

# The Conduit

Volume 8, Issue 1  
December 2010 & January 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### *GOOD TIMES AT EI'S CHRISTMAS PARTY*





# EMPLOYEE SPOTLIGHT



## Happy Birthday!

## Anniversaries

1/7	Dan Ronan
1/18	Cory Glines
2/4	Tom Therrien
2/19	Sandra Ringelstein
2/19	Bryan Payne

Tom Therrien	14 years
Mike Leary	12 years

### Upcoming Projects

Bar Harbor, ME – WWTP & Pump Station  
Town of Bar Harbor

Bow, NH – Water & Wastewater Pump Stations  
Trumbull-Nelson Construction Co., Inc.

Ellsworth, ME – WWTP & Pump Station  
Penta Corp.

Farmington, NH – WWTP Upgrade  
Apex Construction, Inc.

Lewiston, ME – WWTP Upgrade  
T Buck Construction, Inc.

Limestone, ME – Pump Station  
Penta Corp.

North Conway, NH – Wellfield & WTP  
Waterline Industries, Inc.

### SAVE WITH ABC

El employees are eligible for a discount on their personal Verizon Wireless phone plans through Associated Builders & Contractors.

\*Available on 1-year or 2-year line terms on eligible calling plans \$34.99 or higher, including Family Share plans

\*15% Monthly Plan Discount

\*25% Accessory Discount

You can access your discount by going to:

[www.verizonwireless.com/discounts](http://www.verizonwireless.com/discounts)

Enter your work email as proof of employment, and you will receive an email with a link. The link is valid for 72 hours. You can also visit a Verizon Wireless Corporate store with two El pay stubs and enroll in person.



Number of hours worked without a "Lost Time" Injury  **518,682**



### In the Spirit of the Season

We are pleased to report that Electrical Installations continued its Christmas tradition of sharing our success with those less fortunate. Just prior to Christmas, El donated over \$15,000 to the following outreach-centered charities: The Salvation Army, St. Vincent de Paul, Cash-N-Cans, Meals on Wheels, Community Health & Hospice, David's House, Twin Rivers Interfaith Food Pantry, Habitat for Humanity, Community Caregivers, UMCOR, New Horizons, Carroll County Health & Home Care Services, Dana Farber/Jimmy Fund and others.

MIX 94.1 morning DJ Fred Caruso accepts El's annual Christmas donation to the Cash-N-Cans drive benefiting local food pantries and soup kitchens.

**Annual Supervisors Meeting & Safety Training**  
Friday, March 18, 2011  
8:00AM – 3:00PM (lunch included)

All supervisory employees are requested to adjust their schedules in order to attend El's Annual Supervisors Meeting. This will be a very full and informative session. With safety our #1 priority, much of our time will be devoted to CPR and First Aid certification update training as well as Arc Flash training. We look forward to seeing everyone for what is sure to be a productive and enlightening day.



### Factoid of the Month

Statistics tell us that approximately 70% of winter deaths attributed to snow and ice involve motor vehicles. Please take extra care driving this winter!

# The Conduit

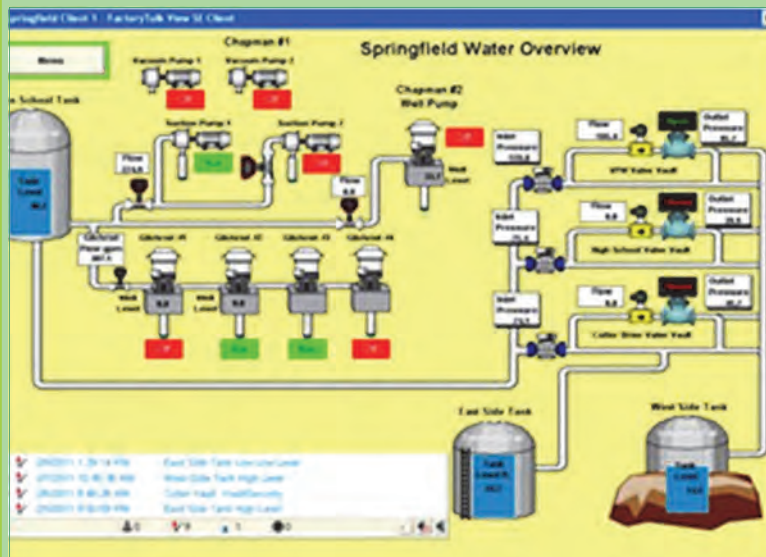
Volume 8, Issue 2  
March & April 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### FEATURED PROJECT SPRINGFIELD WATER WORKS SCADA SYSTEM IMPROVEMENTS

The Town of Springfield Vermont awarded their SCADA System Improvements project, engineered by Forcier, Aldrich and Associates out of Essex, Junction, VT, to Electrical Installations, Inc. in the summer of 2010.

