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REPORTER

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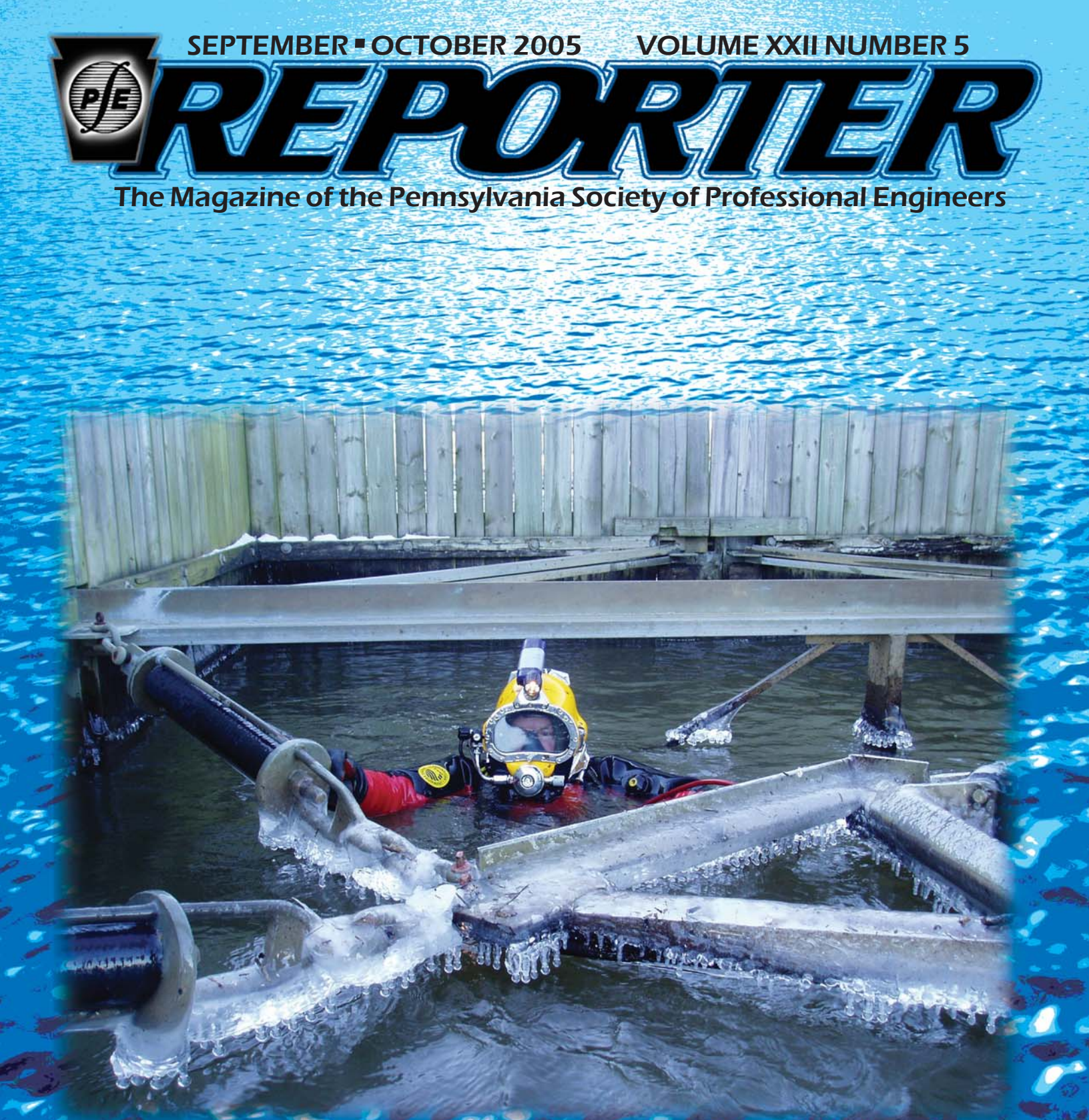

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The *PE Reporter* is published six times annually by the Pennsylvania Society of Professional Engineers (PSPE) located at 908 N. Second Street, Harrisburg, PA 17102. Phone: (717)441-6051 • www.pspe.org. Opinions expressed by authors herein do not necessarily reflect the opinion of PSPE.

NSPE Code of Ethics for Engineers
Engineers' Creed

As a Professional Engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human welfare. I pledge:

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of man and the highest standards of professional conduct;

To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.
In humility and with need for Divine Guidance, I make this pledge.

Adopted by National Society of Professional Engineers, June 1954

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Cover Photo

On November 27, 2004, the Athos I lost approximately 265,000 gallons of heavy crude oil into the Delaware River. At the time of the spill, two tugs were helping the tanker move to the facility's pier when it listed 8 degrees to the left and lost power.

Pennoni Associates Inc. was retained by a private owner to inspect and evaluate its structures, components, and utilities that could have possibly been subjected to crude oil contamination.

See page 18 for the full story.

President's Message

Harry E. Garman, P.E., PLS

Much has happened since my last report. On August 29, 2005 the Gulf States were devastated by Hurricane Katrina. I watched the Weather Channel and news with mixed emotions as that event unfolded. I was in overwhelming awe of the magnitude of that hurricane and the power of nature. I remember seeing the weather map on the 28th and being amazed at the size and strength of the storm. My thoughts quickly turned to New Orleans in hopes that the city would escape major destruction as it did a year ago with Hurricane Ivan. I hoped that the storm would weaken before landfall or take a turn and strike an area less prone to damage. I hoped that the buildings and structures in the path of Katrina were strong enough to minimize property damage and much more importantly, minimize the loss of human life.

Katrina struck on Monday. As the storm tracked inland on Tuesday morning, I was relieved to hear that New Orleans came out of the storm pretty much unscathed. Things turned for the worse on Tuesday when levies that protect the low-lying areas in the city, breached and allowed water from Lake Pontchartrain to pour into New Orleans. I watched in horror as tens of thousands of people left in the city had no place to go. Reports came of widespread looting throughout the city; people were stranded without any food or water for days.

The Army Corps of Engineers had no easy time repairing the levies. Pumping systems were damaged and the water continued to rise day after day. Politicians played the blame game and the director of FEMA was relieved of his duty in charge of the relief effort.

After a few weeks, the Corps temporarily repaired the levies and pumps were back into operation; slowly the water level went down. The Mayor announced that the people of New Orleans could return to the city.

Unfortunately, hurricane Rita gained strength in the Gulf of Mexico and posed another threat to the Gulf Coast. The Mayor reconsidered his decision to allow people to return to the damaged city. Rita strengthened and was projected to hit the Galveston and Houston areas of Texas. A massive evacuation began. Motorists who left at the last minute ended up stranded on the highways without gas and no where to go. Fortunately, Rita did not have the horrific impact that Katrina had on New Orleans.

People were quick and generous in their response to storm victims in Alabama, Mississippi and Louisiana. Donations poured in to organizations such as the American Red Cross and Salvation Army; volunteers collected donations at churches, high school football games or shopping malls.

Our own NSPE has set up a Hurricane Relief Fund with a seed contribution of $50,000. This fund is intended to assist state societies and their members in the affected region and is looking for engineers to volunteer their services. NSPE would like your help increasing this fund; to make a tax deductible donation you can find an online donation form at www.nspe.org.

