

SALT &

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**Highway Deicing™**

for the WINTER MAINTENANCE PROFESSIONAL

WILL YOU HAVE ENOUGH SALT THIS WINTER?

Last year's heavy snows and high salt demands left both customers and salt miners tapped out at the end of the winter. In many cases, mines were loading trucks right from the mine skip. The supply pipeline from mine to end user was virtually empty by March 2008. Thoughtful, politically-sensitive public officials knew they didn't want to repeat their experience of flirting with the disaster of running out of salt in any future winter. Citizens credit their elected officials with successful scrambling in the face of record snowfalls, but officials don't want to test the public's patience – and invite questions of their administrative competence



– by scrambling two years in a row. In this, it's much like the football quarterback who sees no open pass receivers and scrambles for the first down. Coaches want him to stay in the pocket and systematically run through his options – and not risk injury.

The salt industry, too, recognized the concern for sufficient salt supplies. Salt companies realize that “salt saves lives” and running out of salt, conversely, has a human cost in roadway crash injuries and fatalities as well as devastating economic consequences. Therefore, at the outset of last winter, salt mines shifted into full production. There were lots of overtime checks for salt miners' families as mines ratcheted up hours of operation to as close to 24/7

as required maintenance, worker fatigue and safety permitted. The mines have been running flat out all year.

Tonnage of highway deicing salt reached a near-record in 2007 at 20.3 million tons (the all-time record was 20.5 million tons in 2005; it declined to 12.1 million in 2006). Sales from January-June 2008 surged 12.4% higher than in the first half of near-record 2007. Thus, in the first half of 2008, salt companies sold more tons of highway salt than they sold for the entire calendar year of 2006: 12.2 million tons in six months of 2008 compared to 10.9 million tons for January-June 2007 and 12.1 million tons for all of 2006.

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Even operating at full capacity, however, production is limited by the physical configuration of each mine. While new production areas can be blasted below-ground, the skips can only haul a certain amount up the shaft in any given time period. And there can be other bottlenecks in the logistics chain.

This year, for example, when the record snows in Wisconsin, Illinois and other upper Mississippi River states started melting, floods and high water prevented upriver navigation from Louisiana, the state that produces the most tons of road salt. This year was the latest-ever opening of the upper Mississippi River to navigation on record. And upriver shipments were still disrupted in late June with periodic closures for flooding and high water. The late start impeded efforts to rebuild industry stockpiles on the river system.

Other factors such as \$4/gallon fuel and intensified competition for limited barges, Great Lakes ships, railcars and trucks, also factored in, straining the distribution system.

By midsummer, a new factor emerged. Customers concerned about securing sufficient quantities of salt upped their orders. Cities, counties and state transportation departments generally use a public bidding process to begin their process of securing salt supplies. Since most contracts provide penalties if the salt supplier fails to deliver salt when requested, not the bid amounts, but the “cap” on total supply is the important variable in the salt supply equation. Presumably contract conditions vary widely; that’s something beyond the purview of a trade association like Salt Institute. It’s the heart of the competitive marketplace for salt where willing buyers and sellers negotiate their terms of sale. But one much-discussed option is the so-called “80 – 120” contract where the buyer commits to purchasing 80% of the bid amount and the seller is committed to timely delivery of 120% of that amount. Thus, for example, soliciting a 10,000 ton “bid” equates to asking a salt supplier to commit 12,000 tons if his bid is accepted. Understanding the bid-to-cap difference helps explain the unique

situation that emerged this past summer.

In July, first Iowa DOT and then the state of Illinois and the Ohio Turnpike Commission (OTC) discovered that salt suppliers were reluctant to submit bids on their vastly-larger solicitations (see, for example this public document from the OTC (<http://www.ohioturnpike.org/media/pdf/4099tab.pdf>)). That was the tip of the iceberg; the full story was below the waterline. It turned out that the solicitations of five large DOTs increased by an aggregate of 2 million tons this summer. Illinois upped its 34% or 421,000 tons to more than 1.8 million tons; Wisconsin, by 351,000 tons; and Michigan by 279,000 tons. The Iowa DOT solicitation skyrocketed 52% in a single year. Cities and counties also sought larger supplies. Furthermore, private contactors found themselves trying to explain to shopping center owners and those trying to clear parking lots and driveways for factories, office buildings and college campuses that the normally-available salt just wasn’t there this year. The bid solicitations – and the larger



caps – just outstripped North American salt production.

Salt mines can expand production. But it takes time. Compass Minerals' Sifto Salt mine in Goderich, Ontario, already the largest in the world, is in the midst of a 2-3 year, 2 million ton expansion (see the company's announcement <http://phx.corporate-ir.net/phoenix.zhtml?c=148615&p=irol-newsArticle&ID=1054525&highlight=>). This single expansion represents adding 10% to the total production capacity of rock salt mines in North America. These are major, multi-million dollar, multi-year projects. Expanding capacity requires additional equipment and machinery; orders that used to take 6 months are now taking over a year to deliver. So there is no option to "push a button" and make several more millions of tons of salt appear instantly. Nor are "salt alternatives" available in any substantial amounts. There is another time-tested option, however – imported salt.

