

# Innovative Times

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Surplus in Winter Budgets makes it Possible to try new Strategies and new Products!"

## Sugar Coated Salt Helps Save the Environment

The Garden State Parkway is in their ninth year of using an environmentally friendly, green product, called Ice B'Gone treated salt, for winter snow and ice removal. This agriculturally modified salt was first used nine years ago in Paramus and Holmdel, New Jersey, as a trial product, under the supervision of Rob Fischer of Engineering and Tom Aitken of Roadway Maintenance both representing the Parkway.

In the beginning, I.M.U.S. Inc. brought portable mixing equipment to their site to mix the existing salt piles with the Ice B'Gone liquid, at a rate of eight gallons per ton. Now, every ton of salt applied on the Garden State Parkway and New Jersey

Turnpike will be premixed and delivered already treated from International Rock Salt's mines and stocking locations. The Turnpike Authority's initial reasons for trying this brown, sweet smelling, molasses-like product were threefold. One, it reduced the usage of salt by approximately 30%, two, it dropped the working temperature from 20 degrees Fahrenheit to below 0 degrees Fahrenheit, and most importantly, it reduced the corrosiveness of the untreated salt.

They have not only reached these three goals, but



have also witnessed substantial reductions in dust clouds around the toll plazas after storms, normally caused by the untreated salt. The residue effect from storm to storm has noticeably improved with the use of the agriculturally treated salt, to the point that

service levels have increased immensely.

The long term hope is that the reduced corrosion of the salt will save the Parkway and the Turnpike substantial money in their bridge maintenance requirement, as well as equipment repair. The New Jersey Turnpike and Garden State Parkway have been the leaders and innovators in the

State of New Jersey and have assisted other state agencies in recognizing the value of such a product. The New Jersey DOT put out a bid this year for 250 thousand tons of this product. In essence, there is no sweeter product out there than sugar coated salt.

## Vermont Cold No Longer a Problem

Historically, Vermont district three had turned to calcium chloride when winter weather came knocking on their door. The product worked well in low temperatures initially, but began to re-freeze after a meager 10 to 15 minutes. District three was lacking in trucks with appropriate spraying

systems, and the few trucks they had went down quickly due to the highly corrosive nature of the calcium. The search for a suitable alternative was on.

Soon, a new, promising product arose, catching the eye of eager district three. This anti-icing heavyweight, Ice

B'Gone, was an agriculturally enhanced Magnesium Chloride. They were initially intrigued as it solved their equipment issues as they could mix at their sites with salt at a rate of 8 gallons per ton.

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Ice B'Gone® is a patented product of Sears Ecological Applications Co., LLC and is manufactured under one or more U.S. patents, including U.S. Patent No. 6,299,793 and related patents.



# Capital City has Capital Idea to Solve Snow and Ice Woes...Ice B'Gone Salt

Bob Freeman, City of Hartford Streets Superintendent, said they used to use a variety of salt and sand blends prior to their implementation of Ice B'Gone treated salt. Previously they ranged from as much as 1 sand to 1 salt to as little as 4 to 1. The downside to these mixes was in the spring clean-up. It used to take the entire department as much as six weeks to clean City streets, now it only takes one week. To achieve the elimination of sand the City had to adopt a proactive approach when using Ice B'Gone treated salt. They used to apply just as the storm started, now they send, when pavement temperatures are below 35F, their drivers, all 27 routes (secondary sections only low traffic), out one hour to two hours prior to the forecasted start (dependent on rush hour) to the storm with less than 200lb per center lane mile application rates. In doing this they have found that snow never has a chance to bond to the road "snow just

doesn't stick" Bob reports.

Bob relayed a story about a storm that occurred on Feb 12th 2006, last year's worst storm, total snowfall 21.9" over 24 hours coldest temperature was 19F, warmest was 27F. They dispatched their trucks 2-3 hours before the storm hit and applied all 27 routes with Ice B'Gone treated salt. As the intensity of the storm got too severe they stopped plowing and applying and waited for the storm to slow down. As it slowed down they got



post-storm clean-up and the reduction in the associated phone complaints.