While Mother Nature kept us humble during hurricane season, the wave of energy put forth by the NSPE Future Directions Task Force brought us to another turning point. Recommendations from the task force were drafted into proposed changes to the NSPE constitution and bylaws. Members were asked to vote on the changes in the August/September *Engineering Times*. I have learned that the members who voted passed the amendments overwhelmingly. NSPE is now faced with the challenge of implementing the FDTF's recommendations.

Finally, the PSPE Board of Directors met on September 24th. Of great importance, the Board considered a proposal for mandatory continuing education as a requirement for biannual license renewal. As you can imagine, there was great debate, some for and some against; however, the PSPE board members voted to adopt a continuing education model as recommended by the Professional Development Task Force. (The task force was appointed by President Gingrich in 2004; Michel Sadaka P.E. chaired the project.)

The Board passed a second motion, directing our Executive Director and Legislative Consultant, John Wanner, to pursue finding a state legislator who will introduce legislation amending the Pennsylvania Engineer, Land Surveyor and Geologist Registration Law accordingly.

I recognize that this was a difficult decision for the Board and commend all members who were present for taking the appropriate action. All board members, as well as several guests at the meeting, participated in the discussion and provided valuable input. I found the cooperation among of the entire board very encouraging as this enabled the Board to reach a consensus. Michel and his task force deserve much credit for the work which they put into the model.

The model will not put undue hardship on engineers who wish to maintain their license in Pennsylvania. If legislated, Pennsylvania will be added to the list of states which require continued education. The Board of Directors meeting was a very enjoyable meeting to preside over, as all members were courteous toward each other and allowed all to participate. I encourage all state directors to mark their calendars and plan to attend the next BOD meeting on January 28, 2006 in the Harrisburg area.

My greatest hope is that the next few months will be calm so we can concentrate on recovery and moving forward in all aspects of our lives. I hope that I will have very little to write about in my next message. Feel free to contact me any time. ■

Letter to the Editor

The Continuing Education Pitch

In a time of global economy and outsourcing of services, including engineering work, we need to retain our competitive edge for the future well-being of the country and ourselves by investing in our knowledge, skills and creativity. To accomplish this, greater cooperation and liaison between industry and education are required not only for the initial phase of engineering study, but also for the upkeep of our knowledge base through continuing education.

This entire issue of continuing education and how to accomplish it in a meaningful way was hotly debated at the Pennsylvania Society of Professional Engineers State Conference, held recently at the Pocono Chateau Resort in Tannersville. Some of the participating engineers held that to protect the public and ourselves from the often disastrous consequences of stale engineering knowledge, continuing education should be mandated by legislation as practiced in many of the surrounding states.

Others expressed their frustration with the by-legislation mandated systems, which often result in the spawning of a seminar and expensive resource industry. I once attended such a "mandatory" seminar, where a portion of the participants were either reading newspapers or working their laptops, seemingly unrelated to the seminar presentations. Some states issue continuing education credits for watching videotapes which need to be purchased from a state-approved vendor and are rather pricey.

Be wary of providers that award more credit hours than is warranted by the length and complexity of the continuing education activity. If you are licensed in a state that pre-approves course providers (LA, FL, AR, NC & NY) and the organization is approved by that state board, then you should not have any problems with board acceptance of the activity. However, if your licensing board does not pre-approve course providers, then it is your responsibility to determine whether an activity meets the board's acceptance criteria. Here are some points that you may want to consider when selecting a provider and a particular activity:

- Are the credits awarded consistent with the length and complexity of the material? Long courses with very few quiz questions should be approached with caution.
- Is the activity educational, and does it expand your knowledge and skills? Some seminars sponsored by product vendors and manufacturers are heavy on "sales pitch" and light on technical content.
- Can the course material be viewed prior to purchase? This allows you an opportunity to judge whether the content, complexity and length of the course is suitable to meet your state board's requirements.
- Does the provider offer a full refund if the course is not accepted by the engineer's licensing board?

One thing is clear to me, continuing education doesn't need a pitch and will become a routine requirement because it makes good business sense, and insurance providers like it as a vital part of risk management. So I encourage you my fellow engineers, to "bear the torch" for continuing education in the spirit of the great Statesman Mahatma Ghandi, who advised us to "live like tomorrow is our last day and to learn like we would live forever."

Johann F. Szautner, P.E., P.L.S.

On Capitol Hill

John D. Wanner, CAE

State Registration Board For Professional Engineers, Land Surveyors And Geologists: Biennial Renewal Fees And Examination Fees

The State Registration Board for Professional Engineers, Land Surveyors and Geologists amended § 37.17 (relating to schedule of fees). The final-form regulation raised the biennial renewal fees for professional engineers, professional land surveyors and professional geologists from $25 to $50. The new fees will initially apply to licensees who renew their biennial registrations for the renewal period beginning October 1, 2005. The regulation also deletes examination fees from the Board's fee schedule and explains how examination fees are set and collected. For additional information about the regulation contact Shirley S. Klinger, Administrator, State Registration Board for Professional Engineers, Land Surveyors and Geologists, PO Box 2649, Harrisburg, PA 17105-2649, (717) 783-7049, ST-ENGINEER@state.pa.us.

State Government Committee Holds Public Works Contracting Workshop

The House State Government Committee held a workshop September 14 with interested parties on House Bill 652, which amends the Procurement Code by adding provisions related to delays beyond the control of a contractor, contractors' claims for concealed or unknown conditions, and mediation for claims arising of construction contracts.

Committee Chairman Paul Clymer said during an August 10 hearing on the bill questions were raised about the legislation. Today's meeting, he stated, is an attempt to work out problems interested parties have with the bill. He noted that opponents of the bill feel it puts into law certain issues that many feel should be addressed in contracts.

John Brosius from the Pennsylvania Municipal Authorities Association expressed concerns with HB 652. In his opinion, certain provisions in the legislation increase the time and cost of projects to the detriment of municipal authorities and taxpayers. He further suggested that uniform standards should not be implemented because with Pennsylvania's diverse geography "one size does not fit all." Brosius asked an engineer from the Bucks County Water and Sewer Authority to expand on municipal concerns with the legislation. The engineer said it appears contractors want to customize the law. In his experience, contractors do not need an extended amount of time to study contracts before bidding on them. He noted that municipal authorities must accept the lowest responsible bid, but the contractor must be able to prove he can do the job. He opined that the changes in HB 652 will not save any time or money.

Tim Greenland, Vice President of the PA Utility Contractors Association (PUCA), said he enjoys working with municipal authorities and engineers that treat contractors fairly. However, he said he works with many engineers who are not diligent. He suggested that contractors bidding for public works projects should be offered protections because they are not allowed to negotiate the contracts. Nothing in the law requires municipal authorities to use certain procurement procedures so there is a variety of contract language across the state, he explained. Greenland stated it takes significant time to look over contracts to complete the research required to meet the specifications. In his opinion, HB 652 will relieve many problems contractors face.

Ken Johnson from the Governor's Center for Local Government Services stated that protections for both parties can be negotiated in the contract process. He suggested that local governments should have protections for unforeseen circumstances such as when state agencies do not provide funding so they are not held responsible for payments they cannot make.

Greenland interjected that negotiations can take place in private contracts, but contracts for public works cannot be negotiated.