Globally, salt producers extract 250 million tons of salt and the reserves are virtually unlimited. Getting the salt to the right place at the right time is the challenge. Adam Smith's "hidden hand" seems to be working to balance the dramatic increase in demand with increased supplies. The October 20 issue of *River Transport News* reported that the "first significant import shipment of bulk salt in more than four years" has hit New Orleans. "Industry observers indicated that over the last three weeks, lower Mississippi imports have accelerated with the arrival of several 40,000-ton shipments. Additional shipments are expected, the report continued, noting that, if sustained "salt imports [into the Port of New Orleans] could approach or exceed record levels." The previ-



ous record was set in 2001 and was nearly matched two years later.

Already, upriver barging of salt is straining barge freight capacity. "It appears that riverborne salt shipments could reach a new record high this year, exceeding the previous record of 9.7 million tons set in 2004," according to *River Transport News*. Upriver barging has averaged 8.5 million tons since 1996, the story added. "Under normal circumstances, the projected increase in river borne salt shipments would cause barely a ripple in the inland barge market. This year, however, salt shipments are being compressed into a significantly shorter shipping window."

To the question "will you have enough salt this winter?" the only honest answer is: it's up to Mother Nature. The first flake of snow has yet to fall. While weather is unpredictable, winter is a certainty. Weather is a risk – for roadway agencies and for salt companies. Our collective job is to lower the risks for our customers – the driving

public and our highway-dependent economy.

There are two primary strategies to prevent a salt shortfall: expand local storage and employ Sensible Salting.

For more than 30 years, the Salt Institute has urged its highway salt customers to take pre-season delivery of one full average year's requirements. That's advice you can take to the bank. Having salt on hand is an insurance policy against running out. Arapahoe County, CO has 300% of its average annual amount on hand, under roof. They sleep well at night. Bid early. Take early delivery. Then when winter weather hits, you'll be ready.

Practice Sensible Salting. Train your operators to put down only the minimum amount of salt required to keep your roads safe and passable. Buy automatic spreaders if you don't have them already. Calibrate every spreader at least once each year. Sensible Salting stretches salt supplies.

34 WIN SALT INSTITUTE EXCELLENCE IN STORAGE AWARD

Thirty four salt storage facilities operated by city and state transportation agencies in seven states and two Canadian provinces have been awarded the 2008 Excellence in Storage Award. The award recognizes high standards of environmental consciousness and effective management of winter materials storage.

Another 63 facilities were cited for “continuing excellence” for sustaining award-winning programs recognized in the first 20 years of the program.

“It is heartening that we have more winners this year than ever before,” noted Salt Institute president Richard L. Hanneman in announcing the awards at the annual Congress of the American Public Works Association in New Orleans. “These facilities are being operated to the highest standards of environmental and worker safety and are a real credit to the governments they represent. Good storage is a great investment, but it does require investment of money and management attention. These facilities are worthy to be called excellent in their operations.”

Do you have an “excellent” storage program? Consider joining the recognized elite agencies who have won the Excellence in Storage award. Details at <http://www.saltinstitute.org/40.html>.

2008 EXCELLENCE IN STORAGE WINNERS

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| City of Fort Collins Street Department, Fort Collins, CO | Town of Hannibal Highway Department, Hannibal, NY |
| City of Mississauga Clarkson Works Yard, Mississauga, ON | UT DOT Station 4523 Beryl Junction, UT |
| CT DOT Cooper Lane Pile #134, Union, CT | UT DOT Station 4422 Blanding, UT |
| CT DOT East Hartford Maintenance Salt Storage Facility, Hartford, CT | UT DOT Station 4421 Bluff, UT |
| CT DOT Mansfield Salt Storage Facility Pile #078, Bolton, CT | UT DOT Station 4532 Cove Fort, UT |
| CT DOT Route 17 Middleton Pile #283, Middletown, CT | UT DOT Station 3421 Eureka, UT |
| IN DOT Dale Maintenance Unit, Dale, IN | UT DOT Station 2422 Grantsville, UT |
| IN DOT Indianapolis Maintenance Unit, Indianapolis, IN | UT DOT Station 4433 Huntington, UT |
| IN DOT Linton Maintenance Unit, Linton, IN | UT DOT Station 1436 Logan, UT |
| NB MOT Brunway Highway Operations Inc. District 3, Meductic, NB | UT DOT Station 1445 Logan Summit, UT |
| NB MOT Brunway Highway Operations Inc. District 1, St. Leonard, NB | UT DOT Station 4423 Monticello, UT |
| Oak Park Public Works Center, Oak Park, IL | UT DOT Station 2432 Murray, UT |
| ON MOT (MTO) Goderich Storage Facility, Goderich, ON | UT DOT Station 3422 Nephi, UT |
| Penn DOT Ravine Stockpile 06, Schuylkill Haven, PA | UT DOT Station 4526 Parowan, UT |
| | UT DOT Station 3425 Provo Canyon |
| | UT DOT Station 2425 Salt Lake East, Salt Lake City, UT |
| | UT DOT Station 3424 Santaquin, UT |
| | UT DOT Station 4435A Scofield, UT |
| | UT DOT Station 2423 Tooele, UT |
| | UT DOT 2431 West Jordan, UT |