Bob says the initial cost is higher but the overall savings are too many to list when speaking of eliminating sand. He was very pleased with International Salt's ability to deliver large orders within 2-3 days. He also relayed a story

about the product's ability to reduce corrosion: A parks and recreation truck was loaded with Ice B'Gone

treated salt and left, accidentally, in the yard for 5 months before they found the truck and finally unloaded it. They were amazed at how little corrosion was evident. They look forward to the long term benefits of using a salt that is low in corrosion.

*The overall savings are too many to list when speaking of eliminating sand*

## It lowered the working temperature drastically

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It lowered the working temperature drastically, and helped to keep roads safe and bare during their night-time breaks (crews sent home from 10:00pm till 4:00am) without the refreeze problems they had experienced with the liquid calcium. An example of this was a seemingly inconspicuous storm three years ago. It was nearing quitting time and temperatures were near 20 degrees Fahrenheit. One to three inches of snow was forecasted to fall overnight, and the crew knew they would be

in trouble the next morning if they didn't do something quick. The trucks went out at 6:00pm and laid a layer of treated salt on the roads, then left for home at 10:00pm, waiting anxiously to see how the roads would hold up. In the morning at 4:00am, their roads were bare from shoulder to shoulder. The neighboring county's section of highway was hardpack snow.

Skeptics wondered about the treated salt's corrosivity. Well, believe it or not, there's a story for that too. A driver for district three had a rusty

hydraulic coupling, and with nothing better to do with it, put it in a jug of the Ice-B-Gone. After a few months, he took it out to reveal a seemingly brand new coupling. Just another job well done.

So it seems that the treated salt can't be beat. Dave Patterson said they are so happy with their current program they have no plans to change, only to add more mixing capacity at their sites.

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# Ice B'Gone Salt Creates Explosive Nitro Effect when on-board liquid added

Dan Norton says that he has tried every de-icing combination over the years and nothing has ever come close to the explosive effect of combining 8 gallons per ton Ice B'Gone, already treated rock salt with an additional shot of 8 gallons of liquid Ice B'Gone through his on-board prewetting systems.

He started using liquids many years ago when liquid calcium was the only available product, it worked well, but the trucks were rusting apart from the corrosivity of the chemical. He tried magnesium chloride and a few other versions of magnesium chloride based products but came to rest upon Ice B'Gone.

Dan said "The other liquids worked well but Ice B'Gone seems to stay on the road better than all other liquids that he has tried to date. The residue effect is unbeatable. With the current cost of fuel I can't count the number of times this product has saved us in trips." He attributes the residue effect to the high concentration of solids in the liquid, almost 40%, as well as the viscosity and stickiness seem to hold the salt brine to the road.

Best Story: The State, prior to using liquid, had a storm that started out as rain, converted to snow and then the temps dropped out of sight to near zero. Applied liquid Ice

B'Gone with salt throughout the storm. At the end of the storm Town roads were bare and dry. The State had to work two to three days to get the roads back.

Now we're buying pre-treated salt from International Salt and when it's cost effective to send crews home early he adds liquid to the already treated salt through the on-board tanks, which produces a nitro salt that bares and dries the roads quickly.

Future Plans: More Ice B'Gone treated salt. Also currently trying Ice B'Gone II liquid, a more concentrated version of the original Ice B'Gone. We look forward to hear his comments.

## Small Town, Windsor MA, saves big...

Todd Dewkett says "Biggest reason, money, he switched from Salt and sand to treated sand and liquid de-icing was money". He has 62.5 miles of road and only an \$85,000.00 budget, 4yrs ago salt was \$32.00/ton and salt is now \$60.00/ton. Todd feels that the liquid has allowed him to stay within budget, due to the spiraling fuel and product costs, he should be spending more than what he was four years ago, but he is not.

He attributes this to reduced trips as it takes 100 gallons of fuel per trip and that with the liquids he doesn't have to re-apply nearly as often, thereby saving large amounts on fuel and wear and tear on the trucks.