The town of Springfield, an area and system familiar to Electrical Installations, is located in the Connecticut River Valley region of Vermont just miles from our New Hampshire border.



This now completed project included the construction of a new SCADA system linking the Springfield Department of Public Works with nine remote water works system sites. Under the direction of Jim Fritz and framed by a 2008 radio path study performed by EI, the system incorporated the manufacture and supply of a Master Terminal Unit and 9 Remote Units. In addition, the installation of applicable radio and antenna equipment, level and pressure instrumentation, programming and system integration completed the improvements.

Thanks to all who participated in the successful and timely completion of this project particularly Matt Blood and Casey Damon in our panel shop, Neil Davis, Mike Merrill, and Ryan Pothier, with an occasional 'guest' appearance by Wayne Wickens.

Number of hours worked  
without a "Lost Time" Injury

**529,528**



# HAPPY ST. PATRICK'S DAY



# EMPLOYEE SPOTLIGHT



## Happy Birthday!



3/5	Ryan Pothier
3/10	Eva Fritz
4/30	Brian Chevrette



Congratulations Brian and Darlene, proud new parents of baby Dylan, born October 20, 2010!



## Anniversaries

Tom Brosious	7 years
Matt Blood	7 years
Dennis Lloyd	2 years
Dan Ronan	2 years



Matt Blood, Cory Glines, Jimmy Fritz and Casey Damon (not pictured) try their luck ice fishing during Fishing Derby Weekend.



### CHARLIE'S QUALITY CORNER

#### OSHA Inspections Common Now

OSHA has new rules and they are very stringent. ANY boxes, panelboards, or even conduit fittings which contain live wires, with or without splices, must be covered when you are not working on them. This includes even short periods when you are not present such as coffee breaks, lunch, etc. Also, remember – all temporary lighting must be extra heavy duty cable. Use OSHA approved assembly if available.

### Factoid of the Month



During 2010, EI vehicles traveled 396,761 miles in pursuit of sales in excess of 8,750,000.



### Annual Supervisors Meeting & Safety Training

Friday, March 18, 2011

8:00AM – 3:00PM (lunch included)

Don't forget EI's Annual Supervisor's Meeting

Friday, March 18, 2011 8:00AM – 3:00PM

We look forward to a productive and informative day! All company vehicles are due for inspection in March, and inspections will be performed while our meeting is in progress. Please contact Eva ASAP if your vehicle will also require any routine maintenance.

# The Conduit

Volume 8, Issue 3  
May & June 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### ANNUAL SUPERVISORS MEETING & SAFETY TRAINING

On March 18, management and field personnel gathered at EI's home office for our Annual Supervisors' Meeting & Safety Training. The morning was devoted to updating First Aid, CPR and AED certifications with several people discovering that CPR can be quite exhausting. We are pleased to report that fifteen employees completed training and received two-year certifications.

The afternoon was devoted to a review of the current state of Electrical Installations, Inc. and our company focus for the future. The importance of building our new Service Group was a key topic of conversation including a review of our newly-created Service Maintenance Agreement, now available to any and all of our water/wastewater customers. Among other topics discussed were escalating health insurance costs and the importance of continued safety awareness.



Number of hours worked  
without a "Lost Time" Injury

539,468





# EMPLOYEE SPOTLIGHT



**Anniversaries**

<b>Cory Glines</b>	<b>6 years</b>
<b>Bryan Payne</b>	<b>6 years</b>
<b>Mike Merrill</b>	<b>5 years</b>
<b>Eva Fritz</b>	<b>5 years</b>
<b>Casey Damon</b>	<b>4 years</b>
<b>Jared Leary</b>	<b>1 year</b>

## APPRENTICES NO MORE!

We are proud to announce that, in the last eight months, three of our apprentices have earned their Journeyman Electrician licenses. Bryan Payne was the first to be licensed in August, followed by Ryan Pothier in October, and, most recently, Dan Ronan. Congratulations gentlemen, on your terrific accomplishment!

*HAPPY MOTHER'S DAY!*

*HAPPY FATHER'S DAY!*



### Factoid of the Month



The solstice days are those when the daylight hours are at their longest or shortest. In the northern hemisphere the longest day is usually June 21, and the shortest day is December 21.