2008 CONTINUING EXCELLENCE IN STORAGE AWARDS

Beaver Township, Bloomsburg, PA
 City of Bloomington, Bloomington, MN
 City of Marquette, Marquette, MI
 City of Mississauga, Mississauga, ON
 City of Olathe Salt Storage Facility, Olathe, KS
 City of Roanoke, Public Works Salt Facility, Roanoke, VA
 City of Springdale PW Dept. Springdale, OH
 City of West Des Moines Public Works West Des Moines, IA
 Columbia County Highway & Trans. Supplementa/Regional/ Salt Facility Wyocena, WI
 CT DOT Glastonbury Maintenance Facility, Glastonbury, CT
 CT DOT, Middletown Maintenance Facility, Middletown, CT
 CT DOT, Miller Avenue Maintenance, Meriden, CT
 CT DOT, Old Saybrook Facility - District II, Norwich, CT
 CT DOT, Route 71A Salt Shed, Meriden, CT
 CT DOT, Tylerville Salt Storage Facility - District II, Tylerville, CT
 CT DOT, West Willington Maintenance Facility, Willington, CT
 Hamilton Township Public Works, Hamilton, NJ
 Lockport Township Highway Dept. Lockport, IL
 Macomb County Road Commission of Macomb County, Mt. Clemens, MI
 McHenry County Highway Dept. Woodstock, IL



NJ DOT Berlin Yard - # 415 Salt Storage Facility, Berlin, NJ
 NJ DOT Cherry Hill Yard - #411 Salt Storage Facility, Cherry Hill, NJ
 NJ DOT Cumberland County Complex, Bridgeton, NJ
 NJ DOT Cumberland Yard - #426, Maurice River, NJ
 NJ DOT Deepwater Yard - #425 Salt Storage Facility, Deepwater, NJ
 NJ DOT Elmer Yard - #420, Pittsgrove, NJ
 NJ DOT Folsom Yard #451, Folsom, NJ
 NJ DOT Glassboro Yard - #417, Glassboro, NJ
 NJ DOT Mount Laurel Yard #468, Mt. Laurel, NJ
 NJ DOT Red Lion Yard, - #434, Medford, NJ
 NJ DOT West Deptford Yard #413, West Deptford, NJ
 PENN DOT Callensburg Stockpile 10-3, Callensburg, PA
 PENN DOT 10-3, I-80 Stockpile Shipperville, PA
 PENN DOT 10-3, Main Facility, Shipperville, PA
 PENN DOT 10-3, New Bethlehem Stockpile New Bethlehem, PA
 PENN DOT Pen Argyl Stockpile 07, Easton, PA
 PENN DOT, Tylersburg Stockpile 10-3, Tylersburg, PA
 Region of Peel Copper Road Yard Winter Materials Storage Dome Brampton, ON
 Town of Clifton Park Salt Storage Facility Highway Department, Clifton Park, NY
 Town of North Salem Highway Department, North Salem, NY
 Town of Orangetown Highway Dept., Orangeburg, NY
 Town of Yorktown Salt Shed, Yorktown Heights, NY
 UDOT Station 4527 Beaver Salt Storage Facility, Beaver, UT
 UDOT Station 2435 C. Lamar Richins Salt Storage Facility, C. Lamar Richins, UT



UDOT Station 4435B Castle Gate Salt Storage Facility, Castle Gate, UT
 UDOT Station 4524 Cedar City Salt Storage Facility, Cedar City, UT
 UDOT Station 1427 Centerville Salt Storage Facility, Centerville, UT
 UDOT Station 4435 Colton Salt Storage Facility, Colton, UT
 UDOT Station 2438 Echo Canyon Salt Storage Facility, Echo Canyon, UT
 UDOT Station 1425 Huntsville Salt Storage Facility, Huntsville, UT
 UDOT Station 3427 Orem/Provo Salt Storage Facility, Orem/Provo, UT
 UDOT Station 2430 Salt Lake Northwest Salt Storage Facility, Salt Lake Northwest, UT
 UDOT Station 2427 South Valley Salt Storage Facility, South Valley, UT
 UDOT Station 2438A Wasatch Salt Storage Facility, Wasatch, UT
 UDOT Station 4434 Wellington Salt Storage Facility, Wellington, UT
 UDOT Station 2424 West Valley City Salt Storage Facility, West Valley City, UT
 Village of Addison, Addison, IL
 Village of Buffalo Grove Buffalo Grove, IL
 Village of Hanover Park, Hanover Park, IL
 Village of Mount Prospect PW, Mount Prospect, IL
 Village of Northbrook, Northbrook, IL
 Village of Orland Park Salt Storage Facility, Orland Park, IL
 Wright County Highway Dept. Salt Storage Facility Buffalo, MN

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