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The Oregon Professional Engineer

Summer/Fall 2007

What's Inside

President's Message

from Ron Polvi, PE

A strategic planning retreat, held at Silver Falls State Park on August 11, provided an opportunity for the PEO Board and invited guests to look beyond the current business demands and plan the course and direction of the organization for the next five years. The strategic plan is intended to be a management tool that helps PEO assess and adjust to a dynamic, changing environment. It presents broad, strategic goals that focus the organization's energy to achieve the best possible future outcome.

Key Strategic Opportunities

Membership There are approximately 14,000 licensed engineers currently registered in Oregon, including 1,200 Japanese engineers. Of the 14,000 registered engineers, 5,000 reside in Oregon. PEO's membership currently stands at approximately 470—well below its potential membership. PEO has opportunities to increase its membership by marketing our services and value to potential members, employers, and schools. As the workforce ages, PEO is also challenged to attract and serve young engineers and to recognize generational differences. In the past, engineers were motivated to 'do well'—focusing on professional development. The new generation is motivated to 'do good'—focusing on using their skills to benefit society and the environment.

Back Row (l-r): Ralph Drewfs, Marty Stipe, Ron Polvi, Michael Hardy, Bill Tye, David Taylor, Josh Goodall.

Front Row (l-r): Loretta (dog), Stephen Anderson, Jeanie Nyquist, Ralph Dunham, Duncan Stark, Dennis Hickman

Public Relations Policy makers and the general public often do not understand the role that the engineering professional plays in developing, operating and maintaining a safe public infrastructure. PEO has an opportunity to increase the profile of the engineering profession by capitalizing on the public's recent interest in infrastructure safety and sustainability and by publicizing the signatory role of professional engineers.

Legislative The legislature and other governing bodies pass laws impacting the engineering profession and management of public infrastructure without fully understanding the impact of their decisions. PEO has an opportunity to advocate for public safety and to ensure that professional standards and ethics are maintained in the industry.

If any of these areas are of interest to you, please contact me at 503-302-5750, or email at ron@polvi.net.

National Society of Professional Engineers

Professional Engineers of Oregon

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Bend, OR 97702

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OSBEELS Updates...

www.osbeels.org

820-010-0620 Official Seal

(1) Seals, as referenced by ORS 672.020(2) and 672.025(2), must contain the printed name of the registrant, the date of registration, the number of the registrant's certificate of registration, and the registrant's professional title. The registrant's printed name on the seal will be exactly the same as the name printed on registrant's certificate of registration.

(2) The size, design and content of the seal will be an exact replica, in style, of the examples shown in Exhibit 1 (Official Seals) for the profession or branch of the profession in which the registrant is licensed. (A tolerance of 1/4" is permitted as to the size of the seal). The expiration or renewal date may be made part of the seal. If the expiration or renewal date is not made part of the seal, it must be handwritten, in permanent ink, after the word "Expires" or "Renewals." Reduced or enlarged seals are not permitted on final documents. In addition to these requirements, registrants will use the following seals:

(a) Professional engineers holding a structural engineering certificate will use the seal with the designation "Structural" above the words "Registered Professional Engineer," as shown in Exhibit 1-b. Other registered professional engineers will use the seal shown in Exhibit 1-a;

(b) Registered professional traffic engineer, who may practice only traffic engineering (as indicated by the initials "PTE" after their license number) will use the seal shown in Exhibit 1-f;

(c) Registered professional land surveyors will use the seal shown in Exhibit 1-c;

(d) Registered professional photogrammetrists will use the seal shown in Exhibit 1-d;

(e) Registered water rights examiners will use the seal shown in Exhibit 1-e. [Exhibit 1 not included. See Ed. Note].

(3) The seal may be applied to a document by rubber stamp or by handwriting or it may be computer-generated onto the document.

(4) The registrant will sign through the middle of the seal or in the place on the seal as indicated for signature, in handwriting, and in permanent ink.

(5) Only individuals registered as professional engineers, professional traffic engineers, professional land surveyors, professional photogrammetrists, or certified water rights examiners may use a seal with a shape, form or wording similar to those shown in Exhibit 1. Using such a seal without registration constitutes falsely representing that the person is authorized to practice the profession.

