| | | | | | | |
|--|-------|--|--|--|--|--|
| CITY OF TRENTON | | | | | | |
| EAST WINDSOR, PUBLIC WORKS | 3,600 | | | | | |
| EWING TOWNSHIP | | | | | | |
| HAMILTON TOWNSHIP | 1,000 | | | | | |
| HIGHTSTOWN BOROUGH, PUBLIC WORKS | 200 | | | | | |
| HOPEWELL TOWNSHIP (INCLUDES 2,000 TON CONTINGENCY) | | | | | | |
| LAWRENCE TOWNSHIP | 3,500 | | | | | |
| PENNINGTON BOROUGH | | | | | | |
| PRINCETON (INCLUDES 3,000 TON CONTINGENCY) | 1,000 | | | | | |
| ROBBINSVILLE TOWNSHIP, PUBLIC WORKS | | | | | | |
| WEST WINDSOR TOWNSHIP | 1,000 | | | | | |
| WEST WINDSOR/PLAINSBORO SCHOOL DISTRICT | 200 | | | | | |

Approved as to Form and Legality

Date



 County Counsel

December 19, 2019

PARTIAL AWARD OF BID RECEIVED NOVEMBER 7, 2019 TO MORTON SALT, INC. AND RIVERSIDE CONSTRUCTION MATERIAL INC. FOR TREATED AND UNTREATED ROCK SALT AND SOLAR SALT FOR THE COUNTY OF MERCER AND THE MERCER COUNTY COOPERATIVE CONTRACT PURCHASING SYSTEM PERIOD: JANUARY 24, 2020 TO JANUARY 23, 2022. TOTAL AMOUNT NOT TO EXCEED \$1,172,560.00(CK09MERCER2019-28)

WHEREAS, the Mercer County Purchasing Agent has advertised for bids for treated and untreated rock salt and solar salt for use by the County of Mercer and the Mercer County Cooperative Contract Purchasing System for a period of two (2) years as authorized through Resolution No. 2018-89, adopted February 8, 2019; and,

WHEREAS, four (4) sealed bids were received on November 7, 2019 in connection with the aforementioned services; and,

WHEREAS, the bidders hereinafter designated are the lowest qualified bidders; and,

.....
 Clerk to the Board

| RECORD OF VOTE | | | | | | | | | | | | | |
|----------------|-----|-----|------|------|------|------|------------|-----|-----|------|------|------|------|
| FREEHOLDER | Aye | Nay | N.V. | Abs. | Res. | Sec. | FREEHOLDER | Aye | Nay | N.V. | Abs. | Res. | Sec. |
| Cannon | X | | | | ✓ | | Melker | X | | | | | |
| Colavita | X | | | | | | Walter | X | | | | | ✓ |
| Frisby | X | | | | | | Cimino | X | | | | | |
| Koontz | X | | | | | | | | | | | | |

X—Indicates Vote Abs.—Absent N.V.—Not Voting
 Res.—Resolution Moved Sec.—Resolution Seconded

WHEREAS, the bids of the following vendors shall be awarded for a period of January 24, 2020 through January 23, 2022, as follows:

TREATED ROCK SALT FOR MERCER COUNTY AND COOP MEMBERS

| | |
|--|--|
| <u>Morton Salt, Inc. (Primary Vendor)</u> 444 Lake Street, Suite 3000 Chicago, IL 60606 | <u>Price Per Ton</u> \$64.50 (Delivered) \$64.00(Pick-up) |
| <u>Chemical Equipment Labs of De Inc. (Secondary Vendor)</u> 3290 A. Providence Rd. Newtown, PA 19073 | <u>Price Per Ton</u> \$67.03 (Delivered) \$67.03(Pick-Up) |

UNTREATED ROCK SALT FOR MERCER COUNTY AND COOP MEMBERS

| | |
|--|--|
| <u>Riverside Construction Material Inc.(Primary Vendor)</u> 355 Newbold Road Fairless Hills, PA 19073 | <u>Price Per Ton</u> \$50.93(Delivered) \$50.93(Pick-Up) |
| <u>Morton Salt, Inc. (Secondary Vendor)</u> 444 Lake Street, Suite 3000 Chicago, IL 60606 | <u>Price Per Ton</u> \$51.50 (Delivered) \$51.00(Pick-up) |

SOLAR SALT FOR MERCER COUNTY

| | |
|---|---|
| <u>Riverside Construction Material Inc</u> 355 Newbold Road Fairless Hills, PA 19073 | <u>Price Per Ton</u> \$50.93(Delivered) \$50.93(Pick-Up) |
|---|---|

