



# THE OBSERVER

Published by the New Hampshire Society of Professional Engineers

January 2002

## ► A Word From The President

For the last several months, many of us have been scrambling to put our lives back in order after the disaster of September 11. Our thoughts and prayers continue to go out to those who were injured and to the families who lost loved ones in that tragic event. Prior to September 11, 2001, terrorism rarely touched the shores of North America; it was something that occurred in the far off deserts of the Middle East, the jungles of South America, or the streets of Belfast. We lived a privileged life insulated from the turmoil of a chaotic world, until now. As we move forward, we need to reassess our methods of protecting our valuable assets.

The public depends on professional engineers to safeguard their economic capacity, health, safety, welfare, and way of life ad infinitum. In the aftermath of September 11, it was Engineers assisting in the direction of rescue workers amidst the rubble and debris, management of the emergency response, assessment of damage, and planning the recovery. Engineers throughout the United States and New Hampshire responded immediately to

*[Word From President, continued on page 2]*

## Planning, Permitting & Construction of the AES Granite Ridge Power Plant

On November 8th, the NHSPE and the NH ASCE jointly sponsored a membership meeting at the Yard Restaurant in Manchester, NH. The AES Corporation graciously provided a tour of the construction site for NHSPE and NH ASCE Board members prior to the dinner meeting. Among the tour guides were our presenters for the dinner meeting, Mr. Peter Bajc, AES Granite Ridge Plant Manager, and Mr. Joe Cleary, PE, AES Granite Ridge Construction Manager.

AES Granite Ridge is located in the Ecological-Industrial Park within Londonderry's 1,000-acre industrial zone, 1.5 miles south of Manchester airport. The planned development of the 720 MW, natural gas-fired power plant in Londonderry, New Hampshire began more than three years ago. AES Corporation recognized the need for additional electrical generation in New England and

selected a site in New Hampshire, based partly on our state's proscribed energy facility permitting process.



*AES Granite Ridge Plant under construction in Londonderry, NH*

Many of the power plant's features are geared toward minimizing environmental impacts. The gas turbine technology chosen by AES optimally approaches 60% efficiency; almost 1-1/2 times more efficient than conventional coal/oil fired power plants in the region. This same technology burns 200 times cleaner than the typical New England power plant. Cooling water

*[AES Power Plant, continued on page 6]*

### Do you have interest or skills in .....

Talking to the General Public about Engineers and Engineering?

**Help with the Engineers Week Mall Display!**

Talking to kids in Middle and High Schools about Engineering?

**Get involved with ZOOM Into Engineering!**

Supporting Math Competition for Middle School Students?

**Offer a little time to MATHCOUNTS!**

Supporting Continuing Education for all practicing Engineers?

**Join the Education Committee!**

Contact NHSPE to find out what you can do to improve the profession of engineering in New Hampshire!

### INSIDE

National Engineers Week	3
Committee News	4
Scholarship Awarded	5
AES Power Plant (cont'd)	6
Winter Membership Meeting	7

## Word From The President

[Continued from page 1]

the call for blood, money, and expertise. Dropping everything, several NHSPE members responded to the call and went to "Ground Zero" to lend their experience and knowledge. As professionals we must be willing to share our skills to help respond to emergencies. Engineers will lead the reconstruction of downtown New York.

As we assess our future, it is the responsibility of us, as professional engineers, to lead the nation's efforts in:

- Securing our airways and airports,
- Devising solutions to protect the critical infrastructure,
- Safeguarding transportation, water, energy, and communications,
- Protecting our computer, financial, and building systems.

Engineers must do all these things as well as continue to design, develop, and produce products, systems, and other works that maintain our health, safety, and welfare.