[ED. NOTE: Exhibits referenced are available from the agency.]

Stat. Auth.: ORS 670.310 & 672.255

Stats. Implemented: ORS 672.002 - 672.325

Hist.: EE 13, f. 3-29-72, ef. 4-15-72; EE 16, f. 3-5-74, ef. 3-25-74; EE 20, f. & ef. 12-15-77; EE 2-1986, f. 3-26-86, ef. 3-31-86; EE 4-1987, f. & ef. 12-1-87; EE 1-1992, f. & cert. ef. 2-3-92; EE 1-1995, f. 8-15-95, cert. ef. 9-1-95; BEELS 1-1998, f. & cert. ef. 2-10-98; BEELS 1-2000, f. & cert. ef. 1-14-00; BEELS 3-2006(Temp), f. & cert. ef. 12-5-06 thru 6-3-07; Administrative Correction, 6-16-07; BEELS 4-2007, f. & cert. ef. 8-15-07

Hot topics to be aware of:

- Digital signatures will be discussed at the Professional Practices Meeting.
- B+30 New Licensing Requirements. We need your feedback on the present system in Oregon and if it works for you. Email PEO's Vice President Ed Butts at epbpe@4bengineering.com. Your input is important.
- Get involved in one of the 6 Standing Committees. Meetings will be starting the first week of October.

PEO Education Foundation Supports Oregon Engineering Students

By David P. Taylor, PE, PEO Education Fund Treasurer

PEO members sponsor a scholarship fund through The Professional Engineers of Oregon Engineering Education Foundation. The scholarship fund was established in the early 1980s with the goal of furthering the engineering education at Oregon schools offering ABET accredited curriculums.

Scholarship grants of $1,000 each are awarded to needy engineering students at Oregon State University, University of Portland, and Portland State University. Annually, the board establishes the amounts to be given to each school. For the 2006–07 year $4,000 was committed. In the past, as much as $8,000 per year has been given to students. The amount available each year is determined by the return on the endowment in the previous year.

PEO Education Foundation Board

Tai Funatake, PE—*President*

John Featherely, PE
Vice-President

Steven Hawke, PE
Vice-President

William Tye, PE
Vice-President

Michael Walker, PE
Vice-President

David Taylor, PE
Treasurer

Art Armstrong, PE
Member Emeritus

Recipients of the scholarships are selected by each schools' deans office, on the basis of good scholarship standing and need for assistance in completing their engineering degree. To be eligible, recipients must have completed their first year of an engineering program and be on track for an engineering degree. The PEO scholarship is unlike many other scholarships in that a high GPA is required to apply. In addition, the scholarship emphasizes a demonstrated financial need. The gratitude for these scholarships is attested to by thank you letters received from the recipients.

The future is full of options for the fund. The goal of the board is to increase the endowment to a level that would allow at least eight to ten scholarships per year which would cover tuition cost for one school year term. Current OSU and PSU tuition for one term is $2,000 or $16,000 per year for eight grants.

If you would like to become a member of the Education Foundation Board, please contact Ron Polvi at ron@polvi.net. The Education Foundation meets quarterly in the Portland area. All interested parties are welcome.

Bonneville Powerhouse Re-Dedication!

The first powerhouse at Bonneville was completed in 1937 and consists of 10 generators with an output capacity of 527 megawatts. American Society of Civil Engineers (ASCE) members toured the powerhouse and viewed the old and new navigation locks as well as the fish ladders.

ASCE dedicated the powerhouse as a historic engineering structure in the late 1980s and presented a commemorative plaque to the Corps of Engineers. This plaque is hanging in the powerhouse (not available to the general public). ASCE Oregon had a second plaque made to be given to Bonneville to re-dedicate the historic status. This new plaque will be placed within public viewing.

Bonneville Lock and Dam consists of several dam structures that together complete a span of the Columbia River between Oregon and Washington at River Mile 146.1. The primary functions of Bonneville Lock and Dam are those of electrical power generation and river navigation. The dam was built and is managed by the U.S. Army Corps of Engineers. Electrical power generated at Bonneville is distributed by the Bonneville Power Administration.