John Wanner, Executive Director of PSPE, explained to the committee how retainage works. He also told the committee that the PA Department of General Services is conducting a few pilot projects on which no retainage is held. The Department has indicated that it will share its findings on these pilot projects with interested parties.

Rep. Mark Cohen said that this is a complex, important subject that needs to be worked out because Pennsylvania needs better infrastructure. Chairman Clymer thanked everyone for the "good discussion on this issue," and stated that committee staff will be making recommendations to improve the bill. He told everyone that his committee wants to facilitate discussions between interested parties on these issues. He said the committee will be discussing this legislation again and adjourned the meeting.

Legislative Activity

HB 609 RE: Student Residence Automatic Fire Suppression System Installation Loan Program and Protection Act (by Rep. Paul Semmel, et al)

Would create the Sprinkler Loan Fund. The Department of Community and Economic Development would administer the loan program utilizing moneys from the fund for the purpose of providing low-interest loans to owners of student residences to install automatic fire suppression systems. Loans under this program would only be utilized to fund the installation of automatic fire suppression systems in preexisting buildings.

"Capitol" continued p. 20

Mandatory Continuing Professional Competency (CPC) for Engineers in Pennsylvania

Michel J. Sadaka, P.E., PSPE Southwest Region Vice President

During the September 25, 2005 State Board meeting, the Pennsylvania Society of Professional Engineers board voted unanimously to adopt a Proposed mandatory CPC model as drafted by the Professional Development Task Force. The State Board also voted to authorize Wanner Associates to pursue amending the Registration Act to include the approved CPC model.

As the chairman of the Professional Development Task Force, I thank all of the members that served on the force with me and provided the input and direction that helped us all develop a CPC model that was acceptable to the PSPE board.

PSPE Professional Development Task Force members are:
Michel J. Sadaka, P.E., Pittsburgh Chapter
Chester L. Allen, P.E., Harrisburg Chapter
Paul A. Dugan, P.E., Valley Forge Chapter
Dale L. Englehart, P.E., Luzerne County Chapter
Robert L. Garbart, P.E., Fayette Chapter
Eric W. Tappert, P.E., Lehigh Valley
William A. Welsh, P.E., Harrisburg Chapter
John D. Wanner, CAE, PSPE Executive Director

The decision to support mandatory continuing professional competency (CPC) was not taken lightly. A very lively debate and discussion preceded the board vote with many pro and con points made. As we proceed in the direction of establishing CPC as a mandatory requirement for maintaining licensure in Pennsylvania, I have no doubt that the debate will continue.

Regardless of one's personal position on the CPC issue, we all need to remain engaged in the debate and discussion of potential means of strengthening the Professional Engineering license and practice, as we as P.E.s, continue to be guided by the Engineer's Creed:

"As a Professional Engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human welfare. I pledge:

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of man and the highest standards of professional conduct;

To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

In humility and with need for Divine Guidance, I make this pledge."

(Adopted by National Society of Professional Engineers, June 1954)

The adopted CPC model follows. Please feel free to contact me via e-mail (PDTF@PittsburghPE.Org) with your comments or suggestions.

Continuing Professional Competency

1. *Purpose* - In order to help safeguard life, health, and property, and to promote the public welfare, the practice of professional engineering in Pennsylvania requires continuing professional competency.

2. *Scope* - Each in-state and out-of-state licensee shall be required to meet the continuing professional competency requirements of these regulations for professional development as a condition for licensure renewal. Continuing professional competency obtained by a licensee should maintain, improve, or expand skills and knowledge obtained prior to initial licensure or develop new and relevant skills and knowledge.

3. *Definitions* - Terms used in this section are defined as follows:
   a. Professional Development Hour (PDH) – A contact hour (nominal) of instruction or presentation relevant to the Professional Practice of Engineering. The common denominator for other units of credit.
   b. Continuing Education Unit (CEU) – Unit of credit customarily used for continuing education courses. One continuing education unit equals 10 hours of class in approved continuing education course.
   c. College/Unit Semester/Quarter Hour – Credit for courses in ABET-approved programs or other related college courses approved in accordance with article (6) of this section.
   d. Course/Activity – Any qualifying course or activity with a clear purpose and objective which will maintain, improve, or expand the skills and knowledge relevant to licensee's Practice of professional Engineering.

4. *Requirements* - Every licensee is required to obtain 24 PDH units during the biannual renewal period. If a licensee exceeds the requirement in any renewal period, a maximum of 12 PDH units may be carried forward into the subsequent renewal period. PDH units may be earned as follows:
   a. Successful completion of college courses relevant to the Professional Practice of Engineering.

b. Successful completion of continuing education courses, relevant to the Professional Practice of Engineering.
c. Successful completion of correspondence, televised, videotaped, and other short courses/ Tutorials, relevant to the Professional Practice of Engineering .
d. Presenting or attending qualifying seminars, in-house courses, workshops, or professional or technical presentations made at meetings, conventions, or conferences, relevant to the Professional Practice of Engineering.
e. Teaching or instructing in (a) through (d) above.
f. Authoring published papers, articles, books, or accepted licensing examination items.
g. Active participation in professional or technical societies, relevant to the Professional Practice of Engineering.
h. Patents.

5. *Units* - The conversion of other units of credit to PDH units is as follows:
   a. 1 College or unit semester hour ..... 45 PDH
   b. 1 College or unit quarter hour ..... 30 PDH
   c. 1 Continuing Education Unit ..... 10 PDH
   d. 1 Hour of professional development in course work, seminars, or professional or technical presentations made at meetings, conventions, or conferences ..... 1 PDH
   e. For teaching apply multiple of 2 for 5(a) through (5)d. Teaching credit is valid for teaching a course or seminar for the first time only. Teaching credit does not apply to full-time faculty in the performance of their duties at their employing institutions. .....
   f. Each published paper, article, or book ..... 10 PDH
   g. Active participation in professional and technical society, relevant to the Professional Practice of Engineering. (Each organization.) ..... 2 PDH
   h. Each patent. ..... 10 PDH

6. *Determination of Credit* - The board of licensure has final authority with respect to approval of courses, credit, PDH value for courses, and other methods of earning credit.
   a. Credit for college or community college courses, relevant to the Professional Practice of Engineering will be based upon course credit established by the college
   b. Credit for seminars and workshops relevant to the Professional Practice of Engineering will be based on one PDH unit for each hour of attendance. Attendance at programs, relevant to the Professional Practice of Engineering, presented at professional and/or technical society meetings will earn PDH units for the actual time of each program.
   c. Credit determination for activities (5) (f) and (5) (h) is the responsibility of the licensee (subject to review as required by the board).
   d. Credit for activity (5)(g), active participation in professional and technical societies (limited to 2 PDH per organization), requires that a licensee serve as an officer and/or actively participate in a committee of the organization. PDH credits are not earned until the end of each year of service is completed.

7. *Recordkeeping* - The licensee is responsible for maintaining records to be used to support credits claimed. Records required include, but are not limited to (1) a log showing the type of activity claimed, sponsoring organization, location, duration, instructor's or speaker's name, and PDH credits earned; and (2) attendance verification records in the form of completion certificates or other documents supporting evidence of attendance.

