

winter  
1994

Volume 5  
Issue 4

# aef/fyi

The Quarterly  
Newsletter  
from  
A.E.F. Sales  
Engineering  
Company

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December 1994



Our 30th Year

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*Unless you work for the Government, chances are you like saving money, right? Read on.*

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### Bombs Away!

*How you can eliminate Falling Ice Syndrome before winter strikes.*

### He's Baaack

*Dr. Science shares his wisdom, such as it is.*

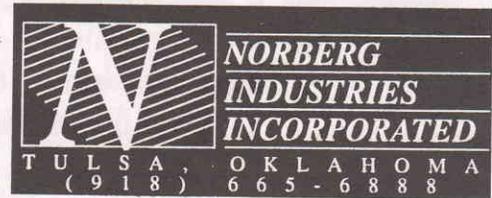
## Fuse News You Can Really Use

Over 25 years ago, Hans Norberg, President (and founder) of Nelson Electric started building 'E' and 'R' rated fuses. In 1983 Mr. Norberg bought Nelson's fuse line lock, stock, and barrel, and Norberg Industries was born. They have been building fuses in Tulsa ever since.

The product line grew to include 'E' fuses at voltages up to 38kv and currents to 400 amps, and 'R' fuses up to 7.2kv with interrupting ratings of 80,000 amps. The quality of the fuses are reflected in their customer list, which includes such names as NASA, Exxon, Phillips 66, and Toshiba.

In September of this year Norberg Industries came under new ownership. The commitment to quality hasn't changed, and Norberg will remain a small independent manufacturer, but Norberg's

new goal is to sell their high quality fuses at the lowest prices in the market.



**How Low is Low?** That's a fair question, so here's the answer. As an example, you could buy one Type R fuse from Gould for \$587, or from Buss for \$487, (or for a bit more from GE or Westinghouse). Or you could buy it from Norberg for \$274. At this point you might reasonably wonder: HOW THE HECK CAN THEY DO THAT? Good question; and the answers are kind of interesting.

*Continued on page 3*

## Don't Take The Bus!

Recently a customer was faced with a decision: He had to provide power and control for a large portal crane. The final choice came down to a festoon system from Gleason, or a bus bar system from a competitor. While your requirement may not be as large as his, his reasons for not taking the bus might apply to your project too.

**The Pits.** Bus bar systems are subject to pitting and corrosion on the copper conductor, which reduces collector contact with the conductor. This combines

with the inherent 'bouncing' of the collector to create voltage spikes.

On power circuits these spikes break down insulation, resulting in shorter motor life. On control circuits errors can occur due to poor signal continuity, electromagnetic interference, and radio frequency interference. All these problems increase as the shoes wear.

**Maintenance. And More Maintenance.** Shoes are subject to regular replacement due to abrasion. Conductor joints need to

*Continued on page 2*

*Since we reap what we sow, you'd think we would pay more attention to what we sow.*

*Dooms Madigan*

*Some people will never learn anything, for this reason, because they understand everything too soon.*

*Alexander Pope*

*If a blind man guides a blind man, both will fall into a pit.*

*Matthew 15:14*

*Money often costs too much.*

*Ralph Waldo Emerson*

*The speech of flowers excels the flowers of speech.*

*George Harrison*

*I do the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference.*

*Abraham Lincoln*

## memo from the desk of *Peter Fasolino*

*Hard to believe, but it's here again--the end of another year. Time seems to be moving faster and faster.*

*Accentuating this feeling is the relentless pace of technological change. Some recent developments here at A.E.F. Sales illustrate just how dramatic these changes are.*

*For instance, our new fax machine has 256K of memory. That's exactly twice as much memory as the first **computer** we had here, less than ten years ago.*

*Not that the computers here are standing still, waiting for the fax to go by. The newest machine around here sports 24 megs of RAM -- 192 times more than that first computer. (That doesn't count the two megs of video RAM, or the gigabyte of storage on the hard drive.)*

*Along with the hardware, we're bringing on a new generation of more powerful software. With these tools, we're working to insure ever higher levels of productivity and customer service. Look for some interesting changes by the beginning of the new year!*

*In the meantime -- and on behalf of all of us at A.E.F. Sales -- our wish to you is that the coming holiday season will be one that provides quiet times with loved ones, and warm memories to carry you through the winter, and the year ahead.*

## Electrifying *continued from page 1*

be checked regularly. Additional motor maintenance and replacement are necessitated by the voltage spikes. Don't your people have better things to do?