History

The original structures—a lock and powerhouse constructed on the south (Oregon) side of Bradford Island and a spillway on the north (Washington) side—were built by the U.S. Army Corps of Engineers during the New Deal, commencing in 1933 and finishing in 1937. Prior to this damming of the river, a set of locks from 1896 moved ships around Cascades Rapids, located several miles upstream of Bonneville. Both the rapids and the old lock structure were submerged by the Bonneville Reservoir, which formed behind the dam. The original navigation lock at Bonneville was opened in 1938 and was, at that time, the largest single-lift lock in the world.

In his song *Roll on, Columbia*, the folk singer, Woody Guthrie, spoke of Bonneville as follows:

At Bonneville now there are ships in the locks,
The waters have risen and cleared all the rocks,
Shiploads of plenty will steam past the docks,
So roll on, Columbia, roll on.

At the time, America was in the Great Depression, and the dam's construction provided important jobs and money for the Pacific Northwest, providing hydropower (hydroelectricity) that gave cheap energy to aluminum plants in the area, and enabling transportation 188 miles up the Columbia.

A second powerhouse (and dam structure) was started in 1974 and completed in 1981. The second powerhouse was built by widening the river channel on the Washington side, creating Cascades Island between the new powerhouse and the original spillway. The combined electrical output of the two power houses at Bonneville is now over 1 million kilowatts.

Despite its world record size in 1938, Bonneville Lock became the smallest of seven locks built subsequently at different locations upstream on the Columbia and Snake Rivers; eventually a new lock was needed at Bonneville. This new structure was built on the Oregon shore, opening to ship and barge traffic in 1993. The old lock is still present, but is no longer used.

Dimensions and statistics—Bonneville Dam Historic District (U.S. Registered Historic District)

Location: Bonneville, Oregon

Coordinates: 45°38′3.11″N 121°57′14.8″W

Built/Founded: 1909, 1934

Architect: Claussen & Claussen, U.S. Army Corps of Engineers

Architectural style(s): Colonial Revival, Other

Added to NRHP: March 26, 1987

NRHP Reference#: 86003598, 86000727

Governing body: United States Army Corps of Engineers

- **First Powerhouse** – Constructed in 1933–37; 313m (1,027 ft) long; 10 generators with an output capacity of 526,700 kW
- **Bonneville Lock and Dam** – named for Army Capt. Benjamin Bonneville, an early explorer credited with charting much of the Oregon Trail
- **Spillway** – Constructed 1933–37; 18 gates over a length of 442m (1450 ft); maintains the reservoir (upriver) usually 18 m (60 ft) above the river on the downstream side
- **Second Powerhouse** – Constructed 1974-81; 300.5 m (986 ft) long; 8 generators (plus two at fish ladders) with a total generating capacity of 558,200 kW
- **Bonneville Lock** – Constructed in 1993 at a cost of $341 million; 26 m (86 ft) wide, 206 m (675 ft) long; transit time is approx. 30 minutes
- **Lake Bonneville** – 77 km (48 mi) long reservoir on the Columbia River created by Bonneville Dam; part of the Columbia-Snake Inland Waterway

Gear Up for Oregon MathCounts Competition in Middle Schools

MISSION: The mission of MATHCOUNTS is to increase enthusiasm for and enhance achievement in middle school mathematics throughout the United States.

Today's children need every opportunity to achieve in math to succeed. MATHCOUNTS not only engages students in creative approaches to learning mathematics, it also helps to create tomorrow's problem solvers in all areas of society. MATHCOUNTS is a national program and in Oregon alone, MATHCOUNTS information is distributed to almost 500 middle schools and will be used by more than 6,200 students.

We are asking for your support in 2007–08. Donations will go to support Oregon students. Oregon MATHCOUNTS is a 501(c)(3) organization. Your tax-deductible donation enables Oregon MATHCOUNTS to continue offering our program to Oregon middle school students in both rural and urban communities throughout the state. As a contributor, Standard Insurance will be recognized at the State Competition held in March, 2007.

Not only are we looking forward to your donation, we also encourage the employees of your company to get involved. If you would like additional information, or have any questions, please call Ron Polvi at 503-302-5750, Roger Kuhlman at 503-362-3601 or Belinda Holcombe-Rasmussen our executive director at 541-389-0227.