.....
Clerk to the Board

**SPECIFICATIONS FOR BID FOR TREATED AND UNTREATED ROCK SALT AND SOLAR SALT FOR THE COUNTY OF MERCER AND THE MERCER COUNTY COOPERATIVE CONTRACT PURCHASING SYSTEM FOR A PERIOD OF TWO (2) YEARS
CONTACT: CHRIS MARKLEY (609) 530 7500 EXT. 107**

INTENT

The County of Mercer requests bids for treated and untreated rock salt and solar salt. Contracts shall be awarded for a period of two (2) years. **Contract will commence January 24, 2020.** All questions can be sent via email to imaldonado@mercercounty.org.

BASIS OF AWARD

THE COUNTY SHALL AWARD PRIMARY AND SECONDARY CONTRACTS FOR TREATED AND UNTREATED SALT TO THE LOWEST, RESPONSIVE, RESPONSIBLE BIDDERS.

THE COUNTY WILL AWARD ONE CONTRACT FOR SOLAR SALT. ALL AWARDS WILL BE BASED UPON THE TOTAL COST PER TON DELIVERED.

The County reserves the right to purchase up to 16,600 tons of treated rock salt, 1,500 tons of untreated rock salt, and 500 tons of solar salt. Co-op members have provided estimated quantities as stated on the proposal page.

Estimated Quantities (Open-End Contracts): The County has attempted to identify the item(s) and the estimated amounts of each item bid to cover its requirements; however, past experience shows that the amount ordered may be different than that submitted for bidding. The right is reserved to decrease or increase the quantities specified in the specifications pursuant to N.J.A.C. 5:30-11.2 and 11.10. NO MINIMUM PURCHASE IS IMPLIED OR GUARANTEED.

COOPERATIVE CONTRACT PURCHASING SYSTEM

County Cooperative Contract Purchasing is a Cooperative Purchasing System that may be created only by a county. With the approval of both Mercer County and the awarded vendors, contracting units located within the geographic boundary of Mercer County will resolute and award formal contracts through their governing body, subject to the following specifications, terms and conditions.

Separate contracts and purchase orders shall be generated between each participating Cooperative Member and the successful vendors. Therefore, all Cooperative Members shall enter into formal written Contracts, through Resolution, approved by their Governing Body.

Refer to pages 10-11 for the County and County Cooperative contacts, delivery addresses and estimated quantities are on the proposal page.

DELIVERY RESPONSE TIME

Deliveries or pick-up shall be made within five (5) days from receipt of purchase order and confirmation from the awarded contractor.

Excepting force majeure, if goods are not available for delivery or pickup, the County and Cooperative Members reserve the right to procure the goods from the open market and hold the contractor responsible for any excess cost.

F.O.B. DELIVERY POINT

All prices bid shall be F.O.B. destination.

ORDERING AND INVOICING

Orders placed by Using Agency will be priced based on the line item bid price. The quantities of material for which payment will be made, will be those actually received in accordance with the orders for said materials, and conforming to the specification requirements. Invoices must reflect the bid price. The Cooperative Members shall place their own orders with the price based upon the line item bid price.

PICKUP BY AGENCY OR COOPERATIVE MEMBER

The County and Cooperative Members reserve the right to pick-up treated and untreated rock salt and solar salt. If orders are placed before 12 PM on a given day, pick-up shall occur within 24 hours. If orders are not placed by 12 PM, pick-up shall occur within 48 hours. A copy of the bidder's pick-up procedures shall be submitted with your bid response.

Any County agency or Cooperative member who chooses to pick up rock salt shall obtain a TWIC card. The Transportation Worker Identification Credential (TWIC) is a common identification credential for all personnel requiring unescorted access to secure areas of regulated facilities and vessels, and mariners holding most Coast Guard-issued credentials. Individuals who meet TWIC eligibility requirements, will be issued a tamper-resistant credential containing the worker's biometric (fingerprint template) to allow for a positive link between the card and the individual. A TWIC is needed by anyone who needs unescorted access to secure areas of MTSA-regulated facilities and vessels. Typical workers who need a TWIC are: port workers, longshore workers, truck drivers, employees at refineries and chemical plants along waterways, contractors and others who work at regulated facilities.