Concerning this topic, on January 15, 2002 at the Sheraton Hotel in Portsmouth NH, NHSPE and SAME are jointly hosting a roundtable discussion regarding our "Preparedness at Major Facilities for Security Risks". Experts from the NH Office of Emergency Management, Maine Emergency Management Agency, Seabrook, Manchester Water Works, and Portsmouth Naval Shipyard will discuss security at utility and sensitive infrastructure facilities. If you have not received a notice through the mail then go to your NHSPE web site [www.nhspe.org](http://www.nhspe.org) to obtain a downloadable form.

On November 30 and December 1, 2001 NHSPE members gathered at Dartmouth College in Hanover NH to meet with Annette Petrick of Petrick Associates to discuss ways to enhance and increase our membership. Petrick Associates is a membership consultant hired by NSPE to develop and implement a new membership strategy. We spent day one getting everything out on the table, our wants from NSPE, gripes,

problems, and visions for the organization. Day two was Annette's opportunity to take all of the information she gathered from day one, assess it and present us with a preliminary plan. For those who attended it was an eye-opening event. We learned of many unknown assets that NSPE makes available to the State organizations. We expect to see the final plan and recommendations in mid December. She also challenged us to develop a pilot program to provide better service to the members. One of the issues we are going to explore with NSPE is to investigate utilizing the programs available to larger states through a collaborative effort with other regional small states. Look for news regarding the pilot program in the next issue of *The Observer*.

The American Engineering Image Campaign continues to provide valuable exposure for Engineers. This campaign is meant to raise public awareness about the critical role Engineers play to improve the quality of life. We are trying to enhance the public's perception of Engineers and thus add value and status to the title Engineer. If you are aware of engineering events that may be of interest to the campaign, please let us, NSPE, or Edelman Media Consultants know. Visit the web site [www.americanengineeringcampaign.org](http://www.americanengineeringcampaign.org) for the latest information and points of contact. Also, look for features about a small New Hampshire snowmaking-engineering firm during the Salt Lake City Olympics coverage.

In early January, you should receive a ballot related to recent changes to NHSPE's Constitution and Bylaws. The intent of these changes is to incorporate recent modifications to NSPE's membership grades, and voting procedures. It also provides cohesion with the vision and strategic plan developed last year. The ballot will also include an opportunity for NHSPE to solicit the membership for their thoughts and opinions. At the end of

the form will be an opportunity for you to include your email address. NHSPE would like to utilize a listserv to notify members of events, educational opportunities, and information we feel is important to our members. Please take the time to fill out the ballot, respond to the short survey, and provide us your email address.

The NHSPE Scholarship program is up and operating with many thanks to Roch LaRoche, P.E. and Dave Eckman, P.E. Dave was instrumental in acquiring tax exempt status for the scholarship account

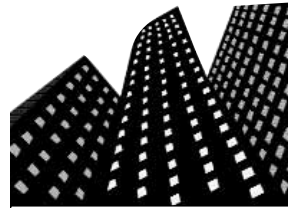
and Roch organized and really got the program revitalized. Thanks to both Dave and Roch. Last spring we awarded our first scholarship in many years for the value of \$500. This year we anticipate awarding a scholarship in excess of \$1,000, but we need your help. Recently, we sent letters to all registered engineering firms in the State soliciting donations. Please take the time and provide a tax-exempt donation to the scholarship fund or encourage your employer to do so.

Finally, we are looking for volunteers! Currently NHSPE is looking for assistance with several programs,

- As scorers at the MATHCOUNTS regional and state meet during February and March,
- Staffing the mall display at the Steeplegate Mall in Concord from February 17 through February 22,
- Assisting with the coordination of Engineer's week activities and at the Banquet on February 21, 2001,
- Participating in the ZOOM into Engineering program planned at schools throughout the State during Engineers Week. We need volunteers to go to their local schools and facilitate the program. It will be FUN!

As you can see NHSPE is involved with many things to many people. Visit your web site and learn more: [www.nhspe.org](http://www.nhspe.org). Get involved, enlist, energize, and engage!