8. *Exemptions* - A licensee may be exempt from the professional development educational requirements for one of the following reasons:
   a. New licensees by way of examination or comity shall be exempt for their first renewal period.
   b. A licensee serving on temporary active duty in the armed forces of the United States for a period of time exceeding one hundred twenty (120) consecutive days in a year shall be exempt from obtaining the professional development hours required during that year. (i.e. 12 PDUs)
   c. Licensees experiencing physical disability, illness, or other extenuating circumstances as reviewed and approved by the board may be exempt. Supporting documentation must be furnished to the board.
   d. Licensees who list their occupation as "Retired or Inactive" on the board-approved renewal form and who further certify that they are no longer receiving any remuneration from providing professional engineering shall be exempt from the professional development hours requirement. In the event such a person elects to return to active practice of professional engineering, professional development hours must be earned before returning to active practice for each year exempted, not to exceed the biannual renewal requirements.

9. *Reinstatement* - A licensee may bring an inactive license to active status by obtaining all delinquent PDH units. However, if the total number required to become current exceeds 24, then 24 shall be the maximum number required.

10. *Comity* - The CPC requirements for Commonwealth of Pennsylvania will be satisfied when a non-resident certifies to be licensed in and having met the mandatory CPC requirements of any jurisdiction approved and listed by the board. ■

Risky Business

Rebecca Bowman, Esq., P.E.

Pennsylvania Engineers as Empire Builders
Part II: The Allegheny Portage Railroad

By 1824 in the United States, water transportation was the Next Big Thing. Hundreds of miles of canals were under construction across the eastern United States. Each of these canals represented competition for Pennsylvania commerce and development. Key competitors were the Morris Canal in New Jersey, the Chesapeake and Ohio Canal in Maryland, the Erie Canal in New York, and the Ohio and Erie Canal in Ohio. Clearly, Pennsylvania needed to take action to seize back its market share.

Responding to the threat

March 27, 1824, the Pennsylvania Legislature directed the investigation of a water route connecting Philadelphia and Pittsburgh. On February 25, 1926, the Pennsylvania Legislature authorized the construction of the Pennsylvania Main Line of Public Works. This was to be a system of canals and rivers connected by stretches of the new-fangled railroad. (Why not all railroad? Locomotives were not yet strong enough to handle steep grades.) One segment was to move along the Susquehanna River to the Juniata River. At the other end, the segment was to move along the Allegheny River to the Kiskiminetas River. The original plan called for a 4-mile canal tunnel through the Allegheny Mountain to connect the two segments.

The challenge

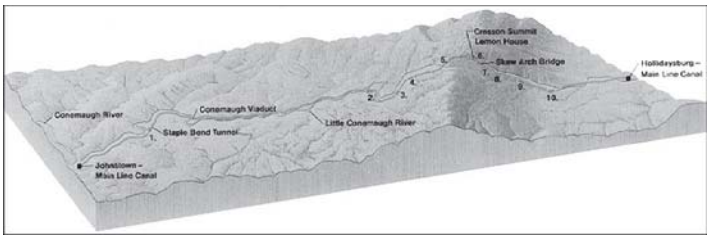
At that time, there were only three tunnels in the United States, on the Schuylkill Canal, the Union Canal, and another section of the Pennsylvania Main Line Canal. The longest of these tunnels was less than 850 feet long. Tunneling was such a new concept that, in documents discussing the Allegheny Mountain problem, state engineers had to explain that a tunnel would "be like a large well dug horizontally through a hill or mountain." Even today, a 4-mile tunnel would be challenging. Assuming that the technological obstacles could be overcome, there was an even more basic logistics problem: There were already problems maintaining the water supply along the natural water channels. The tunnel would be at a higher elevation, so the problem of water supply would be even worse. Clearly, some other alternative had to be developed.

The engineering solution

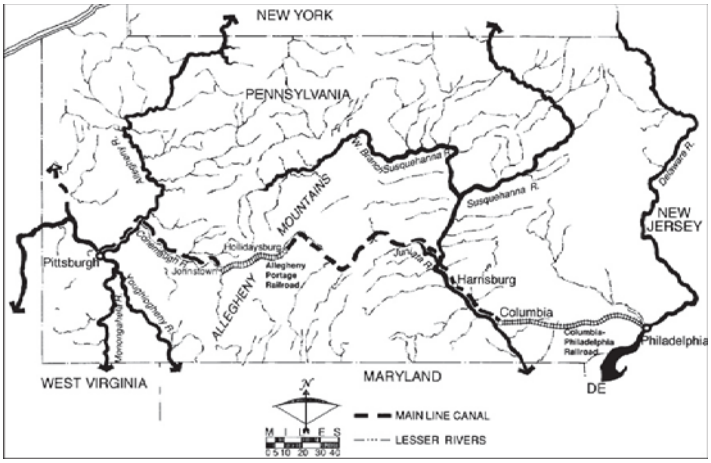
In December 1828, Moncure Robinson was engaged to make a new survey of Allegheny Mountain and to plan a railroad over the divide. He proposed five planes on the east and five on the west slopes of the mountain with a mile-long tunnel. In 1830, the Canal Board engaged Colonel Stephen Harriman Long to make further explorations. In 1831, the Canal Board adopted the Robinson plan as modified by Colonel Long and engineer/surveyor Major John Wilson who had surveyed the Columbia and Philadelphia Railroad. The Allegheny Portage Railroad was authorized by an act of the Pennsylvania legislature and approved by the Governor on March 31, 1831.

Under the final plan, the Allegheny Portage would be thirty-six miles long, with ten inclined planes with ten stationary engines at their crests, a stone viaduct across Little Conemaugh Creek, the nine-hundred-foot long Staple Bend Tunnel with a 16-foot bore (saving 2.5 miles of track), a skew-arch bridge of two spans over the Beaver Dam Branch of the Juniata River, other minor bridges, and eleven levels. It would ascend 1,398 feet above the eastern basin of the canal at Hollidaysburg, 1,171 feet above the western basin at Johnstown. The slope of the inclined planes varied from 3°6′ (6%) to 5°40′ (10%). The highest point on the route was 2397 feet above sea level. Traffic would move both upward and downward on both series of planes.

"Risky" continued p. 16



Portage railroad topographical map



Portage railroad map

Darby and Cobbs Creek Watershed

John E. Pickett, P.E., Delaware County Planning Department; Karen L. Holm, Delaware County Planning Department; Paul DeBarry, P.E., Borton Lawson Engineers; and Carl DuPoldt, P.E., PSPE Delaware County Chapter

Act 176 Stormwater Management Plan
Delaware, Chester, Montgomery, and Philadelphia Counties Pennsylvania

Introduction

The Darby and Cobbs Creeks Watershed Plan was developed to comply with the requirements of the Pennsylvania Stormwater Management Act, Act 167, of 1978. The Darby and Cobbs Creek watersheds are two separate DEP Act 167-designated watersheds. However, Cobbs Creek is actually a tributary of Darby Creek. In order to properly address stormwater management in the Darby Creek Watershed below the confluence of Cobbs and Darby Creeks, it was determined that both watersheds needed to be hydrologically evaluated. One Act 167 plan was therefore developed encompassing the two watersheds, thus satisfying the Act 167 planning requirements for both watersheds. The main objective of a stormwater management plan is to manage the quantity and quality of stormwater runoff from new development and promote infiltration on a watershed-wide basis rather than on a site-by-site basis, taking into account how development in any part of the watershed will affect stormwater runoff in all other parts of the watershed.