Four years ago, Todd was using 98% sand and 2% salt for his de-icing mix and as you can well expect he was not

able to provide much better than hard packed roads covered in brown sand. Due to this mess, low service and



environmental downsides with sand he decided to make a change. He transitioned into a multi-purpose skid mount unit to stockpile treat and anti-ice with. He used liquids in the high traffic, high service roads to bare the middle of the roads. Transitioned from a hand spray wand mixing system for his sand to a loader mount system to make it a one man operation, mix it

now with one man at a rate of only two gallons per ton of sand and apply liquids for anti-icing and de-icing from 3 on-board mounted truck systems.

If there is a high probability for a storm and the pavement temperatures are cold, Todd will pretreat roads with liquid Mag, "they always plow back to bare roads", apply 12-15 gallons per mile (application rate should be adjusted to temperature, lower temps - higher application). This week, January 22nd 2007, prime example, scraped roads Monday, applied 6 gallons liquid/mile, everyday it snowed 1/2" to 3/4", temps 15F night to 28F day, there was no need to re-apply or plow except on roads where liquid was not applied.

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*We've compared the two available treated salts and have found that the Agriculturally brown salt, Ice B'Gone, is superior in corrosion resistance and residue effect. The brown sticky liquid holds the road better repeatedly this year. 1/2" to 1" storms have required no or few applications to bare them off."*

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## 9000 tons of sand will no longer plague the Town of New Milford

### *The Largest Town, New Milford, in CT sweeps sand under the carpet with the Implementation of Ice B'Gone treated salt.*

Two years ago Gerry Hollins started looking for ways to reduce the amount of sand his town kept using each winter to maintain traveling safety in their hilly town. Gerry states "Sand was almost a year round function in New Milford, 3 months to haul it in and mix it with salt, 5 months of applying it during the winter, and then in the spring it would take a 5 man crew 4 months to sweep up the roadsides" and this doesn't even include the year-round catch basin cleaning that is required to keep his system clear.

His largest single motivator to try Ice B'Gone was to "get out of the sand business!" He had heard from the City of Torrington, that Ice B'Gone would achieve this goal. Gerry attended several presentations and eventually decided to do the entire Town and in one year eliminate all sand usage. With this in mind he invited Daren Crawford, V.P. Sales & Marketing to give a driver training class at his town hall. The drivers were very hesitant even hostile to this change. They were concerned about not having enough traction during the storms to make it up and down the severely hilly areas within the Town (Berkshire Mountains). Daren Crawford's perspective was that this was the longest driver training class he had ever given. The questions were excellent, thought-out and driven by their concern for public safety.

Gerry had to continually reinforce that the product would perform and that they would persist until it did work, "no going back". After the first storm we discovered the product was everything it was said to be. We adjusted our timing in the beginning and got the material down early and we never lost the bond, "the snow never stuck". "We moved the overtime from the back of the storm to the front and in turn, it eliminated all of our traditional call backs." Through the balance of the winter we found the product worked better and better and as our confidence grew we were able to reduce our applications from 250lb to 200 lbs per single lane mile.

Daren Crawford gave a presentation near Hartford in March and five of the drivers from New Milford came to speak of their experiences. The glowing reviews and stories were well received by the other 60 highway officials. It was a stark contrast from the fall meeting.

Their future plans are to implement a weather service to see if they can get better forecasting and to implement an anti-icing strategy to increase their proactivity in preventing the snow from getting a bond with the road.

## The neighboring towns

### From Page 3

The neighboring towns were out everyday. He has found Mag chloride great for de-icing due to strength and cost but it doesn't work as well as a bond breaker. As a de-icer he found it to be more effective than Ice B'Gone. Todd says, "20 gallons/mile does great for melting hard pack even into single digit temps."

For gravel roads, mixing liquid in his sand gives him amazing results. In the spring, roads harden faster, pothole less and dust less. Ice B'Gone acts like a glue both during



winter applications or as a summer dust control product.

Future plans: add more capacity. Currently only have 120-140 gallon/truck capacity

and small pumps. He wants 300 gallons/truck and larger pumps to pump 7-8 gal/minute. There are three trucks in his fleet.