Contributions can be mailed to:

Oregon MATHCOUNTS Foundation
86 SW Century Dr, #353
Bend, OR 97702

TEST YOUR KNOWLEDGE

Some sample MATHCOUNTS problems...

End of Summer Pool Party

A town in South Dakota decides to have an "End of the Summer" pool party and invites all of the households in the town that have school aged children.

27 households are invited to the party and the ratio of 5-person households to 4-person households to 3-person households to 2-person households invited is 1:4:3:1, respectively. (The invite list did not include households of any other sizes.) **How many people from households with less than 4 people are invited to the party?**

On the day of the pool party 75% of the invited people attend. **If 1 out of every 12 of the attendees brings one uninvited guest each, how many people attend the pool party?**

The party planning committee planned for only 70 people to attend, and it purchased enough supplies to feed each attendee two ¼-lb hamburgers. **Because they underestimated the number of attendees, how many additional pounds of meat must be purchased so that everyone receives two ¼-lb hamburgers?**

At the beginning of the pool party the rectangular pool, which is 50 ft by 25 ft with an average depth of 5 ft, was completely filled with water. By the end of the day the water level had lowered by 6 inches. **By what percent had the amount of water in the pool decreased over the course of the day?**

Answers on page 7

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West Salem High School Renewable Energy Lab

According to the National Wind Technology Center—part of the National Renewable Energy Laboratories (NREL)—the Skystream wind generator has the lowest noise emissions of any small wind turbine of its size tested at their site. During operation, noise from the generator is not discernable from the background wind noise. The Skystream wind generator has been operating at the NREL site for over two years with no problem.

Why a Renewable Energy Lab at West Salem High School?

To create a working example of renewable energy generating resources on site at the high school to encourage student education of these energy resources and provide a training opportunity for utility personnel, contractors and code enforcement officials on the installation and safe operation of renewable resources.

Are there other systems in place at West Salem High School?

Yes. Installed in 2002, the first project was a photovoltaic system which provides 2.4 kilowatts of power. This project was a partnership between West Salem High School, Salem Electric, the Bonneville Environmental Foundation, West Coast Bank, and Northside Electric.

Current Project Details

Installation of the 1.8 kilowatt Skystream Model 3.7 wind generator manufactured by Southwest Windpower, Inc. (Flagstaff, Arizona), sited south of the Titan Drive entrance by Ron Cleghorn, Construction & Renewable Energy Systems, Gold Beach, Oregon.

Selection Criteria & Information

Based on safety, noise level, reliability, and ability to provided research data, the Skystream wind generator was the best unit available; it met all our needs. Equipped with three 6 ft. fiberglass reinforced composite blades installed on top of a 45 ft. self-supporting metal tower—both the tower and the foundation have been approved by an Oregon-registered professional engineer. The inverter system is compliance-certified from Underwriters Laboratories. Hardware and software for data monitoring and technical support will be provided by The Bonneville Environmental Foundation.

Project Partners

Salem Electric, Bonneville Environmental Foundation and Cherry City Electric...with full support of West Salem High School. Special thank you to Carlson Inspections for their support.

Congratulations to Mid-Willamette Chapter Member Roger Kuhlman and Salem Electric.

For more information contact Roger Kuhlman at 503-362-3601.

End of Summer Pool Party Solutions
From page 5.

To determine how many households of each size are invited, first set up a proportion for each of the household sizes that are smaller than 4.

Now we'll multiply the number of two- and three-person households each by the number of people in that size household, and add the results.

33 people from households with less than four people are invited.

Set up proportions, and cross multiply and divide to determine the number of households of each size that were invited.

From the last question, we know that 3 two-person households were invited and 6 three person households were invited.

Now multiply the number of households of each size by the number of people in that size household and add the results.

Multiply the number of people invited by the decimal form of the percentage of invitees that attended.

We find that 6 people bring 1 uninvited person each, so a total of 6 uninvited guests are in attendance.

Add the number of uninvited guests to the number of invited guests to find the total number of people in attendance at the pool party.