Matthew Purcell, P.E.  
NHSPE President



*As professionals we must be willing to share our skills to help respond to emergencies. Engineers will lead the reconstruction of downtown New York.*

## National Engineers Week Awards Banquet & Exhibition

February 21, 2002  
at the Center of New  
Hampshire, Holiday Inn

The New Hampshire Society of Professional Engineers and the New Hampshire engineering community are preparing for **National Engineers Week: February 17-23, 2002**. The highlight of this year's event will be an awards banquet and exhibition held on Thursday, February 21, 2002 at the Center of New Hampshire, Holiday Inn, located in Manchester.

The evening will begin at 5:00 PM with an exhibit display of vendors and a social gathering, followed by dinner at 7:00 PM. The program continues with the Engineer-of-the-Year and Young-Engineer-of-the-Year award presentation, the introduction of the 2001 MATH-COUNTS winner, and **keynote speaker Robert Skoglund, The Humble Farmer**.

According to former Maine Governor, Joseph E. Brennan, "*Robert Skoglund is undoubtedly one of New England's greatest humorists. He is extremely funny and captivates his audience with his quick wit and dry sense of humor...I truly believe he has harvested the hearts of all generations with his unique style.*"

If you would like to help plan this year's activities, plan an exhibitor's display of your own, or just ask a question, please contact George Fredette at SFC Engineering Partnership, Inc. at (603) 647-8700 ext. 215.

### Civil/Environmental Engineering Position Available CMA ENGINEERS, INC.

Excellent opportunity for professional growth. B.S. in civil engineering required, MS a plus, with 0 to 4 years experience.

Projects in multiple areas, with wide range of responsibilities.

Send letter and resume to CMA Engineers Inc., 35 Bow Street, Portsmouth, NH, 03801; e-mail to "info@cmaengineers.com".

CMA Engineers, Inc. is an equal opportunity employer.



**Quality**

**Reliable**

**Service**

**Partner**

*Simply Proud.*

We are proud to once again be named one of *New Hampshire's Best Companies To Work For* by Business NH Magazine.

We continue to provide quality data and reliable turnaround, sample after sample, year after year.

**eastern analytical, inc.**  
*professional laboratory services*

25 Chenell Drive Concord NH 03301  
**www.eailabs.com**  
**1-800-287-0525**

*more than a lab ...  
your environmental  
service partner*



"working together to achieve success"

visit us at [www.cldengineers.com](http://www.cldengineers.com)

Inc.

Survey Services  
Environmental Permitting  
Structural Design  
Site Design  
Water & Wastewater  
Transportation Engineering  
Construction Administration

540 Commercial Street • Manchester, NH 03101  
(603) 668-8223 • FAX (603) 668-8802 • [cld@cldengineers.com](mailto:cld@cldengineers.com)  
Maine • New Hampshire • Vermont



**GEOTECHNICAL SERVICES INC.**

Geotechnical Engineering • Environmental Studies • Materials Testing • Construction Monitoring

**HARRY K. WETHERBEE, P.E.**  
Principal Engineer

12 Rogers Road  
Haverhill, MA 01835  
978/374/7744  
FAX 978/374/7799

[hwetherbee@geotechserve.com](mailto:hwetherbee@geotechserve.com)  
[www.geotechserve.com](http://www.geotechserve.com)

18 Cote Avenue  
Goffstown, NH 03045  
603/624/2722  
FAX 603/624/3733

## AES Power Plant

[Continued from page 1]

for the plant comes from the City of Manchester wastewater plant, recycling up to 4 million gallons of water per day. AES also developed a natural resource conservation plan that minimized permanent wetland impacts on site, mitigated temporary impacts along the transmission line interconnect and permanently preserved some 120 acres of conservation land for the Town of Londonderry.

Construction on the power plant began in September 2000. The Board members who attended the construction site tour observed first-hand the many facets of this impressive project. From the structural steel framing, the reinforced concrete, site grading and utilities to the gas-fired turbines, the steam cycle turbine and the electrical generators to the water treatment plant, the demineralization plant and the cooling tower, virtually all engineering disciplines left their mark on this project. Despite the plant's complexity construction is on schedule



AES Granite Ridge Cooling Tower



AES Granite Ridge Turbine

with commercial operation planned for the summer of 2002.

