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"America's
Favorite Newsletter"

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TEAM aef

HAPPY - BRAVE - NICE



Our 38th Year

CONTENTS:

THIS IS THE WAY WE MELT THE SNOW (Melt the snow, melt the snow)

A timely, informative look at snowmelting today. There's three ways to skin this cat --- Which one is best?

H-E-EERE'S FRED!

Up close and personal with TEAM AEF's Sales Manager, (and our best golfer).

FRED & PIETRO'S EXCELLENT ADVENTURE

The inside skinny on their visit to Nelson in Tulsa, Oklahoma.

ASK BERNADETTE

AEF's Answer Cow reveals an astonishing Secret Report on Snowmelting that will help make everything crystal clear.

DOME SWEET DOME

An exclusive report on the most amazing Dome in Rome. You'll want to include this on your trip to the Eternal City.

\$mart Snowmelting

Seems like it should be simple enough. When an area needs to be snowmelted, you want an economical system that will melt snow uniformly, and keep the area clean and dry. And you want a reliable system that will keep on working, hopefully till you're retired and it's someone else's problem. Here's what you should know.

The Usual Suspects. There's basically three types of snowmelting systems on the market today. Hydronic systems involve running heated fluid through tubes embedded in the slab. This technique actually dates back to the Ancient Romans, who used it because they didn't have electricity.

Another approach utilizes self-limiting plastic heater cable (essentially regular pipe-tracing cable on steroids.) But while variable heat output is useful for pipe tracing, it's actually counter-productive when it comes to snow melting.

Inconel-Sheathed M.I. Heater Cable systems use reliable M.I. cables combined with smart controls to reliably and efficiently keep snowmelted areas clean, dry, and safe.

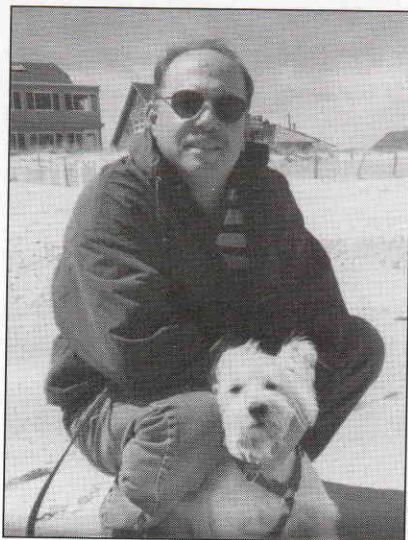
Here we offer a comparison of the three different approaches with regard to design, installation, and energy efficiency.

Design. This may seem obvious, but you need to provide enough heat to heat the slab and melt the snow. The IEEE and ASHRAE recommend between 40 and 70 watts per square foot depending on how critical the area is. (For folks who think in BTUs, that corresponds to about 150 BTU/Hr per square foot up to 250 for critical areas.) In the New York area we usually design for about 50+ watts per square foot.

Providing less heat than that won't work, period. Snow will accumulate, and that snow will then insulate subsequent snowflakes from the heated surface of the slab. (Very embarrassing!) Don't waste money on a snowmelting system that won't melt snow; make sure that no matter what system you choose, it gives you enough heat to do the job. (Continued on 2)



Spotlight on Fred Eigenrauch



Time does fly --- this month TEAM AEF Sales Manager Fred Eigenrauch will mark his 12th anniversary as an AEFer. Fred and AEF first crossed paths when Fred was National Sales Manager for Rapid Power. (See the Line List on page 4.)

In fact, Fred hired AEF before AEF hired Fred. While he was Rapid's Sales Manager, he was looking for representation in our area. AEF Sales got the nod: "They were professionals --- and they did everything that was needed to make sure the customers were taken care of." A few years later AEF returned the favor, and Fred came on board, working mostly in New Jersey.