72 invited + 6 uninvited = 78 total people

There are 8 more attendees than had been planned for. Multiply the number of pounds of hamburger each guest gets by the number of extra people. 4 lbs of additional hamburger

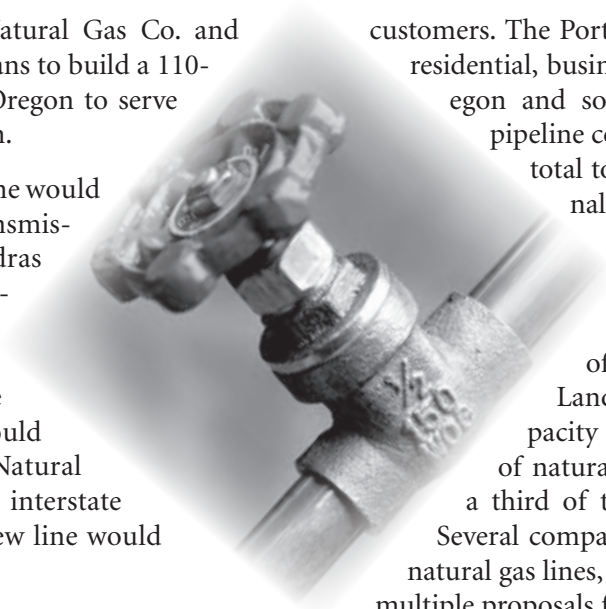
Determine the volume of water originally in the pool, in cubic feet: 6250 cubic feet

Calculate the volume of water lost through out the day:625 cubic feet

Calculate the percentage of water lost: 10% of the water was lost.

NW Natural and TransCanada Announce Palomar Pipeline for Oregon

PORTLAND, Ore. (AP)—NW Natural Gas Co. and TransCanada Corp. announced plans to build a 110-mile natural gas pipeline across Oregon to serve Oregon and southwest Washington.



The Palomar Gas Transmission Line would run from TransCanada's gas transmission northwest system near Madras to NW Natural's distribution center near Molalla. The estimated $300 to $350 million project needs federal approval to move forward. If approved, the line could begin service in late 2011. NW Natural said the company relies on one interstate pipeline for its supply, and the new line would diversify its delivery options.

"Gas demand is expected to increase. This just adds reliability for customers in the area as demand increases," said Steve Sechrist, spokesman for NW Natural. The line could provide about 100 million cubic feet per day for NW Natural customers. The Portland company serves about 641,000 residential, business and industrial customers in Oregon and southwest Washington. The Palomar pipeline could also be extended to 220 miles in total to serve a liquefied natural gas terminal that NorthernStar has proposed.

NorthernStar wants to build two liquefied natural gas storage tanks about 30 miles from the mouth of the Columbia River at Bradwood Landing. The tanks would have the capacity to pump about 1 billion cubic feet of natural gas a day—enough to meet about a third of the needs of the Pacific Northwest. Several companies are jockeying for position with natural gas lines, as federal energy regulators consider multiple proposals for new liquefied natural gas delivery terminals around the United States.

If the Palomar line were extended, it would bring the total bill for the project to $600 to $700 million.

NSPE/PEO Student Membership

Who can join?

- Undergraduate engineering students of an accredited program
- Graduate Engineering or Students of an accredited program
- Students in two-year community or junior colleges who are enrolled in courses that prepare them to enter an accredited engineering program after graduation

All student members are affiliated with NSPE, their state society, and the local chapter of their state society.

What's in it for students?

There are two important components to successful engineering: **technical expertise** and **professional skills**. While the power that drives an engineer's successful design lies in technical expertise, **it is professional development in management, leadership training, communication, and business that determines the success of the engineering career**. Successful engineers will need to achieve balanced excellence in both their technical and professional development. NSPE membership will help achieve this balance for engineers who also hold membership in their discipline's technical society.

Active student membership in NSPE reaps benefits such as:

- Diverse networking opportunities
- Mentoring program
- Job board & resume posting
- Student virtual community
- Comprehensive news of current and emerging issues

In addition to enhancing professional development and providing a common forum for engineers, NSPE membership also provides benefits that are of immediate financial significance to its members.

National Society of Professional Engineers®

These include:

- Scholarships & grants
- Licensure prep course discounts
- Career resource discounts
- MBNA credit card
- Car rental & airline discounts

How much is it?