The subsequent dinner meeting was followed by an excellent presentation from Peter and Joe. Both of these gentlemen have more than 15 years experience in the power industry with significant expertise in technical support, plant operation and maintenance, engineering design, power plant development and construction management. Their presentation provided an overview of the AES Corporation's commitment to producing "clean" power. Relative to the Granite Ridge project, Peter and Joe provided insight into the details of coordinating the 19-mile natural gas pipeline extension from Dracut, MA to Londonderry, NH as well as issues surrounding the use of wastewater effluent as cooling water. They also discussed the cooling tower technology and how it is intended to limit the vapor plume mitigating aesthetic impacts in addition to potential impacts to air traffic associated with nearby Manchester airport. All in all, it was an informative evening worthy of our undivided attention.

*The Board members of NHSPE and NH ASCE would like to thank Peter Bajc, Plant Manager and Joe Cleary, Construction Manager, for assisting with the site tour and for generously donating their time to speak at the dinner meeting. Special thanks also go to Karen Beliveau, AES Granite Ridge Public Relations, who was instrumental in coordinating the site tour and scheduling our knowledgeable guest speakers.*

## THE OBSERVER

*The Observer* is published quarterly by the New Hampshire Society of Professional Engineers for its members. Its purpose is to inform members of NHSPE activities and related topics.

Address all correspondence to the *Editor*:

Paul Schmidt, P.E.  
c/o CMA Engineers, Inc.  
35 Bow Street  
Portsmouth, NH 03801  
(603) 431-6196  
fax (603) 431-5376  
pschmidt@cmaengineers.com

*Designed by:*

Rolls Graphics (603) 886-9458  
e-mail: drolls@rollsgraphics.com

# Retaining Walls



No other product can beat the durability and design flexibility offered by VERSA-LOK solid retaining wall units. No exceptions. Only VERSA-LOK, with its unique pinning system, permits construction of an unlimited variety of curves, corners, and steps without specification of special units.

Environmentally safe VERSA-LOK units perform well in any retaining wall application - including shorelines. The solid concrete units are virtually maintenance free, so their attractive appearance will last for generations.



FREE  
Construction  
Details CD-ROM  
(800) 770-4525

**VERSA-LOK®** of New England  
(603) 883-3042 • (603) 598-8227 fax  
Manufactured in CT, MA, ME, NH, NY & RI

# Winter Membership Meeting January 15, 2002

## Security at Utility and Sensitive Infrastructure Facilities

A ROUNDTABLE DISCUSSION

In conjunction with The Piscataqua Post of the Society of American Military Engineers

**When** Tuesday, January 15, 2002  
6:00-7:00 pm — Social Hour  
7:00-9:30 pm — Dinner and  
Presentation

**Where** The Sheraton  
Portsmouth, New Hampshire

**Cost** \$24/person

**Registration** Contact Bill Straub at:  
NHSPE  
c/o CMA Engineers, Inc.  
35 Bow Street  
Portsmouth, NH 03801  
Phone: 603-431-6196  
Fax: 603-431-5376

### Speakers on the Panel

*Woodbury P. Fogg, P.E., former Director  
NH Office of Emergency Management*

*General Joseph Tinkham, State Adjutant General Maine  
Emergency Management Agency*

*Peter Stroup, P.E., Director  
Seabrook Station Support Services*

*David Paris, Water Supply Administrator  
Manchester Water Works*

*Harry Tegen, Chief & Emergency Management Coordinator  
Portsmouth Naval Shipyard*

Join us for a timely discussion of this important topic with an outstanding panel of speakers!