Watershed Description

The Darby and Cobbs Creeks watersheds (approximately 77.2 square miles) have experienced numerous urban related stormwater runoff problems including flooding, streambank erosion, low base flow, and water quality problems as shown as shown in Figure 1.

The two watersheds are located primarily in eastern Delaware County, with the upper portion of the Darby Creek watershed located in southeastern Chester County. The upper portion of the Cobbs Creek watershed is located in southwestern Montgomery County, and it flows through southwestern Philadelphia County. The Darby-Cobbs watershed lies within twenty-six (26) municipalities in Delaware County, two (2) municipalities in Chester County, two (2) municipalities in Montgomery County, and (1) municipality (the City of Philadelphia) in Philadelphia County.

Methodology

The engineer for the project was Borton-Lawson Engineering, Inc. The plan was developed from data collected on the physical features of the watershed, such as soils, wetlands, topography, floodplains, dams and reservoirs, stream dimensions, and obstructions. Information on existing problem areas was solicited from the Watershed Planning Advisory Committee (WPAC) which consisted of representatives from the 31 municipalities as well as other interested parties including County Conservation Districts, Darby Creek Valley Association (DCVA), and others. Although the plan is not geared toward solving existing problems, knowing where and why they exist aided the engineer in developing the subwatersheds, identifying points of interests, and understanding the hydrologic flow of the watershed as a whole. Information on existing land use and zoning was also collected. This helped the engineer to determine where and to what extent future development would take place. All of this information was compiled into a geographic information system (GIS) database.

"Watershed" continued p. 12

Figure 1. Flooding and Streambank Erosion Problems in the Darby-Cobbs Watershed

"Watershed" continued from p. 11

The computer model used for the project was the US Army Corps of Engineers Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS). This model was chosen for the project because it can be easily adapted to an urban and/or rural area, it has the ability to analyze reservoir or detention basin-routing effects, and it is accepted by the Pennsylvania Department of Environmental Protection. To gain a realistic picture of what occurs in the Darby-Cobbs watershed, the model was calibrated against actual stream flow data, regression models, as well as data from the Federal Emergency Management Administration (FEMA) and the U.S. Army Corps of Engineers.

The process of determining how runoff flows throughout the watershed is a complex one. It involves running numerous scenarios through the model taking into account the location of obstructions and tributary confluences. To analyze and model this, the watershed was divided into subwatersheds. The most downstream point of each of these areas is considered a "point of interest" in which increased runoff must be analyzed for its potential impact.

Another aspect of the analysis involves modeling design storms. This term refers to assigning a frequency to a storm based on the amount of rain that falls over a 24-hour period. As the amount of rain falling over a 24-hour period increases, the frequency or chance of that storm occurring decreases. For example, 2.64 inches of rain falling over a 24-hour period is associated with the 1-year design storm, while the occurrence of 6.24 inches falling over a 24-hour period happens theoretically only every 25 years. For this study, the 1, 2, 5, 10, 15, 20, 25, 50, and 100-year storms were modeled. Through the modeling process, timing and flow contributions from the various tributaries and subwatersheds could be determined. To make implementation of the plan viable by the municipalities, a simple, but accurate method was developed for municipal officials, engineers, and developers to abide by the plan. The watershed was divided into four (4) stormwater management districts and assigned the following proposed condition/ existing condition runoff rates for each as indicated in Table.1 and Figure 2.

* In District C, development sites which can discharge directly to the Darby – Cobbs Creek main channel or major tributaries or indirectly to the main channel through an existing stormwater drainage system (i.e., storm sewer or tributary) may do so without control of post-development peak rate of runoff greater than the 5-year storm. Sites in District C will still have to comply with the groundwater recharge criteria, the water quality criteria, and streambank erosion criteria. If the post-development runoff is intended to be conveyed by an existing stormwater drainage system to the main channel, assurance must be provided that such system has adequate capacity to convey the flows greater than the 2-year predevelopment peak flow or will be provided with improvements to furnish the required capacity. When adequate capacity in the downstream system does not exist and will not be provided through improvements, the post-development peak rate of runoff must be controlled to the pre-development peak rate as required in District A provisions (i.e., 10-year post-development flows to 10 pre-development flows) for the specified design storms. All regulated activities not otherwise exempt from the ordinance are required to implement water quality controls as defined by the ordinance. Generally, they are as follows:

1. Provide infiltration capacity for the net increase in the 2 year-volume of runoff from the development site in Exceptional Value (EV) and High Quality (HQ) watersheds. In other areas (or if this cannot be physically accomplished in EV and HQ watersheds), a lesser volume of infiltration can be provided based upon capturing and infiltrating one inch of runoff from all new impervious surfaces, but under no conditions should the infiltration capacity provided on the site be less than the minimum of 0.50 inches of runoff from impervious surfaces. The infiltration volume does not have to be

District	District Proposed Condition Design Storm	Reduced To	Existing Condition Design Storm
A	2-year		1-year
	5-year		5-year
	10-year		10-year
	25-year		25-year
	100-year		100-year
B-1	2-year		1-year
	10-year		5-year
	25-year		10-year
	50-year		25-year
	100-year		100-year
B-2	2-year		1-year
	5-year		2-year
	25-year		5-year
	50-year		10-year
	100-year		100-year
C*	Provisional Direct Discharge District		

Table 1. Stormwater Management Districts In The Darby-Cobbs Creek Watershed

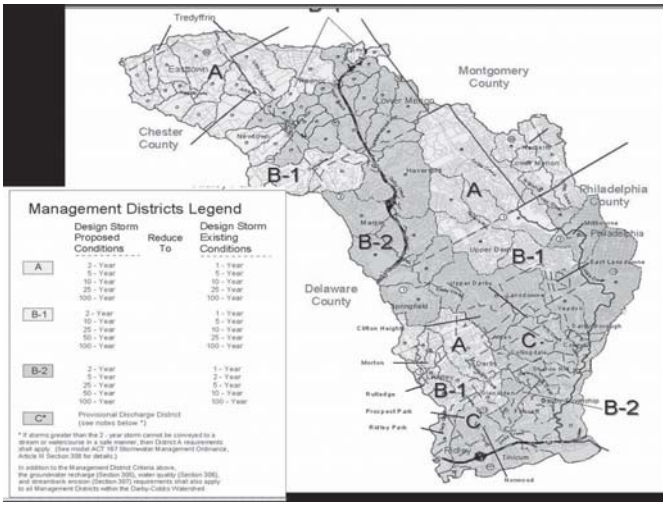


Figure 2. Darby-Cobbs Stormwater Management Districts and Criteria

provided in one location. However, if site conditions preclude capture of runoff from portions of the impervious area, the infiltration volume for the remaining area should be increased an equivalent amount to offset the loss.

2. If site conditions preclude use of infiltration facilities for such reasons as high groundwater tables or extensive rock conditions, a waiver from Section 405, Groundwater Recharge, would be required by the municipality.
3. Provide buffer areas on perennial or intermittent streams passing through the site. The buffer areas are recommended to be at least fifty (50) feet wide; municipalities may set a lower figure, but never less than ten (10) feet wide. The buffer shall be maintained with and encouraged to use appropriate native vegetation.
4. If none of the above options are feasible due to site constraints, the applicant must provide stormwater detention that meets the release rate criteria for the site location or else obtain approval from the municipal engineer to implement other BMP's (Best Management Practices) that will provide water quality benefits of an equivalent level.
5. Exempted activities as defined by the ordinance are still encouraged to implement voluntary stormwater management practices as indicated in Appendix B of the Model Ordinance.