- **$20** for first-time undergraduate and graduate student members. This price includes national and Oregon dues. Other states may have other rates.
- **$20** to renew **plus** state and/or parent chapter dues. NSPE will contact students directly for renewing memberships. Dues should not be collected by the Student Chapter unless they are for new members.
- **$55** for the first five years after graduation (national dues only; state discounts vary).

Where do students sign up?

Students benefit greatly from participation in a campus chapter. You can coordinate with your campus chapter to become a member or you may work directly with NSPE. However, it is highly recommended that you report your membership to your campus chapter, as they may or may not receive notification from NSPE.

Students may join a local non-student chapter if none exists on campus. NSPE Member Services (memserv@nspe.org) will assist you with this.

You may also consider starting a new campus chapter. Visit www.nspe.org/students/st1-hndb.asp#form for more information.

2008 NSPE/PEI New Product Award

Introduction and Purpose

New and improved products stimulate the life and growth of our country. These benefits result from research and development to which engineers make their unique contribution. This competition recognizes the results of those efforts and the foresight of the companies whose aggressive policies bring new products to the marketplace.

The purpose of the NSPE/PEI New Product Award program is to recognize the full spectrum of benefits that come from the research and engineering of new products. These include added employment, economic development, strengthening of the nation's competitive position internationally, and contribution to the public's standard of living.

Eligibility Any new product, machine, process, or material that has been developed in the United States may be entered provided that it was first placed on the market between **2002 and 2006**.

Entry Forms/Fees The nomination form can be accessed online at the is on the opposite page. **There is a $250 entry fee which includes participation in the 2008 New Product Awards Showcase** during NSPE's Annual Convention and Exposition in July 2008**.** Make checks payable to NSPE.

Judging Nominations will be grouped according to size of company. Winners will be selected in four employment categories: small (50 or fewer employees), medium (51 to 200 employees), large (200 to 9,999 employees), and mega (10,000 or more employees).

Presentation Awards will be presented by NSPE during the Society's Annual Convention and Exposition in July 2008.

Publicity Extensive coverage by the news media will be encouraged to promote the greatest public exposure for the winning products and companies. Prior years' winners will be featured in announcements for succeeding competitions.

Rules

1. Entries must be submitted to NSPE **no later than February 15, 2008.**
2. As many as eight entries may be submitted by each State Society (if applicable), two in each category. In addition to the eight current entries, a state may resubmit previous submissions as long as they meet current criteria.
3. The entry should include a detailed product description including photos, brochures, and samples if feasible. The entries will be judged on the following criteria, please be as specific as possible:

   SALES AND ECONOMIC IMPACT (20%):

   Marketing—Describe the success of any marketing efforts to date.

   Economic impact—Describe the product's impact or anticipated impact on the economy. Discuss the use of raw materials, jobs and/or engineering positions created, market share, exports, etc.

   INNOVATIVE USE OF ENGINEERING PRINCIPLES (40%):

   Creativity—Describe how this product is unique from other products providing the same or similar functions.

   Technology—Describe how new or current technology is used in the manufacture or production of this product and/or what novel engineering principles are incorporated into its design.

   Quality—Describe how this product is superior in its reliability, accuracy, maintainability and construction.

   P.E. Contribution—Describe any involvement by a Professional Engineer(s) in the planning/design/production of this product.

For more information or for an entry form, visit http://www.nspe.org/awards/ab2-awinw.asp or contact PEO at peo@oregonengineers.com.

Provide a description of involvement, name(s), registration number(s) and state(s) registered in.

IMPROVED FUNCTION (40%):

Savings—Savings in final cost of product, savings to user of product, savings to environment in its production or use or savings over previous product performing the same function.

Productivity—Efficiency in design and/or production or in ease of use of product, or increased efficiency or ease of use resulting from additional functions over that of a previous product.

Energy—Savings in use of energy during production or in use of product (measured in kwh, btu, etc.).

Safety—Improved safety in the production process or to consumer in use of product.

The entry should be separated into sections for each of the above criteria. All materials should be submitted on 8-1/2" x 11" sheets.

4. Eight copies of the NSPE nomination form, supporting materials, and samples must be submitted with each entry.
5. Nomination materials, including product samples, become the property of NSPE and will not be returned except through prior request.