## Commercial Lending & Real Estate Law

### Borrowing and Lending Require Careful Analysis.

Our Commercial Lending and Real Estate Group is experienced in commercial and construction financing; leasing arrangements; complex title, environmental, zoning and land use issues; foreclosure and repossession; negotiating and restructuring problem loans; and bankruptcy. From straightforward purchase and sale documents, to complex financial arrangements, our attorneys will analyze your options, anticipate and eliminate obstacles, and complete your transaction on schedule.



Peter Rotch



Linda Connell



Rolf Goodwin



Joe Foster

Serving clients from offices in Manchester, Concord, Portsmouth, and Nashua, NH.

The McLane Law Firm is a member of TerraLex®, a worldwide network of independent law firms.

For more information, call 603-625-6464. Visit us online at [www.mclane.com](http://www.mclane.com) or [www.terralex.org](http://www.terralex.org).

**McLane**  
McLane, Graf,  
Ranlerson &  
Middleton

Professional Association

**BUILDING RELATIONSHIPS FOR LIFE**

# COMMITTEE NEWS

## MATHCOUNTS

The MATHCOUNTS Program continues to advance for the 2001-02 year. There are, as of the 5th of December, 47 schools registered for competition. This compares to 45 schools a year ago at this time. The deadline for registrations being received at National was December 14.

Fundraising is underway with the two major donors to date being the Laconia Savings Bank and the NH Teachers of Mathematics. The program received notification that it would not receive financial support from Verizon this year. Dates that are now firm are as follows:

### Regional Competitions

North Country — February 9, 2002

Plymouth — February 9, 2001

### State Competition, March 9, 2002

(Snow date March 16), Plymouth State

*Submitted by Lee F. Carroll, P.E.*

*State MATHCOUNTS Coordinator*

## LEGISLATION



Among other chores over the summer, the General Court (i.e. NH Legislature) has been occupied with redistricting required after every ten year federal census. The House redistricting committee has completed that chore in raucous partisanship and the Senate effort is still in process. Both bodies must approve the redistricted State in the upcoming session and the Governor must also approve before the deed is done. All of this must be done by April 7 to meet our June 7 primary nomination date because the Federal judiciary requires two months to "certify" our State's redistricting! If this isn't trouble enough, some Democrats are threatening to challenge the House redistricting plan in court. Frankly, having been on that redistricting committee, I don't see any cause for that since the constitu-

tional tests appear to have been met; but, we will see. On December 12 the General Court meets to vote on the five bills the Governor vetoed. From my standpoint they are good bills so many of us will vote to over-ride. However, 67% is required for over-ride and the votes all fell short of override. The upcoming year 2002 session starts in early January and will take up carry-over bills first (so-called retained bills) with committee hearings on all new bills, highlighted by the redistricting proposals.

### Licensure of Landscape Architects

Senator Jack Barnes appears likely to introduce a bill to license landscape architects. Apparently most states already require such license. NHSPE will review the draft language as it becomes available and provide input as appropriate.

### Pre-Engineering Curriculum

A great bill (HB1231) to urge and support, "project learning tree" with a pre-

## COMPLY WITH STORM WATER RUN-OFF REQUIREMENTS.

Introducing the Stormceptor System, the leader in storm water quality treatment. Stormceptor removes high percentages of sediment and oil and is the perfect solution to meeting Phase I and II requirements. Stormceptor is also proven effective as a pretreatment and spill control device. And with more than 5000 installations, it is setting the standard for treating storm water run-off worldwide.

Extensive lab tests, field tests, and federal and state verifications have proven Stormceptor's effectiveness time and time again. It is this commitment to research and development that truly make the Stormceptor System stand out from the rest of the pack.