For more information on TWIC or how to obtain TWIC card please visit the link below:

<http://www.tsa.gov/stakeholders/frequently-asked-questions-0#Enrollment>

BIDDERS SHALL PROVIDE THE FOLLOWING INFORMATION:

COPY OF PICK-UP PROCEDURE SUBMITTED WITH YOUR BID RESPONSE

PORT ADDRESS

PICK-UP AVAILABLE AT THE PORT LOCATION

YES

NO

BIDDER SHALL COMPLETE THE FOLLOWING INFORMATION:

CORPORATE MANAGEMENT CONTACT

NAME

ADDRESS

TELEPHONE

FAX

E-MAIL

POINT OF CONTACT FOR ORDER OF GOODS

NAME

ADDRESS

TELEPHONE

FAX

E-MAIL

COUNTY CONTACT AND DELIVERY ADDRESS:

Mercer County Department of Transportation and Infrastructure, Division of Highways

Chris Markley, General Supervisor of Highways
300 Scotch Road, Ewing, NJ 08628
Phone: 609-530-7500

Mercer County Park Commission

Rob Doherty, General Supervisor
1638 Old Trenton Road, West Windsor, NJ 08550
Phone: 609 448 1975

COUNTY COOPERATIVE MEMBER CONTACT AND DELIVERY ADDRESSES:

CITY OF TRENTON

Contact: Wahab Onitiri
Address: 476 Brunswick Avenue, Trenton, NJ 08618
Work: 609 989 3152 x53

EAST WINDSOR, PUBLIC WORKS

Contact: Anna Eaves
Address: 309 Ward Street, East Windsor, NJ 08520
Cell: 609 443 8235 and 609 443 4000 x215

EWING TOWNSHIP

Contact: Angelo Capuano
Address: 136 Scott Road, Ewing, NJ 08628
Cell: 609 209 3280

HAMILTON TOWNSHIP

Contact: James Mahon Jr
Address: 240 Tampa Ave, Hamilton, NJ 08610
Cell: 609 672 8300
Work: 609 890 3574

HIGHTSTOWN BOROUGH, PUBLIC WORKS

Contact: Ken Lewis
Address: 309 Ward Street, East Windsor, NJ 08520
Work: 609 490 5115

HOPEWELL TOWNSHIP

Contact: George Snyder
Address: 203 Washington Crossing-Pennington Rd. Titusville, NJ 08560
Work: 609 537 0277

LAWRENCE TOWNSHIP

Contact: Gregory Whitehead
Address: 240 Bakers Basin Road, Lawrence, NJ 08648
Work: 609 587 1894

PENNINGTON BOROUGH

Contact: Ricky Smith
Address: 301 North Main St, Pennington, NJ 08534
Cell: 609 647 3069
Work: 609 737 9440 x10

PRINCETON

Contact: Christopher Torres
Address: 303 John Street, Princeton, NJ 08540
Cell: 609 731 5362
Work: 609 688 2566 x1473

ROBBINSVILLE TOWNSHIP, PUBLIC WORKS

Contact: Bruce Gravatt
Address: 56 Robbinsville-Allentown Road, Robbinsville, NJ 08691
Work: 609 259 0422

WEST WINDSOR TOWNSHIP

Contact: Alex Drummond
Address: 70 Southfield Road, West Windsor, NJ 08550
Work: 609 799 8370
Cell: 609 558 4031

WEST WINDSOR/PLAINSBORO SCHOOL DISTRICT

Contact: Lori Siemon
Address: 321 Village Road East, West Windsor, NJ 08550
Work: 609 716 5000 x5013

SPECIFICATION FOR SODIUM CHLORIDE

1. CLASSIFICATION

This specification covers sodium chloride obtained from natural deposits (rock salt) or produced by man (evaporated, solar, other).

Type 1 - Used primarily as a pavement deicer or in aggregate stabilization.

Grade 1 - Standard gradation (Note 1)

Note 1 - Grade 1 provides a particle grading for general application, and found by latest research to be most effective for ice control and skid resistance under most conditions.

2. CHEMICAL COMPOSITION

The sodium chloride shall conform to the following requirements as to chemical composition:

Sodium chloride (NaCl), min, % 98.5

3. PHYSICAL REQUIREMENTS

Grading:

Type 1 - The gradation of Type 1 sodium chloride, when tested by means of laboratory sieves, shall conform to the following requirements for particle size distribution:

Weight Percent Passing

| Sieve Size | Grade 1 |
|---------------------|----------|
| 3/4 in. (19.05 mm) | --- |
| 1/2 in. (12.70 mm) | 100 |
| 3/8 in. (9.51 mm) | 95 - 100 |
| No. 4 (4.76 mm) | 20 - 90 |
| No. 8 (2.38 mm) | 10 - 60 |
| No. 30 (0.595 mm) | 0 - 15 |

4. CONDITION

The sodium chloride shall arrive at the purchaser's delivery point in a free-flowing and usable condition.