Exemptions

The following land use activities are exempt from regulation under the Model Ordinance:

1. Use of land for gardening for home consumption.
2. Agriculture when operated in accordance with a conservation plan, nutrient management plan, or erosion and sedimentation control plan approved by the County Conservation District, including activities such as growing crops, rotating crops, tilling of soil, and grazing animals. Installation of new or expansion of existing farmsteads, animal housing, waste storage, and production areas having impervious surfaces that result in a net increase in earth disturbance of greater than five thousand (5,000) square feet.
3. Forest management operations which are following DEP's management practices contained in its publication "Soil Erosion and Sedimentation Control Guidelines for Forestry" and are operating under an approved erosion and sedimentation plan and which comply with the stream buffer requirements in Section 406.G.
4. Road replacement, development, or redevelopment that has less than two thousand (2,000) square feet of new, additional, or replaced impervious surface/cover, or in the case of earth disturbance only, less than five thousand (5,000) square feet of disturbance.

The following land development and earthmoving activities are exempt from the drainage plan submission requirements of the Model Ordinance.

1. A maximum of two thousand (2,000) square feet of new, additional, or replacement proposed impervious surface. Or in the case of earth disturbance resulting in less than two thousand (2,000) square feet of impervious cover (as noted above).
2. Up to a maximum of five thousand (5,000) square feet of disturbed earth.

These criteria shall apply to the total development even if the development is to take place in phases. The date of the municipal Ordinance adoption shall be the starting point from which to consider tracts as "parent tracts" upon which future subdivisions and respective earth disturbance computations shall be cumulatively considered.

Implementation

All municipalities within the watershed will be required to adopt the provisions of the Darby-Cobbs Creeks Stormwater Management Plan's Model Ordinance. The standards and criteria contained in the ordinance will apply only to those portions of the municipality that are located within the boundaries of the Darby-Cobbs watershed. The areas outside of the watershed will continue to be regulated by the underlying provisions of the municipality's subdivision/land development ordinance.

County adoption of the plan occurred in the spring of 2005. PADEP approval is pending. Although not required until six months after DEP approval of the plan, most of the watershed municipalities have already adopted the model ordinance. ■

Investigation/Remediation of the Emerson Waste Site and Extinguishment of a Long-burning Underground Fire

Thomas G. May, P.E.

The following describes how innovative and responsive engineering was instrumental in solving a technically complex, highly visible, and controversial project. An illegal waste dump, the subject of neighborhood protests, many newspaper articles, and several segments on the nightly TV news, posed two urgent, difficult problems to the City of Philadelphia:

... How to extinguish an underground fire that had been periodically flaring since the mid 1990s despite repeated attempts by City of Philadelphia fire officials to dowse the blaze.

...How to remediate the 7-acre, 25 foot-high waste pile, whose contents included demolition materials (wood, brick, block, wire, plastic, roofing material, etc.), asbestos-containing material, huge construction vehicle tires (some greater than 8 feet in diameter), and a myriad of other unacceptable materials illegally dumped by demolition contractors and "wildcat dumpers."

Urban Engineers, Inc. (Urban) provided consulting engineering and environmental services in all phases of the project, including: waste characterization, underground fire delineation, cost-effective fire suppression and site remediation program, bid specifications, construction management/inspection during the entire extinguishment/cleanup program, regulatory agency negotiation and coordination, and certification of site closure.

Early in the site characterization phase, the City's industrial hygiene consultant, 1Source Safety and Health Systems, Inc., collected ambient air and water samples to assist in determining environmental impacts of releases from the waste pile. G&C Environmental Services, Inc. was a subconsultant to Urban, providing asbestos sampling of ambient air during initial stages of the site cleanup. The cleanup contractor was Brandenburg Industrial Service Co., Bethlehem, PA.

Smoke rises from a test pit.

Background

From the 1980s to the early 1990s a contractor used a 7-acre City-owned parcel near Hog Island Road and Fort Mifflin Road for temporary storage of construction and demolition debris. Upon discovering that the site was being misused, site operations were shut down by the City.

Subsurface and, in isolated cases, surface fires had occurred at the site since the mid 1990s. The Philadelphia Fire Department was successful in extinguishing surface fires but subsurface fires continued to burn, producing smoke and odors. Periodically, the fire would erupt at the surface, triggering another response by the Fire Department.

The presence of an unpermitted waste site, the potential for adverse environmental impacts and neighborhood objections (and subsequent press coverage by newspapers, radio, and TV) triggered involvement of the Pennsylvania Department of Environmental Protection (PADEP), which ordered the City to remediate the site. Urban was retained by the City to evaluate how fire extinguishment and cleanup could be best accomplished, design the solution, prepare bid specifications, and provide full-time construction inspection during cleanup efforts.

Site Characterization

To determine the quantity of waste material, a combination of techniques were employed: researching historical maps, conducting a Global Positioning System (GPS) survey, and plotting surface contours using the software package Surfer. This analysis told us how large the waste pile was. A trackhoe investigation of the rough terrain was conducted to determine what was in the pile. Based on visual observations of the more than 19 test pits, Urban estimated that the composition of the fill material was Soil – (40 percent by volume), Wood – (30 percent),

Brick/Block – (20 percent), and Miscellaneous Material such as carpeting, metal, plastic, glass, etc. – (10 percent).

Critical questions were the location and size of the underground fires. Urban conducted a subsurface gas survey by installing 50 temporary piezometers and then using a Four-Gas Monitor to measure percent oxygen, hydrogen sulfide, carbon monoxide, combustible gas Lower Explosive Level (LEL), and temperature of the subsurface. An area with abundant carbon monoxide and deficient oxygen would indicate an active underground fire. Three-dimensional contour maps of the four gases were generated with Surfer, which allowed Urban to predict the extent and location of the underground fire. The fire was found to cover a contiguous area of a 25,000 square feet, representing about 16 percent of the total volume of fill.

Aerial view of the screening operation.

Design of Fire Extinguishment and Cleanup Program

Urban evaluated several alternative remediation approaches for Burning Areas and Non-burning Areas:

Burning Areas:

- In-situ water extinguishment
- Excavate and overhaul
- Oxygen suppression

Non-burning Areas:

- Remove material; recycle block/brick and soil on-site
- Manage material on-site (no liner or treatment system)
- Construct landfill on-site

For each of alternative, information was developed for factors considered important to selecting the most cost-effective approach, such as:

- Extinguishment time
- Intensity and duration of smoke
- Potential for odors
- Perceived reception by neighbors
- Environmental impact (air, groundwater, surface water)
- Initial remedial construction costs
- Maintenance costs
- Implementation time
- Regulatory compliance
- Traffic impacts
- Health & safety

Urban developed a decision matrix to display each of the alternatives against the above factors and reviewed it with the City and PADEP. The approach selected as the most cost effective was as follows:

For burning area (16 percent of pile): Simultaneously excavate and douse with water. Move material to a cool down area. Once fire is extinguished and material cools, separate material into components that can be recycled on site (soil, brick and block) and unacceptable material that must be hauled to an approved landfill.