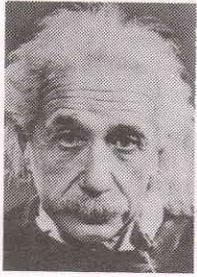
**Avoid Problems.** All these unnecessary problems can be eliminated by using a Gleason festoon system. A festoon system has hardwired connections at both ends, resulting in superior continuity for power and data. Since there's no exposed metal bus, corrosion is not a problem. Maintenance costs and downtime are reduced. And your system is future-proof.

**Future-proof Your Crane.** If there's anything you can bank on, it's change. And the direction of that change is toward ever more efficient, sophisticated data and control systems, transmitted via fiber optic cable. It's a little hard to imagine a fiber optic bus bar isn't it? But your Gleason festoon system can accommodate the future with no problem.

If you've got any electrifying problems on your desk, give us a call. We'll help you see if festooning's your answer.



Since 1911 Gleason Reel has been THE name in cable and hose management. Whether your requirement calls for Reels for efficient storage and payout from virtually any angle, Festoon Systems for overhead applications, or PowerTrak for protection on machinery in motion, Gleason is the only name you need to know. Gleason Reel is the only company that manufactures all three types of systems, so whatever the job calls for, Gleason has it. A.E.F. Sales has represented Gleason since 1991.



# Ask Dr. Science

Guest Columnist

*Dr. Ralph Science is an internationally known author, lecturer, and Notary Public. He is also the host of the popular PBS series, "I Know More Than You Do".*

DEAR DR. SCIENCE:

*Exactly what are Lasers? How do they work, and what can they do, and how powerful are they? M.T.*

DEAR M.T.: The term 'Laser' is an acronym for 'Light Amplified by Stimulated Emission of Radiation'. A normal light bulb produces incoherent light -- energy of varying frequencies and direction. A laser produces coherent light -- light of uniform frequency and direction, which greatly amplifies the light produced.

Scientists have developed a laser so powerful it can vaporize a bulldozer two thousand yards away, yet so precise that doctors can use it to perform

delicate operations on the human eye, provided they remember to change the power setting from 'VAPORIZE BULLDOZER' to 'DELICATE'.

DEAR DR. SCIENCE:

*I'm in the early design stage of a heat tracing project in a Division 1 area. Some of the lines lend themselves to being traced with MI cables, but my life would be a whole lot simpler if I could use some self-limiting type cables as well. Is there any one manufacturer who can handle the whole magilla? D.W.*

DEAR D.W.:

As a matter of fact there is. The whole project could be handled by Nelson Electric of Tulsa, Oklahoma. They have both factory fabricated Mineral Insulated heaters and Type D1-HLT Self Regulating heaters which are cut to length and terminated in the field. Both types of cable are available at multiple voltages, and with a wide range of outputs, so your job is sure to be made easier. In your area the Nelson rep is A.E.F. Sales, and they've been doing this stuff for 30 years, so why not start your project off right by picking up the phone and giving them a call.

*Questions? Problems? Dr. Science knows all. Write to him c/o A.E.F. Sales Engineering Co., P.O. Box 295, Mamaronock, N.Y. 10543*

*You can't make a racehorse out of a pig, but you can make a very fast pig.*

*John Steinbeck*

*Practically everything that for years we believed to be true has been proven false or incorrect by subsequent discovery. In fact there is only one statement that I would now dare to make positively: There is absolutely nothing faster than the speed of light-- maybe.*

*Edward Teller*

*The older I grow, the more I listen to people who don't say much.*

*Germain G. Glidden*

*If you would make a man happy, do not add to his possessions but subtract from his desires.*

*Seneca*

*I'm not coming home.*

*Bill Bailey*

*Plant flowers, you get flowers. Plant weeds, you get weeds. Plant nothing, you get weeds.*

*Unknown*

*Cease becoming unreasonable.*

*Ephesians 5:17*

## Fuse News *continued from page 1*

**What Goes Up Must Come Down.** Or does it? Remember back in the early 1980's when the price of silver was sky high? Since current limiting fuses contain alot of silver, the price of fuses went way up too. Well, now silver's only around \$7 an ounce, but the Big Fuse Companies have apparently been too busy to revise their price lists. Should you pay inflated fuse prices today because silver was ridiculously expensive ten years ago? 4 out of 5 fuse manufacturers say Yes. Norberg says No.

**Sweetheart Pricing.** Here's an inside look at the way most fuse companies market their products. They practically give away fuses in the OEM market, and make their profit in the aftermarket. That, dear reader, is you. When fuses need replacing, most of the time the original supplier winds up

with the replacement order. You pay artificially high prices so the OEMs can get artificially low prices. (Is Hillary around here somewhere?) Is there a way to avoid subsidizing OEMs with your company's money? We thought you'd never ask.