5. SAMPLING

Coop Members reserve the right to take samples at the time of delivery to determine whether the material conforms to specifications and have them tested by an Official Testing Laboratory. If material tested does not conform to above specifications, vendor will remove said material at his expense and supply the members with proper material. If vendor is unwilling or unable to supply correct material, Coop Members will purchase material from the next qualified vendor.

6. TEST METHODS

(a) Chemical Test - Test for compliance with the requirements for chemical Composition in accordance with the following methods:

1. **Routine Control** - The "Rapid Method" provided in Annex A-1 may be Used for routine control and approval.
2. **Referee Testing** - In case of controversy, determine analysis in Accordance with Methods E 534.

Gradation shall be determined by Method C 136.

7. INSPECTION

The purchaser or his representative shall be provided free entry and necessary facilities at the production plant or storage area if he elects to sample sodium chloride at the source.

8. REJECTION AND REHEARING

- (a) The sodium chloride shall be rejected if it fails to conform to any of the requirements of this specification.
- (b) In the case of failure to meet the requirements on the basis of an initial sample of a lot represented, two additional samples shall be taken from the lot and tested. If both additional samples meet the requirements, the lot shall be accepted.

9. PACKAGING AND MARKING

The sodium chloride shall be delivered in bulk lots. The name of the producer and the net weight shall be legibly marked on the shipping or delivery report.

ANNEX

MANDATORY INFORMATION - RAPID TEST METHOD FOR SODIUM CHLORIDE

THE FOLLOWING RAPID TEST METHOD MAY BE USED FOR ROUTINE CONTROL OF THE SODIUM CHLORIDE CONTENT INSTEAD OF THE REFEREE METHOD PRESCRIBED IN SECTION 7.

1. **SAMPLE** - The composite sample obtained under Section 6 shall be thoroughly mixed and reduced by quartering or by means of sample splitter to approximately 1-lb. (454-g). This 1-lb composite sample shall be ground to pass the No. 50 (300 **mm**) **sieve**.
2. **PROCEDURE** - Weigh out 10 ± 0.01 -g of the pulverized sample and place in a beaker with 250-ml distilled water. Add 10-ml of nitric acid (HNO_3 , 1 + 4 by volume) and stir for 20 min. at room temperature to put the salt in solution. Transfer the solution including any insoluble material to a 2-liter volumetric flask and dilute to the mark with distilled water. With a pipet draw off 25-ml of the solution and place in a white porcelain casserole. Add $\frac{1}{2}$ -g of calcium carbonate (CaCO_3) to neutralize the excess HNO_3 , and adjust the ph to approximately 7. Add 3-ml of potassium chromate (K_2CrO_4) solution (50-g K_2CrO_4 /liter) as an indicator and titrate with 0.05 N silver nitrate (AgNO_3) solution.
3. **STANDARDIZATION** - Standardize the 0.05 N AgNO_3 solution using 10 g of reagent grade sodium chloride (NaCl) following the applicable procedure.
4. **CALCULATION** - Calculate the percentage of NaCl as follows:

NOTE: $P = [(A/B) \times (C/D)] \times 100$

WHERE: A = grams of reagent grade NaCl used.
B = millilitres of 0.5 N AgNO_3 solution, required to titrate the reagent grade NaCl .
C = millilitres of 0.5 N AgNO_3 solution, required to titrate the sample being tested.
D = grams of test sample used, and
P = percentage of sodium chloride in the sample being tested.
If moisture is apparent in the sample, dry a duplicate 10-g sample of the pulverized salt at 105 C (220 F) and correct the weight of the sample accordingly.

NOTE: Because total chlorides are precipitated in the titration, magnesium chloride (MgCl_2) and calcium chloride (CaCl_2) would be included

sodium chloride.

5. **PRECISION** - Duplicate samples should check within 0.25 percent (NaCl).

SPECIFICATION FOR TREATED SALT

GRANULAR SODIUM CHLORIDE TREATED WITH LIQUID MAGNESIUM CHLORIDE/ LIQUID ORGANIC BASED, US PATENT #4,676,918

SCOPE:

It is the intent of this specification to describe a mixture of Sodium Chloride Type "A" crushed rock salt treated with Liquid Magnesium Chloride/Patent #4,676,918 or County of Mercer approved equivalent. The liquid treatment is intended to enhance the performance of the regular rock salt over untreated salt by reducing corrosiveness, improving low temperature performance, reducing bounce and scatter, preventing clumping, salt pile freezing and enhancing flow ability. The treated salt is intended to be used to facilitate snow and ice prevention and removal on County of Mercer roads and bridges.