Right from the get-go Fred was a great addition to the team, helping to establish AEF and its principal companies in new accounts, and adding to the level of service given existing accounts. "The impact Fred had was immediate," states AEF's Mr. Pete. "Over the last four or five years we've experienced tremendous growth, and Fred's efforts have played a big part in it."

Fred added another dimension to AEF Sales---he is AEF's resident Golf Pro. Not only is he by far the best golfer who's ever worked here, but he's provided help and inspiration to AEFer Pietro Fasolino, and AEFer Emeritus Chairman Tony. (Continued on 2)

'On the Shore Everything's All Right'

Fred's been with AEF for 12 years;
Sparky's been with us (and with Fred
for that matter) for 6 years.

*You gotta be where
you're at to get to where
you're going.*
Toby Keith

*Injustice is relatively
easy to bear; what stings
is justice.*
H.L. Mencken

*A righteous man's
supplication, when it is
at work, has much force.*
James 5:16

*If you know where you
stand, you can dance.*
Michael Kelly

*It ain't a bad plan to keep
quiet occasionally, even
when you know what
you're talking about.*
Kin Hubbard

*The right to free
speech does not come
with guarantees of
rational thought.*
Balint Vazsonyi

*Once the game is over,
the king and the pawn go
back in the same box.*
Italian Proverb

*From what I've seen, the
trouble with organizing
a thing is that pretty soon
folks get to paying more
attention to the
organization than to
what they organized for.*
Charles Ingalls

Here's Fred . . .

In light of Fred's contributions, he was named Sales Manager for *TEAM AEF* in 1998. Since that time he's been responsible for training, and for coordinating sales activities.

When asked what makes AEF different, Fred points to the TEAM concept: "That makes for the best customer service possible---any team member is ready and able to help any customer, so the customer can always 'hit the open man', and get what he needs. On larger projects at least three salesmen are always up to speed, and any one of them can take care of anything that comes up."

Fred and wife Cathy have been married for six years, and share their home with Sparky, a West Highland Terrier who covers New Jersey for AEF's crack Canine Unit. When he's not working, Fred likes playing golf, thinking about golf, and spending time at the Jersey Shore, where he enjoys ocean kayaking, and long walks on the beach with Sparky. (And sometimes with Cathy.)

Fred is also an avid chef, and is particularly renowned for his barbeque expertise. He recently expanded in this field with the acquisition of a smoker, which not only resulted in some great food, but helped to bring the neighborhood together, as the neighbors converged to see where all the smoke was coming from.

Thanks, Fred, for helping to put the TEAM in TEAMAEF.



Smart Snowmelting . . .

Installation. Construction sites are usually pretty chaotic, and care is required in installing *any* system. In spite of telling people to be careful, an area where concrete is being poured has people stepping on things, swinging shovels, and so on. The plastic tubing of hydronic systems, or the plastic sheathing on self-limiting cables, are easily damaged in this environment. Nelson's Inconel sheathed M.I. cable is tough, with high impact resistance (80,000 psi yield strength). **IMPORTANT NOTE:** Some vendors offer copper-sheathed M.I. with a plastic overjacket to provide protection against corrosive salts. This overjacket is easily damaged during normal installation, leaving the copper sheath unprotected. Nelson's Inconel sheath provides immunity from corrosion.

Don't forget to consider the impact the system you use will have on the structural integrity of the slab itself. MI cable, with its' small diameter and metal sheath is most compatible with the concrete. (To the concrete, the MI cable looks just like re-bar.) Concrete doesn't like plastic, and the large O.D. of the tubing (or the self-limiting cable, which is big old stuff) can cause cracking. If you choose either of these systems it may be necessary to add thickness to the slab, which will add costs.