**Norberg's Cross Reference. Free.** Even as you read this, copies of Norberg's brand new Cross-Reference Catalog with technical data are being rushed to A.E.F. Sales. All you have to do is call your rep to reserve your copy. Then just start buying fuses from Norberg Industries, instead of those other guys.

*Editor's Note: Norberg Industries is represented in the Greater New York area by A.E.F. Sales Engineering Co. But you may have already suspected that.*

# Danger! Falling Ice

Remember last winter?

Record snow and cold made things pretty miserable, didn't they? And those conditions led to all kinds of ice and snow damage, broken gutters, roof damage, and probably more than a few lucrative personal injury lawsuits.

This coming winter is shaping up to be another doozy. While we can't offer anything to mitigate the weather, we do have something that can prevent the associated damage: SLT Roof and Gutter De-Icing Heater Cable from Nelson Electric. These heater cables are designed for installation on roofs and gutters to get rid of snow and ice (and melt a pathway for the drainage of water) *before* you have a problem.

The self-limiting cable automatically reduces its power output as drainage tunnels are formed in the ice and snow, reducing energy costs. Because the heater regulates its power output as a function of temperature, it cannot overheat and damage temperature sensitive roof coatings.

Hey, this winter's liable to be bad enough without unnecessary damage to people and buildings. And you really don't need any legal adventures, do you? Call A.E.F. for more info today.

## 4 Things Worth Knowing

■ **Electrifying.** *If you need to reliably control or get power to moving equipment you can use reels, festooning, or trak systems. How can you get what's best for your application? Call a company that makes all three. Here's a list of those companies: Gleason Reel. Yup, Gleason's the Only One. So who ya gonna call?*

■ **Looking for that Special Gift?** *A company in Berlin, Ohio, offers a 'Wide Selection of Humorous Geese Clothes' by mail. To get your Catalog, send \$2 to Country Junction, 5039 State Rt. 39, Berlin OH, 44610. (We are not making this up.)*

■ **Cold Comfort.** *As temperatures drop, and pipes start to freeze, isn't it nice to know that A.E.F. has almost a mile of heater cable in local stock. You can have it tomorrow.*

■ **Tired Blood.** *Each of us has almost 100,000 miles of blood vessels.*



### **BEST POWER TECHNOLOGY**

*(Authorized Reseller)*

*Ferrups Single Phase UPS to 18kva*

### **CENTRAL MOLONEY**

*Single Phase Transformers: Pole*

*Type, Padmounted, Vault, and Stepdown*

*Components: Bushings-Switches-Accessories*

### **CONEX CABLE**

*Aluminum Clad Shield Wire, Guy Wire*

*Messenger Wire, and ACSR/AS (AW)*

### **ELECTRICAL POWER SYSTEMS INC.**

*Switchgear and Motor Control to 15KV*

*Powerhouses: Special Purpose Buildings for*

*Distribution and Control*

### **GLEASON REEL CORPORATION**

*Cable and Hose Reels*

*Festoon Systems and PowerTrak*

*Workstations and Tool Balancers*

### **LEWTEX TECHNOLOGICAL MFG.**

*Fibreglass Crossarms*

### **LORTEC POWER SYSTEMS**

*On-Line UPS to 225kva*

*Specialty Inverters*

### **NELSON ELECTRIC HEATER PRODUCTS**

*MI Cable for Pipe Tracing and Snowmelting*

*Self-Regulating Cable for Pipe Tracing*

*Thermostats and Controls*

*Control and Monitoring Panels*

### **NEHRING ELECTRICAL WORKS**

*(for Utilities Only)*

*Bare Copper and Aluminum Cable*

*Aluminum Clad Cable*

### **NORBERG INDUSTRIES, INC.**

*Silver Sand Current Limiting Fuses*

*Type E General Purpose Fuses*

*Type R Motor Starting Fuses*

### **PYRAMID INDUSTRIES, INC.**

*Plowable Duct, Locatable Duct, Inner Duct,*

*Aerial Duct, Cable Blowing Equipment*

### **RAPID POWER TECHNOLOGIES**

*Power Conditioners, Voltage Regulators*

*and Isolation Transformers to 1000kva*

### **R.E. UPTGRAFF MANUFACTURING**

*Liquid-Filled Transformers to 15mva*

*Subsurface, Load Center, Station Type*

*Rebuilding and Rewinding Services*

### **MYRON ZUCKER, INC.**

*Low Voltage Capacitors to 600 volts*

*Harmonic Traps*