DESCRIPTION:

The finished product shall be composed of two primary constituents:

- 1) Crushed rock salt as described and specified in Section A below.
- 2) Liquid magnesium chloride/Toth Patented as described in Section B below.

The two components shall be mixed to produce a finished product as *described in Section C. The final product shall meet all the requirements described in Section D, also below.

Section A

Sodium Chloride Type "A" Crushed Rock Salt Specifications

The crushed rock salt used in the preparation of the final product shall meet the following requirements.

A.1 CONTAMINATION

Upon inspection, the material shall be uniform in appearance, free flowing and free from visual evidence of foreign matter including but not limited to dirt, stone, chips, trash or any other material that could reasonably be expected to interfere with the use, handling or storage of the salt.

A.2 CHEMICAL COMPOSITION

Shall be not less than 95% Sodium Chloride. Percent of Sodium Chloride shall be determined in accordance with current ASTM-D-632.

A.3 SIZE GRADING

The salt, when tested using sieves as described in ASTM-C-136 (*) shall conform to the following requirements for particle size distribution:

SIEVE SIZE

PERCENT PASSING ()**

| | |
|------------------------|----------|
| 1/2" - (12.5 MM) | 100 |
| 3/8" - (9.5 MM) | 95 - 100 |
| No. 4 - (4.75 MM) | 20 - 90 |
| No. 8 - (2.36 MM) | 10 - 60 |
| No. 30 - (600 Microns) | 0 - 15 |

* - A drying temperature of 110°C ± 5°C should be used.

** - Tolerance of 5 percentage points on the maximum value of the range for each sieve except 1/2" (12.5 mm) and 3/8" (9.5 mm) sizes, on which no tolerance will be allowed.

A.4 **MOISTURE CONTENT**

Moisture content shall not exceed 1-1/2%* when determined as follows:

$$\% \text{ Moisture} = (W_1 - W_2) / (W_1) \times 100$$

Where: W_1 = Initial weight of sample

W_2 = Weight of sample after drying to a constant weight at 110°C ± 5°C.

* Procedure shall be in accordance with American Water Works Association B200-88, Section 4.3. A tolerance of 0.5% will be allowed before a non-complying product -moisture - price deduction is assessed.

A.5 **SAMPLING**

Sampling shall be done in accordance with current ASTM-D632. The County of Mercer, or any of its authorized representatives, reserves the right to take samples from the contractor's stockpile or transfer point.

A.6 **ACCEPTANCE**

The salt may be rejected if it fails to conform to any of the requirements of this specification.

A.7 **NON-COMPLYING PRODUCT- PRICE DEDUCTIONS**

A.7.1 Non-Complying Product - Price Deduction - Moisture

If the moisture content of the salt is found to be above 2.0 %, a deduction for moisture content will be made from the delivered bid price based on the following formula:

$$\text{Reduced Price/Ton} = \text{Delivered Contract Price/Ton} \times (1.02 - 2X)$$

Where: X = Moisture content of the sample (expressed as the decimal equivalent of the percentage of the original sample weight to the nearest 1%)

A.7.2 **NON-COMPLYING PRODUCT - PRICE DEDUCTION - GRADATION (PARTICULE SIZE DISTRIBUTION)**

If, after delivery, the gradation of the salt is found to be out of tolerance, a deduction from the price shall be made based on the following formula:

$$\text{Reduced Price/Ton} = \text{Delivered Contract Price} \times (1.00 - Y)$$

Where: Y = the decimal equivalent of the total % out of gradation. The % out of tolerance for each sieve shall be to the nearest 1%. The total of the individual sieve tolerance deviations shall be used as Y.

A.7.3 **GENERAL**

A non-complying product - price deduction is not to be assessed unless the proper analysis and test procedures are followed. If the contractor consistently delivers salt found to be above 2% moisture content or consistently not conforming to the gradation requirements, the contract shall be subject to cancellation either in whole or in parts.

A.8 **CALCULATIONS**

Calculations performed relative to this specification shall be made using the rounding off method of "ASTM Recommended Practice E-29 for Designating Significant Places in Specified Limiting Values".

**Section B
Magnesium Chloride with OBPE**

Material used for this component of the finished product shall be a 1 to 1 blend of liquid magnesium chloride and liquid Patent #4,676,918 or equivalent sufficient to allow the finished material to meet the specific requirements and performance criterion listed below.