### CHARLIE'S QUALITY CORNER

#### Explosion Proof Wiring Notes:

We do a lot of Class 1 Div. 1 wiring, and there are several things I have noted that we need to remember and focus on.

Seals...sometimes you need to oversize seals when used for controls. The fill percentage for seals is usually significantly less than the fill for conduit. The idea being that wire separation must occur when pouring the seal. If several wires are bunched together, gas can seep in and through the void between the wires. Over sizing (actually proper sizing based on fill calculations) provides room between conductors for the compound to effect a gas tight seal.

Generally the seal rule is:

Seal as close as possible when entering or leaving a classified area. The seal must be before the first threaded joint (no couplings, ericksons or fittings before the seal!)

Seal when entering or leaving a spark-producing device. Factory sealed switches when listed for the purpose do not require seals. Note that some fixtures require seals.

XP flexible conduit. Use where necessary for flexibility or for vibration isolation. Note that some unsupported fixture pendants require a flexible connection. We pay by the length for XP flex. It costs about \$19.00 / inch, so keep lengths as short as possible!!



Matt Blood and Casey Damon recently put on their cowboy hats when the next-door-neighbor came to visit.

### UPCOMING PROJECTS

Edgartown, MA - SCADA System  
Barbato Construction

Groveland, MA - SCADA System  
Ewing Electrical Co., Inc.

Conway, NH – Saco River Pump Station  
S.E. MacMillan Co., Inc.

Gorham, NH – WWTF Control Panel Replacement  
Town of Gorham

Benton, NH – Glencliff Woodchip Facility  
Hutter Construction Corp.

Meredith, NH – SCADA System  
Town of Meredith

Auburn/Lewiston, ME – WTP Phase 2  
T Buck Construction, Inc.

Franklin, NH – Acme WTP  
Weston & Sampson Services

# The Conduit

Volume 8, Issue 4  
July & August 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### Completion of Wastewater Treatment Plant Repairs Celebrated in West Warwick

In our May/June 2010 issue of *The Conduit* our Featured Project described emergency repairs at the West Warwick, Rhode Island Wastewater Treatment Facility. The facility had been heavily damaged by unprecedented flooding and Electrical Installations was summoned to assist the Town of West Warwick in a complete restoration of the treatment facility's control system. Communication was re-established within two weeks by converting the plant from lease-line to a radio telemetry system encompassing the treatment plant, repeater, and 8 pump stations. Restoring the plant to its pre-flood condition has taken over a year with every component of the plant's control system undergoing repair and/or rebuilding.

We were delighted to have received a letter of appreciation from The West Warwick Regional Wastewater Treatment Facility noting Tom Therrien's "exceptional dedication working tirelessly alongside our team to restore the Plant". The letter included an invitation to an Open House event on May 10th "highlighting the challenges and successes of the past year". Several EI representatives were on hand as Governor Chafee and other local dignitaries praised all who were involved in the tremendous accomplishments of the past year. Congratulations to Tom Therrien, Kevin Joerres, Matt Blood, Casey Damon and Cory Glines for a job very well done!



*The West Warwick Wastewater Treatment Facility is submerged as a result of historic flooding.*



*The flood high water line is marked with blue tape on the treatment plant exterior wall..*



*Tom Therrien and Kevin Joerres strike identical poses in front of two of the many panels rebuilt following the flood.*



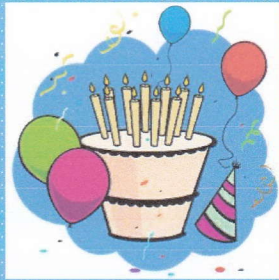
*R.I. Governor Lincoln D. Chafee addresses Open House attendees as a Town Councilman looks on.*



# EMPLOYEE SPOTLIGHT

## Happy Birthday!

- 7/1 Jimmy Fritz
- 7/2 Jake Daku
- 7/9 Darlene Chevrette
- 7/9 Craig Sharpe
- 7/28 Charlie Fritz
- 8/11 Andy Fritz
- 8/26 Zack Fritz



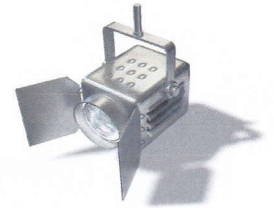
### CHARLIE'S QUALITY CORNER

#### Class 1 & Class 2 Wiring

Many of the control systems we design and build contain 24 vdc control circuits. All our systems are rated NEC Class 1. There has been controversy over whether the 24 volt wiring can legally be "mixed" in conduit and boxes with other voltages. Class 2 wiring may not. Typically class 2 wiring is a power limited circuit used for such applications as doorbells, furnace controls, thermostats and the like.