For remaining area (84 percent of pile): Recycle soil, brick, and block onto the site. Haul unacceptable material to recycling centers (e.g., metal) or approved landfill.

Urban then developed details of the selected remediation approach and prepared bid specifications.

Site Remediation

Following receipt of bids from six contractors, the City contracted with Brandenburg Industrial Services Co. of Bethlehem, PA to quench any fires in the smoldering dump and remediate the site.

Prior to extinguishment, a cool down area was prepared and an isolation trench was dug around the burning area to limit the potential of fire spreading to the non-burning area. Extinguishment of the burning zones began on July 18, 2003 and the fire was completely extinguished in five days. Once the blaze was under control, two large excavators and six Caterpillar D350D articulated off-road trucks excavated and transported burned waste from the fire site to the cool down areas. Ten days later, excavation of the waste material began. The excavated material was stockpiled next to the screening machine and separated by a combination of mechanical screens and handpicking.

Out of the total 38,000 cubic yards of material originally present on the Emerson site, approximately 24,200 cubic yards (64 percent) of material was reused onsite. Approximately 13,800 cubic yards of material (230 truckloads) was hauled offsite as municipal or C&D waste.

With the exception of seeding, remediation activities were completed in mid-December 2003. Urban certified completion of the work when seeding of the site was accomplished in the Spring of 2004.

Prior to Urban's involvement, some observers projected cleanup costs would exceed $10 million. This estimate proved pessimistic; a combination of innovative engineering, tight bid specifications, effective construction inspection and a capable, efficient contractor enabled the site to be remediated at a total cost of about $2 million. ■

Thomas G. May, P.E. is a Vice President at Urban Engineers, Inc. and Director of Environmental Engineering in the firm's Philadelphia office. He may be contacted at 215-922-8080. e-mail: tgmay@urbanengineers.com.

"Risky" continued from p. 9

Each plane would have two tracks with loops of 3.5" hemp cable moving up one track and down the other, to which the ascending or descending cars would be attached. As with other inclined plane installations, attempts would be made to balance the weight of the ascending cars against the descending cars at each plane. When loads could not be balanced, stationary steam engines at the head of each inclined plane were used to supply additional power.

Under the watchful eyes of Sylvester Welch, the engineer in charge, the portage took three years to build. (Welch had surveyed the Erie Canal in New York and the Union and Lehigh canals in Pennsylvania.) The Allegheny Portage Railroad went into full service on March 18, 1834.

"[The United States] now numbers among its many wonderful artificial line of communication, a mountain railway, which, in boldness of design, and difficulty of execution, I can compare to no modern work I have ever seen, excepting perhaps the passes of Simplon, and Mount Cenis, in Sardinia; but even these remarkable passes, viewed as engineering works, did not strike me as being more wonderful than that Allegheny Railway in the United States." ~ David Stevenson, 1838

The engineering progeny

The Allegheny Portage Railroad was the parent of a number of fascinating engineering developments.

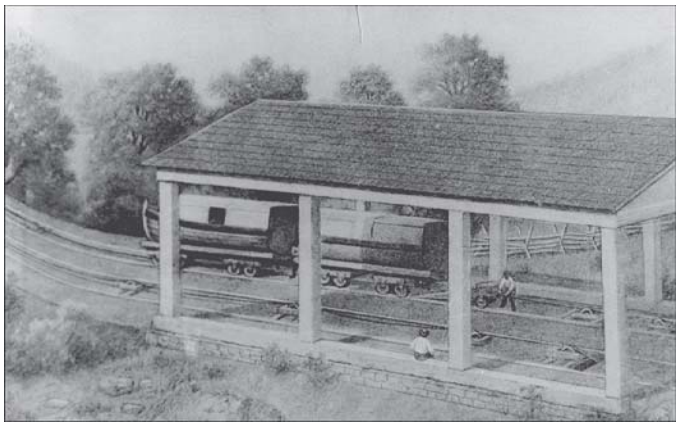
Containerized shipping

In its original concept, the portage involved unloading all freight and passengers from the canal boats and loading them into rail cars for transport over the mountains. That inefficiency begged for an engineering solution. In October 1834, a boatman named Jesse Christman arrived at the Hollidaysburg canal basin with his family. He was unable to find a buyer for his boat before he headed west. John Dougherty suggested that the small boat be handled as rail traffic over the Portage Railroad. With Christman's consent, the boat, family and all, was pulled out of the basin, loaded on a railcar, hauled over the portage, and put into the canal basin at Johnstown. John Doughterty was inspired by the success of his idea to invent a sectional canal boat, patented in 1842. Canal boats were built in as many as four sections. On canal segments, they were fastened together and functioned as a single unit. On portage segments, they were disassembled. Each section was drawn out of the canal onto a railcar. Each section moved over the portage separately. On the other side, the sections were reassembled and returned to the water for the next canal segment. This engineered solution is clearly a parent of today's containerized shipping.

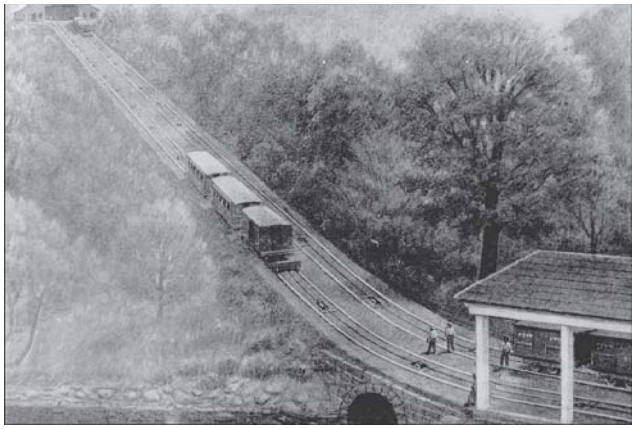
Wire rope

Another major solution developed at the Portage Railroad became famous in another setting: John Roebling's wire rope. Most famous for using his wire rope to build the Brooklyn Bridge, Roebling first developed wire rope to solve the twin problems of durability and safety on the Portage Railroad.

The initial installation on the inclined planes utilized three-and-a-half-inch diameter hemp rope. The hemp rope was vulnerable to water damage and decay, natural imperfections, and wear; the expected life was 16 months. Failures were too frequent and catastrophic, often fatal to employees and passengers alike. Roebling designed a rope composed, not of twisted hemp fibers, but of twisted wire strands. The Portage Railroad was his beta test site. The first trial was not successful, but with failure analysis, Roebling made design changes and the second generation of wire rope successfully defeated both the durability and safety problems. This wire rope was between 1.5 and 1.7 inches in diameter and could be manufactured in endless lengths. It was, of course, much more expensive than the hemp rope. Further, it was much heavier than hemp rope, so several of the engine sheds' foundations had to be rebuilt to provide added strength. However, the performance of the wire rope so far exceeded the performance of the hemp rope that the expense was fully justified and quickly recovered.