Efficiency. To be efficient, a snowmelting system has to put the heat where the snow is. An hydronic system heats the water/anti-freeze mix, which then has to be pumped to the snowmelted area, losing heat every step of the way. Once it reaches the area, it continues to lose heat. Besides wasting energy on the way to the snowmelted area, hydronic systems try to provide heat through the plastic of the tubing, which is in fact a pretty darn good thermal insulator. (This is a little like putting pipe tracing cable on the *outside* of the insulation.) More waste! Plus the slow start-up may require that the system be **RUNNING ON STAND-BY ALL WINTER!** Think how the mileage you get on your car would be affected if you had to leave it running in your driveway all winter. *Basta!*

Snowmelting with self-limiting pipe tracing cable is also dicey. First off, that self-limiting feature, which is swell if you're freeze protecting pipes, is no good when you need a specific amount of heat to melt snow. And second, this stuff is so expensive that a lot of the time, they propose systems that put out around only 31 watts per square foot! No good---that's a total waste of energy *and* money.

A Nelson Inconel-Sheathed M.I. system provides exactly the amount of heat needed, exactly *where* it's needed. And combined with a smart controller (one that knows when there's snow to melt and when it's just cold out), you get what you wanted: an area uniformly clean and dry.

Put Them to the Test! Don't you wish you had the time and the money to set up a real world, side-by-side comparison between these three types of snowmelting systems?

Well, it's actually already been done! A government agency in the Big Apple did just it a few years back. For the Top Secret results of that test installation, check out **Ask Bernadette** on the next page, and learn for free what they paid to find out!

Snowmelting Checklist

NELSON INCONEL M.I.

- Nelson MI Heaters
- Snow Detector
- Breaker Panel
- Junction Boxes/Conduit

HYDRONIC

- Tubing
- Boiler
- Anti-Freeze (Toxic)
- Manifolds
- Circulating Pumps
- Re-Circulating Pumps
- Vents
- Drains
- Thermostatic Controls
- More Pumps
- More Manifolds
- Mylanta
- Zolof

Is it just us, or does the Nelson M.I. System look a whole lot simpler?



Bernadette
The AEF Sales Answer Cow

DEAR BERNADETTE:

I heard a rumor about some Government Agency that had done an actual side-by-side comparison of snowmelting systems that used hydronic, plastic pipe tracing cable, and MI cable. Did that ever really happen, or is it one of those urban legends? A.M.

DEARA.M.

I can assure you that such a test installation was actually done (right here in Manhattan), and I can also give you a summary of the undertaking.

The engineers at this agency (sorry, I cannot divulge actual names) were divided on what type of system to use for a large snowmelting project; some wanted an hydronic system using plastic tubes, some a system using self-limiting cable, and some (incidentally the smartest and best looking ones) wanted an MI system. To settle the argument, it was decided to install the three systems side-by-side in a concrete slab, see what happened, and then decide on the winner. All the systems were designed to provide 50 watts per square foot. (The self-limiting cable

people, who usually recommended what amounted to 31 watts per square foot, realized that people would be scrutinizing this installation, and decided to use extra cable to provide the 50 watts.)

AEF Sales was called in to help with the design on the MI section. They put their experience (almost 40 years now!) to work to provide an optimum design for minimum cost, and they also provided time in the field so that the installation went as smoothly as possible. (This also insured that any field conditions not anticipated in the original design could be accomodated. They'll do the same on your job.)

After one winter's service the engineers examined the slab, and found some cracking in both the hydronic and pipe tracing cable sections. (*After just one year!*) This was believed to be due to large O.D.s of the tubing and cable, and the fact that the plastic was not exactly simpatico with the concrete. The MI section was fine, since with its' small diameter and metal sheath, it was most compatible with the slab.

So you don't need to run your own test installation, just learn from this one!

DEAR BERNADETTE:

If you need 50 watts per square foot to melt snow, how come that company with the self-limiting cable talks about using 31 watts? N.W.

DEAR N.W.:

The reason they try to fudge the laws of thermodynamics is simple: that cable is very expensive stuff, and using enough of it to make a workable system would be ridiculously expensive. Don't be fooled by fuzzy math!