Note Well: Sections B1 and B2 apply only to products offered that do not have a Beneficial Use Determination (BUD) from New Jersey Department of Environmental Protection. **HOWEVER, ALL PRODUCTS MUST CONTAIN 250 PPM OR LESS PHOSPHORUS WITH OR WITHOUT BENEFICIAL USE DETERMINATION, NO DILUTIONS ALLOWED PRIOR TO PHOSPHORUS TESTING.**

B.1 Bids may not be accepted on any product that contains constituents in excess of the following established total concentration limits as tested in accordance with the listed test methodology noted in Test Section. Results are stated as Parts Per Million (ppm). If product exceeds any of the following constituents then the bidder shall identify the exception(s) and explain any mitigating circumstances. The State reserves the right to evaluate these exceptions and make a determination of product eligibility based on the best interests of the State.

Phosphorus 250.00 ppm Chromium 0.50 ppm

| | | | |
|---------|----------|----------|-----------|
| Cyanide | 0.20 ppm | Cadmium | 0.20 ppm |
| Arsenic | 5.00 ppm | Barium | 10.00 ppm |
| Copper | 4.00 ppm | Selenium | 5.00 ppm |
| Lead | 1.00 ppm | Zinc | 10.00 ppm |
| Mercury | 0.05 ppm | | |

- B.2 pH - The pH of submitted liquid chemical products shall be 6-8. The pH limit of liquid chemical products may be waived by the County of Mercer. The right to waive the pH will be at the discretion of the County of Mercer. The County of Mercer decision to waive the pH requirement shall be in the best interest of the State and shall be final.
- B.3 Material shall contain 15% MgCl₂ by weight plus or minus 2%
- B.4 Material shall contain 21% plus or minus 2% Patent #4,676,918 or equivalent to produce a final material having a eutectic (freezing) point of -20°F or lower.
- B.5 A table showing Freezing Point-Specific Gravity for various percentage dilutions of product in water shall be provided. Table shall include data starting from at least 5% product in water and continue to include the percentage product in water to produce the eutectic (lowest freezing point) composition.
- B.6 A 3% solution of the corrosion inhibited chemical product shall have a corrosion value of at least 70% less than that of a 3% solution of Sodium Chloride. (Determined by NACE (National Association of Corrosion Engineers) - Standard TM-01-69 as modified by PNS (Pacific Northwest Snowfighters)).
- B.7 This chemical product shall not contain greater than 4.0% (V/V) Total Settleable Solids and shall have ninety nine percent (99.0%) of the Solids Passing through a Number 10 sieve after being stored at -17.8°C +/- 1°C (0°F +/- 2°F) for 168 hours.
- B.8 An independent certified analysis showing compliance with all the above requirements must be submitted with the bid along with an intended use statement for the product. Exceptions to the requirements must be stated and the County of Mercer reserves the right to reject the product.
- B.9 The liquid must meet the percentage requirement as stated in B3 and B4. The product must be created by using one to one ratio of a 30% Magnesium chloride solution and Patent liquid #4,676,918. A separate sheet shall be submitted for each Lot for which a bid is submitted. Separate or additional flyers, product literature, etc. will **not** be accepted in lieu of a completed Vendor Certified Product Data Sheet.

Section C

Mixing the Sodium Chloride and Magnesium Chloride/OBPE

The materials described in Section A and Section B above shall be mixed as described in this section to produce the finished product. Mixing procedures shall comply with all requirements described in this section.

- C.1 The County of Mercer, or any of its authorized representatives, reserves the right to take samples from the contractor's stockpile or transfer point before the salt is mixed with the Liquid Magnesium Chloride/ liquid Patent #4,676,918. Both salt and liquid samples may be taken.
- C.2 The contractor will thoroughly mix a minimum of 8 gallons of Liquid Magnesium Chloride/Toth per ton of salt.
- C.3 The Contractor will ensure a consistent thorough mix (e.g. spray system, pugmill, conveyor) so that there is maximum coverage of the liquid on the salt crystals (loader mixing and stockpile injection methods are not acceptable) and will specify the mix method in the bid.
- C.4 Trucks must be weighed on certified scale with printout after loading the final product (salt and liquid mixture) and prior to delivery destination. The weight ticket shall include the net weight of the final product and the stockpile source. The certification must bear the weighmaster's signature. Handwritten weights are not acceptable.
- C.5 All shipments of finished product shall be accompanied by a ticket indicating the amount of Liquid Magnesium Chloride/Toth mixed in the finished product. This amount will be indicated on the ticket by Gallons. The amount of gallons shall be recorded by a printing device or handwritten.
- C.6 The finished product shall be shipped via bulk delivery. Trucks delivering the mixture shall have the entire cargo area completely covered by a waterproof tarpaulin or similar sheeting material. Torn or ripped covers may be cause for rejection of the shipment.
- C.7 The County of Mercer reserves the right to, at any time, inspect the operation to take salt and liquid samples, to ensure that the proper amount of liquid is being applied and that the mix method is appropriate.