100 Years of Engineering Licensure

NSPE 100 YEARS OF LICENSURE • 1907-2007

A century ago, anyone could work as an engineer without proof of competency. In order to protect the public health, safety, and welfare, the first engineering licensure law was enacted in 1907 in Wyoming. Now every state regulates the practice of engineering to ensure public safety by granting only Professional Engineers (PEs) the authority to sign and seal engineering plans, and offer their services to the public.

To help commemorate the "100 Years of Licensure," the National Society of Professional Engineers (NSPE) is planning celebration activities, contests, and outreach materials to continue promoting licensure and its importance to both the engineering profession and to public health, safety, and welfare.

What makes a PE different from an engineer?

Only a licensed engineer may prepare, sign and seal, and submit engineering plans and drawings to a public authority for approval, or seal engineering work for public and private clients. PEs shoulder the responsibility for not only their work, but for the lives affected by that work and must hold themselves to high ethical standards of practice.

Licensure for a consulting engineer or a private practitioner is not something that is merely desirable; it is a legal requirement for those who are in responsible charge of work, be they principals or employees.

Licensure for engineers in government has become increasingly significant. Many federal, state, and municipal agencies require that certain governmental engineering positions, particularly those considered higher level and responsible positions, be filled only by licensed professional engineers.

Many states have increasingly required that those individuals teaching engineering must also be licensed. Exemptions to state laws are under attack, and in the future, those in education, as well as industry and government, may need to be licensed to practice. Also, licensure helps educators prepare students for their future in engineering.

NSPE is celebrating the "100 Years of Licensure" with the creation of an anniversary logo, prominent features regarding licensure on its Web site, a special event at the annual convention in Denver, Colo., and various other special events and contests throughout the year. For more information on the "100 Years of Licensure" celebration, or engineering licensure in general, visit www.nspe.org.

History of the License

1907 Wyoming passes the first engineering registration law.

1922 The American Association of Engineers (which later became the National Society of Professional Engineers) put forth a platform for engineering that included the "passage of an engineers registration law in every state and the enforcement of existing registration laws."

1934 The National Society of Professional Engineers is formed, with the membership requirement of being a professional, licensed engineer. At the time, only 28 states had engineering registration laws enacted.

1940 Between 1935 and 1940, 17 additional states adopted engineering registration laws, partly through the efforts of NSPE members.

1947 Montana is the last state to enact engineering licensure laws.

NSPE Statement on Minn. Bridge Collapse

Engineering Authority and Infrastructure Must be Addressed

National Society of Professional Engineers

As the only society representing licensed professional engineers of all disciplines, the National Society of Professional Engineers was extremely saddened by the I-35 bridge collapse in Minnesota. PEs value the public's health, safety, and welfare above all else, and NSPEs thoughts and condolences go out to the victims, their families, and the citizens of Minneapolis.

If any good can come from such a tragedy, the spotlight is now being thrown onto the serious problem of the aging infrastructure in the U.S. For example, on August 2, the Senate unanimously passed the National Infrastructure Improvement Act of 2007, which would establish a national commission to ensure U.S. infrastructure meets current and future demands while facilitating economic growth. NSPE supports this Act and strongly urges the House to take action on their version of the bill.

This legislation comes not a moment too soon. According to groups like the Urban Land Institute, the U.S. would need to spend over $1 trillion in the next three years just to keep the current infrastructure from deteriorating. That figure doesn't include any major improvements, or the building of any new infrastructure. Estimates also show that close to 97% of roads, bridges, and tunnels will require some type of improvement in the coming years. These statistics speak to the enormity of the issue, and citizens and engineers alike must stay vigilant in their demands that these issues be addressed in order to ensure the protection of the public's health and safety into the future.

PEs are also extremely concerned about the issue of engineering authority that instances like this can raise. Federal, state, and local lawmakers need to take steps to ensure that PEs are in positions of authority to make engineering judgments that affect the public health and safety. Engineers need to ensure that lawmakers are adequately educated to make informed decisions on engineering issues. What becomes clear is that the U.S. needs more engineers and technically trained professionals in elected positions. Those with technical backgrounds are more qualified to make judgments and appropriate the necessary funds for infrastructure and improvement projects than are non-trained individuals.