Pietro's Hole-in-One Highlight of Nelson Visit

Here at AEF Sales we like to spend some time visiting with the folks at the factories when we get the chance. Most all our day-to-day 'business' gets taken care of by phone, fax and e-mail, but it's good to spend time face-to-face with the people that we really depend on, and it gives us a chance to express our gratitude for the help we get from them day in and day out.

So in June AEFers Fred Eigenrauch and Pietro Fasolino spent a few days at Nelson in Tulsa, OK, to spend some quality time.

They visited with Sandy Burke and Linda Clark in Customer Service; control guru David Bridges; Rick Ford, Kelly Pierce, and De Jones in Engineering; and Brenda Burress in Contracts Administration. (Note: Engineering maven (maveness?) Jennifer Glimp was resident on-site at a major project in New Jersey.)

Somehow Fred and Pietro managed to get in a round of golf at Bailey's Golf Ranch with Nelson's Gary Waul and Clint Veit. The fairways were lined with some very nice houses. Off the tee on the 9th hole, Pietro got off a shot that found its way directly through a picture window and inside a house. According to one eye-witness account from a source who requested anonymity (Gary Waul), 'The window did not go quietly; it was not your common bang, it was a bang followed by a loud crashing sound, just like you would see and hear in the movies!'

Our thanks to everyone at Nelson for the hospitality, and for helping Pietro get out of town.

Breaking News!

AEF Sales was Nelson's Top Dollar rep for the 3rd quarter.

We were also tops in the 2nd quarter. We're trying to be tops for the 4th quarter.

Thanks to all our customers, and to the whole gang at Nelson for all the help!

Sports Notes

John Cartwright, of Foster Wheeler, recently won his Flight Championship at the Panther Valley Country Club. (John is apparently a better golfer than Pietro.) His secret: he used an Official *TEAM AEF* golfball. Well done, John!

At the Kvaerner Golf Outing Don Fenys of Kvaerner drove the 9th hole (287 yards!), as witnessed by AEF's Fred Eigenrauch, allowing his team to birdie the hole. Don was also using a *TEAM AEF* golfball.

Mere coincidence?
We think not.

If all the economists in the world were laid end to end, they wouldn't reach a conclusion.
Arnold Glasow

I hate life. No matter what you do, you end up at the vet.
Snoopy

Amore rende stupidi anche i sagi.
Andrea Bocelli

Democracy is a charming form of government, full of variety and disorder, and dispensing a sort of equality to equals and unequals alike.
Plato

You've got to learn to laugh in the morning.
Lu

A man who cannot live in paradise is a fool.
Pietro Arentino

Why do big people say 'No'? Why are their voices so loud?
Mister Rogers

The church is near, but the road is icy. The bar is far, but we will walk carefully.
Russian Proverb

Now is now. It can never be a long time ago.
Laura Ingalls Wilder

Secret of the Dome

Every year visitors to the church of San Ignazio in Rome wander around admiring the killer Baroque interior, including the most spectacular ceiling in Rome (and probably the world), and the immense dome. Most come and go without ever learning the dome's secret.

The secret is that there *is* no dome. When the church was being built in the late 1600's a shortage of funds and other complications precluded adding a dome. Enter Andrea Pozzo, a Jesuit priest and master of perspective painting. He painted a fake dome on the flat ceiling 100 feet above the ground, so perfect that few visitors ever realize it's only a painting. Everyone was so pleased by the results that Pozzo was given the commission to paint the entire ceiling of the church, resulting in what may be the most mind-boggling work of art in the world.

The ceiling presents the illusion that the church is open to the sky, and depicts San Ignazio and a few dozen friends ascending to the heavens, while countless other figures lounge on cornices and window frames, feet dangling in mid-air. So perfect is the perspective that it is practically impossible to tell where the actual building ends and where the painting begins. The entire scene is painted on the barrel vault ceiling, and is designed to be seen from one spot, marked by a star on the church floor. If you move to either side of that spot the entire ceiling seems to fold over and collapse onto itself. You have to see it to really believe it.