Class 1 circuits can be in the same cable, enclosure, or raceway with power-supply circuits, if the equipment powered is functionally associated with the Class 1 circuit and the wiring is rated for 600 volts.

NEC 725.55(A) states that Class 2 and Class 3 circuit conductors must not be placed in any enclosure, raceway, or cable with conductors of electric light and power.



## Anniversaries

<b>Brian Chevrette</b>	<b>15 Years</b>
<b>Neil Davis</b>	<b>15 Years</b>
<b>Darlene Chevrette</b>	<b>15 Years</b>
<b>Ryan Pothier</b>	<b>5 Years</b>
<b>Dan Gagnon</b>	<b>1 Year</b>

Number of hours worked  
without a "Lost Time" Injury

**550,770**

### UPCOMING PROJECTS

Auburn, ME – Turner Street Chloramine Facility  
T. Buck Construction, Inc.

Mansfield, MA – Albertini WTF  
Winston Builders Corp.

Mansfield, MA – Walsh WTF & Cate Springs Upgrades  
Barbato Construction Co., Inc.

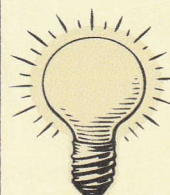
Putnam, CT – Water Pollution Control Facility Upgrade  
C.H. Nickerson Co., Inc.

Southborough, MA – Water SCADA System  
Weston & Sampson Services

So. Paris, ME – Remote Station SCADA Upgrades  
Paris Utility District

So. Portland, ME – Radio Telemetry & Controls Upgrade  
City of South Portland

### Factoid of the Month



The 56 signers of the Declaration of Independence did not sign at the same time, nor did they sign on July 4, 1776. The official event occurred on August 2, 1776, when 50 men signed it.



# The Conduit

Volume 8, Issue 5  
September & October 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### MADBURY WATER TREATMENT PLANT UPGRADE AND BELLAMY RESERVOIR IMPROVEMENTS PORTSMOUTH, NH



Charlie Fritz briefs plant operators on remote monitoring of plant operations.

This project replaced Madbury's antiquated water treatment plant with an ultramodern 4 million gallons per day facility. In addition to the new water treatment plant, the project involved a new pump station, clearwell, sitework, intake structure rehabilitation, and associated plumbing, HVAC, and electrical work. Electrical Installations completed the instrumentation and control portion of this project providing state-of-the-art automation of the new water treatment facility. The control system involved supply, installation and calibration of 76 instruments and manufacture of 14 industrial control panels.



Jim Fritz monitors one of the new plant's first backwash cycles.

The stainless steel panels were among the most complex ever manufactured by Electrical Installations, and all underwent extensive witnessed factory testing at EI's panel shop prior to installation on site. Start-up, training and final modifications to the control system were completed in August with plant operators quickly adapting to operation of their new facility. Operators were particularly pleased with the addition of remote monitoring of plant operations via laptops. This project, performed as a subcontract to Penta Corp, represented a superb collaborative effort between EI, Penta Corp., Hazen and Sawyer, and SMR Engineering. Special thanks to Matt Blood and Casey Damon for exemplary service in the panel shop!



Plant Operator Mark Young prepares to put the finishing touches on the new plant's control room.



# EMPLOYEE SPOTLIGHT

## Anniversaries

<b>Charlie Fritz</b>	<b>24 years</b>
<b>Darlene Fritz</b>	<b>24 years</b>
<b>Chuck Fritz</b>	<b>24 years</b>
<b>Jim Fritz</b>	<b>24 years</b>
<b>Jake Daku</b>	<b>17 years</b>
<b>Kim Souza</b>	<b>3 years</b>
<b>Michele Near</b>	<b>1 year +</b>
<b>Rick Frame</b>	<b>1 year +</b>

## Happy Birthday!

9/9	Chuck Fritz	9/20	Jared Leary
9/14	Casey Damon	10/10	Rick Frame
9/15	Matt Blood	10/17	Michele Near
9/17	Jim Fritz	10/28	Darlene Fritz



**561,666** Number of hours worked without a "Lost Time" Injury



We are proud and amazed that it has been 24 years since Electrical Installations, Inc. began business on October 5, 1987. We have evolved from a fledgling electrical contractor to a dominant force in the instrumentation and controls market for water and wastewater treatment in New England.

We are most thankful for the dedicated and talented employees who have contributed to our success. Next year will mark our 25th anniversary, and we look forward to including all employees in a very special celebration!



North Conway, NH—  
Automobile vs. Control Panel ends badly.