Section D

FINAL PRODUCT: ROCK SALT TREATED WITH LIQUID MAGNESIUM CHLORIDE/TOTH PATENTED

The Treated Salt shall meet the following requirements:

D.1 CONTAMINATION

Upon inspection of delivered salt, the material shall be uniform in appearance, free flowing and free from visual evidence of foreign matter including but not limited to dirt, stone, chips, trash or any other material that could reasonably be expected to interfere with the use, handling or storage of the salt.

D.2 FLOWABILITY

Properly stored product (covered or inside storage) shall be uniform and free flowing in a manner consistent with its intended use and shall show no objectionable clumping or caking.

D.3 LEACHING

Properly stored product (covered or inside storage) shall show no indication of objectionable leaching or separation of components to the extent that such condition produces adverse affects in the handling or usage of the product or routine maintenance of the storage facility.

D.4 CHEMICAL COMPOSITION

Shall be not less than 91.2% Sodium Chloride. Percent of Sodium Chloride shall be determined as follows: Apparent total % Sodium Chloride content shall be determined in accordance with current ASTM-D-632. Magnesium and Calcium content shall be determined in accordance with ASTM E-534 and computed as % Magnesium Chloride and % Calcium Chloride respectively. % Sodium Chloride shall then be computed as follows:

$$\% \text{ Sodium Chloride} = \% \text{ Apparent Sodium Chloride} - (\% \text{ Magnesium Chloride} + \% \text{ Calcium Chloride})$$

D.5 SIZE GRADING

The salt, when tested using sieves as described in ASTM-C-136 (*) shall conform to the following requirements for particle size distribution:

| <u>SIEVE SIZE</u> | <u>PERCENT PASSING (**)</u> |
|------------------------|-----------------------------|
| 1/2" - (12.5 MM) | 100 |
| 3/8" - (9.5 MM) | 95 - 100 |
| No. 4 - (4.75 MM) | 20 - 90 |
| No. 8 - (2.36 MM) | 10 - 60 |
| No. 30 - (600 Microns) | 0 - 15 |

* - A drying temperature of 110°C ± 5°C should be used.
** - Tolerance of 5 percentage points on the maximum value of the range for each sieve except 1/2" (12.5 mm) and 3/8" (9.5 mm) sizes, on which no tolerance will be allowed.

D.6 MOISTURE CONTENT

Moisture content shall not exceed 4.8% when determined as follows:

$$\% \text{ Moisture} = (W_1 - W_2) / (W_1) \times 100$$

Where: W_1 = Initial weight of sample

W_2 = Weight of sample after drying to a constant weight at $110^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

NOTE: Procedure shall be in accordance with American Water Works Association B200-88, Section 4.3. A tolerance of 0.5% will be allowed before a non-complying product - moisture - price deduction is assessed.

D.7 SAMPLING

Sampling shall be done in accordance with current ASTM-D632. The Office of General Services, or any of its authorized representatives, reserves the right to take samples from the contractor's stockpile or transfer point.

D.8 ACCEPTANCE

The treated salt may be rejected if it fails to conform to any of the requirements of this specification.

D.9 NON-COMPLYING PRODUCT - PRICE DEDUCTIONS

D.9.1 Non-Complying Product - Price Deduction - Moisture

If the moisture content of the treated salt is found to be above 5.3%, a deduction for moisture content will be made from the delivered bid price based on the following formula:

$$\text{Reduced Price/Ton} = \text{Delivered Contract Price/Ton} \times (1.106 - 2x)$$

Where: X = Moisture content of the sample (expressed as the decimal equivalent of the percentage of the original sample weight to the nearest 1%)

D.9.2 Non-Complying Product - Price Deduction - Gradation (Particulate Size Distribution)

If, after delivery, the gradation of the treated salt is found to be out of tolerance, a deduction from the price shall be made based on the following formula:

$$\text{Reduced Price/Ton} = \text{Delivered Contract Price} \times (1.00 - Y)$$

Where: Y = the decimal equivalent of the total % out of gradation. The %out of tolerance for each sieve shall be to the nearest 1%. The total of the individual sieve tolerance deviations shall be used as Y .