When the painted fake dome was first shown to the public, some humorless critics of the day complained that the painted columns supporting the painted dome were not substantial enough to withstand the weight of the dome. In response Pozzo replied that if the columns were ever in danger of collapsing, he would repair the damage out of his own pocket. *Bravissimo, Andrea!*

Editor's Note: San Ignazio is located on Piazza San Ignazio, half-way between the Trevi Fountain and the Pantheon. It is open every day, admission is free. DO NOT MISS IT! Skip the Sistine Chapel if you have to.

Backwords

Toxic Avenger

Hydronic snowmelting systems utilize a toxic anti-freeze solution that's similar to what you put in your car. (Go look at all the warnings on THAT label.) Why use that environmentally-challenged stuff when there's a better way? (A MUCH better way.) Call AEF to find out about snowmelting systems that are kind to the planet.

Keeping Things Cool

The extended hot weather this summer took a toll on transformers. Central Moloney helped keep things humming by shipping hundreds of emergency replacement transformers to utilities in AEF Land.

Big Blue

Scientists agree that the Blue Whale is the largest living creature that has ever lived on earth. But how big is big? Very big. They average about eighty feet long, but can reach up to one hundred feet in length and 143 tons in weight. (That's equivalent to about thirty full grown elephants.) Its huge heart is about the size of a Volkswagen beetle and weighs a thousand pounds. That heart beats just nine times a minute (a hummingbird's heart beats 1,200 times in a minute), pumping 15,000 pints (eight tons) of blood. One blood vessel is so big you could swim through it.

The whales roam from the polar seas to the tropics over the course of a year. After an eleven month gestation period a mother whale gives live birth to a single calf, a cute little thing just twenty-four feet long. She'll nurse her baby for six months. With a little luck the baby can live for eighty years.

Whales have the biggest brains on the planet. While a typical human brain runs around three pounds; a blue whale's brain weighs in at about fifteen pounds. Wonder what they're thinking?



aef
SALES ENGINEERING COMPANY

TRANSFORMERS

Central Moloney

Single Phase Transformers: Pole Type, Padmounted, Vault, and Stepdown
Three Phase Padmounted Transformers
Components: Bushings-Switches-Accessories

R.E. Uptegraff Manufacturing

Liquid Filled Transformers to 20mva
Subsurface, Load Center, Station Type
Rebuilding and Rewinding Services

HEATER CABLE & CONTROLS

Nelson Electric Heater Products

MI Cable for Pipe Tracing & Snowmelting
Self-Regulating Cable for Pipe Tracing
Self-Regulating Cable for Roof & Gutter De-Icing
Thermostats & Controls
CM-1 Cable Monitoring Systems
CM-2 Heat Trace Management System

CLEAN POWER PRODUCTS

Rapid Power Products

Power Conditioners, Voltage Regulators
Isolation Transformers to 1000kva
Rectifiers, 50kw to 3000kw

WIRE & CABLE

Conex Cable

Aluminum Clad Shield Wire, Guy Wire
Messenger Wire, and ACSR/AS (AW)

Nehring Electrical Works

Bare Copper and Aluminum Cable
Aluminum Clad Cable
Weather Proof Copper Wire
Ground Rods & Accessories
Cathodic Protection Cable

in the AEF Warehouse waiting
for your call, there's seventeen miles of
primo Nelson Heater Cable, along with
not one, not two, not three, but
four of Nelson's CM-1 Control Systems
and a ton of festive accessories.

**Why? because our customers need
heater cable, not excuses.**

**FACT: last year AEF shipped most orders
directly from their Amazing Local Stock.
96% of those orders shipped
on or ahead of schedule
and most shipped the Same Day.**

**Call us Today. You'll have the material
on-site Tomorrow.**