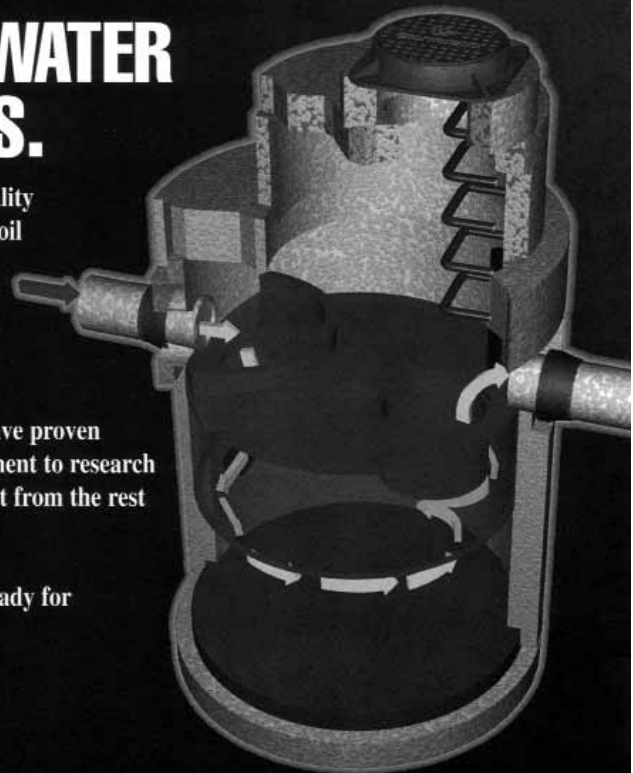
Stormceptor. The leader in storm water quality treatment... and ready for Phase II.

For our free design CD-Rom, call: (800) 909-7763.

CSR

[www.csrstormceptor.com](http://www.csrstormceptor.com)

Stormceptor®



engineering curriculum for high schoolers, is coming forth from Representative Bill Leber. NHSPE expects to support the bill and testify in favor even though it requires \$250,000!

**State-wide Building Code**

A bill to require a state-wide building code has also been introduced by Representative Bob Clegg. It requires the International Code, but is controversial as it would impact all Cities and Towns. So far the N.H. Municipal Association that represents towns is skeptical.

Since only about 300 new House bills are being introduced along with 120 Senate bills, the Speaker of the House, and I presume the President of the Senate, entertain notations of finishing the spring session in April, way before the end of June requirement... a great thought but hardly likely from this skeptic's viewpoint. Have a great Holiday because next year promises to be very busy!

*Submitted by John R. M. Alger, P.E.  
NHSPE Legislation Committee Chair*

# Scholarship Awarded

**C**ongratulations to **Mr. Jason W. Brown** who was recently awarded \$500 for the 2001-2002 academic year in association with the newly-reinstated NHSPE State Scholarship Program. Jason was selected from a series of potential candidates who were judged primarily on a desire to pursue an engineering career, academic achievements, as well as personal goals and successes. Jason is a graduate of Manchester Memorial High School and is currently attending WPI for Civil Engineering. We should all wish him well in what I consider to be a great career path!

Following that note, the next scholarship season is now here and applications will be accepted beginning on December 15th, 2001 through April 15th, 2002. This year's scholarship will be a minimum of \$1,000 and will be awarded in May, 2002 to qualified candidates consisting of high school seniors or undergraduate students who are currently, or


will be, enrolled in an ABET accredited engineering program for the 2002-2003 academic year. For more information on eligibility criteria you can review the insert provided in this newsletter or just visit our web site at <http://www.nhspe.org> where you can also find a downloadable application.

We are also now embarking on a scholarship fund-raising program in an effort to provide larger and/or multiple scholarships to qualified recipients. This is an important step for NHSPE to take towards encouraging growth and career development at the state level for all engineering disciplines. Please feel free to contact me by email at [rochl@cldengineers.com](mailto:rochl@cldengineers.com) with any questions or comments. All donations to the scholarship fund are completely tax deductible and you are sure to be rewarded with the future success of our graduates-to-be.

*Submitted by Roch D. Larochelle, P.E.  
Scholarship Committee Chair*

**New England's Largest Mapping & Surveying Firm!**

For over 75 Years, SELLS has provided accurate mapping & surveying to local municipalities, agencies & consultants.