D.9.3 GENERAL

A non-complying product - price deduction is not to be assessed unless the proper analysis and test procedures are followed. If the contractor consistently delivers salt found to be above 2% moisture content or consistently not conforming to the gradation requirements, the contract shall be subject to cancellation either in whole or in parts.

D.10 CALCULATIONS

Calculations performed relative to this specification shall be made using the rounding off method of "ASTM Recommended Practice E-29 for Designating Significant Places in Specified Limiting Values".

D.11 CORROSION RATING OF TREATED SALT

A 3% solution of the treated salt product shall have a corrosion value of at least 50% less than that of a 3% solution of Sodium Chloride. (Determined by NACE (National Association of Corrosion Engineers) - Standard TM-01-69 as modified by PNS (Pacific Northwest Snowfighters)

TRAINING

The successful bidder will provide training classes at each site to promote the proper use and application of their product. The County of Mercer will approve all materials.

SPECIFICATIONS FOR SOLAR SALT

SODIUM CHLORIDE, TECHNICAL A-A-694E updated February 2013

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers two types and three forms of crystalline sodium chloride (salt) used for water conditioning. It shall be suitable for ion exchange columns in which sodium chloride is used for regeneration.

2. **CLASSIFICATION.** The sodium chloride shall conform to the following types and forms:

2.1 Type. The type of sodium chloride shall be as specified in the acquisition order (see 7.3(b)).

Type I - 97.5 percent purity

Type II - 99.5 percent purity

2.2 Form. The form of sodium chloride shall be as specified in the acquisition order (see 7.3(c)).

Form 1 - Compressed pellets

Form 2 - Large granules (rock, solar, or evaporated)

Form 3 - Small granules (table salt size)

3. SALIENT CHARACTERISTICS

3.1 Material. The sodium chloride provided shall be homogeneous and shall be free from dirt, fibers, lint, trash, or other foreign matter. Anti-caking or iodizing agents shall not be added.

3.2 Color. The product shall be white, grayish pink, or brownish white.

3.3 Chemical properties. The sodium chloride shall meet the chemical requirements of table I when tested in accordance with American Water Works Association (AWWA) B 200, "Sodium Chloride".

| TABLE I. Chemical properties. Chemical requirements | Limits | |
|--|------------|------------|
| | Type I | Type II |
| Moisture, percent, maximum | 0.5 | 0.5 |
| Sodium chloride, percent, minimum (dry basis) | 97.5 | 99.5 |
| Water-soluble impurities, percent, maximum (dry basis) | 0.75 | 0.15 |
| Calcium & magnesium (Ca & Mg) Sulfate (SO ₄) | 1.25 | 0.35 |
| Water-insoluble impurities, percent, maximum (dry basis) | 0.50 | 0.05 |
| Soluble & insoluble impurities, percent, maximum (dry basis) | 2.50 | 0.50 |
| Grease, fat, and oil, percent, maximum | 0.01 | 0.01 |
| pH | 5.0 to 9.5 | 5.0 to 9.5 |

3.4 Physical properties. The sodium chloride shall meet the physical requirements of table II when tested in accordance with American Society for Testing and Materials (ASTM) C 136, "Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates" (DoD adopted), and ASTM E 11, "Standard Specification for Wire Cloth and Sieves for Testing Purposes" (DoD adopted).

| TABLE II. Physical properties. Particle size analysis, cumulative percent passing review | | | | | | | |
|--|----------------------|---------------------|----------------------|------------------|-------------------|-------------------|-------------------|
| Sieve | 19.0 mm (3/4 in.) | 9.5 mm (3/8 in.) | 6.35 mm (1/4 in.) | 3.35 mm No. 6 | 2.00 mm No. 10 | 1.70 mm No. 12 | 150 µm No. 100 |
| Form 1 | 100 min. | - | 15 max. | 8 max. | - | - | - |
| Form 2 | 100 min. | 95 min. | - | - | 20 max. | 5 max. | - |
| Form 3 | - | - | - | - | 100 min. | - | 5 max. |

4. REGULATORY REQUIREMENTS

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

5.2 Market acceptability. The product offered must have been previously sold either to the government or on the commercial market.

6. PACKAGING

6.1 Preservation, packing, and marking. Preservation, packing, and marking shall be as specified in the contract or order.

6.2 The solar salt shall be delivered in bulk lots. The name of the producer and the net weight shall be legibly marked on the shipping or delivery report.