### CHARLIE'S QUALITY CORNER

#### OSHA'S TOP 10 VIOLATIONS FOR 2010

1. Scaffolding, General—9,093 violations
2. Fall Protection—6,771 violations
3. Hazard Communication—6,378 violations
4. Respiratory Protection—3,803 violations
5. Lockout-Tagout— 3,321 violations
6. Electrical, Wiring—3,079 violations
7. Ladders—3,072 violations
8. Powered Industrial Trucks—2,993 violations
9. Electrical, General—2,556 violations
10. Machine Guarding—2,364 violations

**There is no greater priority than safety.**



#### Factoid of the Month



A magnitude 5.8 earthquake shook the east coast on 8/23/11. The previous largest historical shock from the same seismic zone, estimated at a mere 4.8, occurred in 1875.

# The Conduit

Volume 8, Issue 6  
November & December 2011

## NEWS & VIEWS OF ELECTRICAL INSTALLATIONS, INC.

### NORTH CHELMSFORD BOMIL WELLS WATER TREATMENT PLANT

This water treatment plant was put in place to remove iron and manganese from the districts four well sites. The plant can produce up to 2.5 million gallons a day of treated water. In addition to the new treatment plant, the project involved a new on-site million gallon water storage tank and upgrades to the existing pump station. Electrical Installations, Inc. completed the instrumentation and control portion of this project providing automation of the new treatment facility.



The control system involved supply and start-up of various instruments and control panels. Controls were also completed via fiber optic cable between the plant and the pumping stations. Radio telemetry equipment was provided to allow the two water storage tanks to communicate the levels back to the plant for full remote control operations.

Startup, training and final modifications were completed in August. This project was performed as a subcontract to Methuen Construction, and Tata and Howard was the design engineering firm for this project. Mike Leary was EI's project manager. Special thanks to Mike Merrill for his help in start-up and programming and also to Kim Souza and Jared Leary for their tireless efforts in providing submittals and O & Ms.

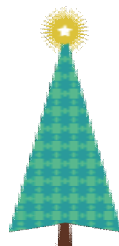


### UPCOMING PROJECTS

Danvers, MA—WTP Upgrades  
Waterline Industries Corp.

Dartmouth, MA—Resolve Superfund Site  
Weston Solutions, Inc.

Dover, NH—North End Pressure Zone  
Preload, Inc. and Apex Construction, Inc.



Franklin, NH—UV Disinfection System Improvements  
Penta Corp.

Manchester, NH—Pump Station Improvements  
Penta Corp.

South Berwick, ME—Willow Street Pump Station  
Apex Construction, Inc.



# EMPLOYEE SPOTLIGHT



## Happy Birthday!

### Anniversaries

Sandra Ringelstein 13 years  
 Craig Sharpe 2 years

Congratulations to Heather and Dennis Lloyd  
 On the birth of their beautiful daughter



*VIOLET ISABELLE*  
 September 6, 2011 11:37 pm  
 7 pounds 2 ounces 19.5 inches



- 11/2 Mike Leary
- 11/3 Dennis Lloyd
- 11/9 Neil Davis
- 11/13 Mike Merrill
- 11/14 Tom Brosious
- 12/10 Dan Gagnon
- 12/20 Kim Souza

Number of hours worked  
 without a "Lost Time" Injury **571,087**

### SAFETY FIRST

We were extremely saddened to learn of the tragic accident involving Richard Kemp and Winfield Studley of Stevens Electric and Pump Monmouth, ME. They were working on submersible pumps in a pump storage tank when they were overcome by hydrogen sulfide. Exposure to high levels of this gas can cause unconsciousness and death within just a few breaths. These men had been at our job site in South Paris working with Neil Davis on the control panels just one week earlier. They were both highly experienced in their field and also were trained in confined space entry and rescue. This incident serves as a poignant reminder that we must take all necessary precautions when entering a confined space. The use of a blower is critical and should be accompanied by a gas detector at all times. Please take a moment to stop and think about the situation you are about to enter and whether or not you have taken all precautions to protect yourself and others. In all situations, there is no greater priority than your safety.

**EI CHRISTMAS PARTY**  
**SATURDAY**  
**DECEMBER 10, 2011**  
**6:00 PM TO 9:00 PM**

**THE BOB HOUSE**  
**520 ROUTE 25**  
**MOULTONBOROUGH, NH**

**RSVP—603-253-4525**



### Factoid of the Month



There are 1.9 billion Christmas cards sent to friends and loved ones every year. Christmas is the largest card-sending holiday.