Today, we specialize in the timely delivery of high quality **Aerial Mapping, Surveying & Digital Orthophotography** to these market sectors 



**CHAS. H. SELLS, INC.**

Consulting Engineers, Surveyors & Photogrammetrists

Providing Quality Services Since 1925

**Contact: Paul D. Viani, C.P.**

T: (603)595-7900 • F: (603)889-6389  
155 Main Dunstable Road, Nashua, NH 03060  
[pviani@chashsells.com](mailto:pviani@chashsells.com) • [www.chashsells.com](http://www.chashsells.com)

ENVIRONMENTAL

INFRASTRUCTURE

DEVELOPMENT

GIS

*What site information  
do you need today?*

Offices In: NH, MA, CT, NY, NJ, NC

## Names & Numbers

### BOARD OF DIRECTORS

**PRESIDENT**

**Matthew Purcell**, P.E., 448-1600  
matthew.r.purcell@valley.net

**PAST PRESIDENT**

**Judith Houston**, P.E., 647-8700 x236  
jhouston@sfceng.com

**PRESIDENT-ELECT**

**William Straub**, P.E., 431-6196  
wstraub@cmaengineers.com

**VICE PRESIDENT**

**Joseph Ducharme, Jr.**, P.E., 228-1122  
jducharme@hlturner.com

**SECRETARY**

**Holly Gallagher**, EIT, 330-3120  
h.gallagher@rcn.com

**TREASURER**

**David Eckman**, P.E., 862-3623  
David.Eckman@unh.edu

**STATE DIRECTORS**

**Paul Schmidt**, P.E., 431-6196  
pschmidt@cmaengineers.com

**Roch Larochelle**, P.E., 668-8223  
RochL@cldengineers.com

**NATIONAL DIRECTOR**

**George Fredette**, P.E., 647-8700  
gfredette@sfceng.com

### COMMITTEE CHAIRS

**ENGINEERS WEEK**

**George Fredette**, P.E., 647-8700  
gfredette@sfceng.com

**LEGISLATION**

**John Alger**, P.E., 786-9562  
john.alger@connriver.net

**MATHCOUNTS**

**Lee Carroll**, P.E., 466-5065  
lcarroll@ncia.net

**MEMBERSHIP**

**Holly Gallagher**, EIT, 330-3120  
h.gallagher@rcn.com

**THE OBSERVER EDITOR**

**Paul Schmidt**, P.E., 431-6196  
pschmidt@cmaengineers.com

**SCHOLARSHIP**

**Roch Larochelle**, P.E., 668-8223  
RochL@cldengineers.com

NHSPE Web Site . . . . . [www.nhspe.org](http://www.nhspe.org)

NSPE Web Site . . . . . <http://www.nspe.org>

NHSPE Fax On Demand 1-800-315-NHSPE

NSPE Member Services . . . 1-888-285-6773

NSPE Publications . . . . . 1-800-417-0348



*December 15, 2001 — April 15, 2002*

**Submittal of NHSPE Scholarship Applications**

*January 15, 2002 (6:00 pm)*

**Winter Meeting** — Security at Utility and Sensitive Infrastructure Facilities  
Sheraton Hotel, Portsmouth, NH

*February 9, 2002*

**MATHCOUNTS** — Regional Competitions, North Country, Plymouth

*February 12-23, 2002*

**Engineers Week**

*February 17-22, 2002*

**Engineering Mall Display**  
Steeplegate Mall, Concord, NH

*February 21, 2002 (5:00 pm)*

**Engineers Banquet and Exhibition**  
Center of New Hampshire,  
Holiday Inn, Manchester, NH

*March 9, 2002*

**MATHCOUNTS** — State Competition  
Plymouth State College  
(Snow Date: March 16, 2002)

Please contact National with address corrections at 1-888-285-6773 or change on-line at [www.nspe.org](http://www.nspe.org).

**Winter Membership Meeting!  
January 15, 2002  
See Page 7**