Painting of a portage boat



Painting of portage include

Rail construction/installation

Other major solutions developed at the Portage Railroad are still with us today: the tie-and-spike railbed and the edge rail. In the initial installation, stone blocks with metal fasteners were installed vertically every three feet along the railbed. The blocks were called "sleepers." The blocks shifted in the earth with weather and moisture changes. As a result, the rails were not maintained a consistent width apart. This created a serious safety hazard. To stabilize the position of the sleepers, wooden sills were laid on the stone sleepers, tying the rails together. These wooden sills were the forerunners of the cross-ties still in use today. Not only did the ties stabilize the width of the rails, they were much easier to install, maintain, and replace.

Track construction also evolved at the Portage Railroad. The initial rail installation consisted of iron straps nailed on wooden rails. As the cross-ties were installed to stabilize the distance between the rails, and with the improved access to materials supported by the burgeoning metal manufacturing industry, the rails themselves evolved into little I-beams with "chairs" connecting the rail to the cross-ties. These were the edge rails still in use today.

Locomotive technology

The level sections of the portage railroad were also a testing ground for early locomotives. The first locomotive operated on commercial track in America in 1829 in northeastern Pennsylvania. When the Allegheny Portage Railroad opened, horses pulled the cars, as was common on railways of the time. In 1835, the first locomotive was installed, replacing 18 horses, proving a huge success in terms of both reliability and power. Eventually 16 other locomotives were installed, phasing horses out altogether.

Empire Builders

Similar to the National Road (as we discussed in the last issue), within twenty years, the Allegheny Portage Railroad had become technologically obsolete, bowing to the railroads. Yes, the very same locomotive technology that had used the Allegheny Portage Railroad as a proving ground quickly made its host obsolete. Pennsylvania engineers and their technology would again force us to move forward. We'll look more at that next time. At every stage, though, without the engineers as empire builders, the country's growth and development would have been a risky business. ■

The "Risky Business" column offers articles covering liability from both the legal and engineering perspective. Mrs. Bowman's articles share general information and should not be relied upon as professional legal advice of either a general or specific nature. Rebecca Bowman is a civil engineer-attorney in solo private practice in McMurray, Pennsylvania for more than 25 years. Her practice is a certified woman-owned business. Her B.S. in Civil Engineering is from the University of North Dakota.

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Cover Story

On November 27, 2004, at approximately 9:15 pm, the *Athos I*, a 750-foot Cyprus-flagged tanker vessel, lost an estimated 265,000 gallons of heavy crude oil into the Delaware River on its way to the CITGO facility in Paulsboro, New Jersey. The single-hulled tanker, built in 1983, was carrying 325,000 barrels of oil from Venezuela. At the time of the spill, two tugs were helping the tanker move to the facility's pier when it listed 8 degrees to the left and lost power.

While investigating the situation, divers found a 6-foot gash and a 2-foot puncture in the hull of the Athos I. While performing underwater surveys of the spill area on December 7, 2004, authorities discovered a 15-foot piece of submerged pipe 700 feet away from the CITGO dock, which is believed to have caused the damage to the vessel's hull.

Coast Guard personnel from Marine Safety Office-Group Philadelphia, as well as personnel and resources from the New Jersey Department of Environmental Protection, the Pennsylvania Department of Environmental Protection, the United States Environmental Protection Agency, the New Jersey State Police, representatives from the ship's owner, and CITGO, all began a cooperative effort to ensure the clean-up of the spill and to minimize any impact to the environment. Thousands of feet of protective boom were set up around the vessel and neighboring creeks as a preventive measure to minimize further impacts to the river and wildlife.

Pennoni Associates Inc. was retained by a private owner to inspect and evaluate its structures, components, and utilities that could have possibly been subjected to crude oil contamination. The oil contamination all along the Delaware River consisted of a sticky tar substance, which adhered to structures, components, and utility lines in varying degrees of density. The majority of the contamination was limited to the tidal and splash zone area (a height of approximately 5 to 6 feet above mean low water) on fixed structures and utilities and within a few feet of the waterline on floating structures. Oil contamination was also present at several waterfront properties on the dock walkways and gangways in localized areas due to splashing and contact spreading.

Lead by Project Manager and ADCI Certified PE-Diver Raymond Mateer, the Pennoni dive team first inventoried all floating dock systems, breakwaters, and other facilities that may have been affected by the contaminants. They then reviewed the manufacturer's literature and specifications on the structures to determine the possible effects of crude oil on the make-up of the structural components. The team communicated with the manufacturers to determine if exposure to crude oil could affect structural integrity, operation, or service life. Samples of the oil were gathered and analyzed so that the exact nature of the contaminant and its possible harm to the owner's property could be evaluated.

Pennoni performed a detailed site survey of all marina structures, components, and utilities determined to be subject to degradation by crude oil exposure to determine and document the damage and potential for future harm. All contaminated structures, components, and utilities above the mean low water line were documented by photographs, and representative underwater diving inspections were performed to determine the extent of the contamination below the mean high water line. Pennoni inspected the concrete seawall and accessible areas beneath timber crib to determine if crude oil contamination was present, and findings were documented. Additionally, soil samples were obtained and analyzed for contamination.

After assessment, Pennoni determined that one of the most noteworthy impacts of the oil was on the floating dock system. The oil impacted the smooth operation of the floating dock system, which rises and falls with

the tides. The dock system is held in place by means of steel piles that restrain the floating dock sections with pile guides or brackets attached to the floating dock. These guides and brackets have internal rollers or sliding blocks that ride up and down the pile during tidal cycles. The contamination of the piles and rollers/blocks overstressed several brackets due to binding of the rollers and blocks, and some failures occurred. Other similar significant impacts included pile and roller contamination of the breakwater restraint "spider" assemblies, which are steel frames with rollers that are mounted to the breakwater trusses and serve to restrain the floating breakwater systems.

The Pennoni dive team overcame numerous obstacles, including contaminated diving conditions and sub-freezing air and water temperatures. The team successfully and safely completed the project on time and on budget. After completing the investigation aznd evaluation work, the Pennoni team quantified and qualified the results of their findings, and made recommendations to the client for action. ■

John P. Bogue, Jr., P.E., is a professional engineer-commercial diver and Bridge Inspection Manager for Pennoni Associates Inc., headquartered in Philadelphia. Mr. Bogue works from Pennoni's Doylestown, Pennsylvania office and has more than 12 years experience conducting inspection, evaluation, and load rating analysis of numerous types of highway, railroad, and waterfront structures.

Classified

Buchart-Horn, Inc. is seeking the following positions.

Senior Highway Engineer/Project Manager – York, PA

BSCE, PE in PA, 10+ years experience in design/ management of highway/transportation projects for PennDOT and/or the Pennsylvania Turnpike Commission. Project manager responsible for coordinating very high profile projects, client contact and monitoring of the highway design group. Communication skills and computer knowledge required. PennDOT and/or PTC references required.

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BSCE, PE in PA and PTOE are required. 5+ years progressive experience in design of traffic signals, coordinated systems and preparation of all types of traffic engineering and planning studies. Must be familiar with design and permitting requirements of Pennsylvania Department of Transportation and knowledge of current traffic and modeling software, including ITS.

Send resume or email to: Michael Gross, Buchart-Horn, Inc., PO Box 15040, York, PA 17405-7040: mgross@bh-ba.com. EOE/M/F/D/V.

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Skills desired include plan preparation using Microstation and the InRoads package, and bridge design using PennDOT engineering software. Knowledge of hydrologic and hydraulic modeling (HEC-1 and HEC-RAS) a plus.

Send your resume to: Prichards@pcs-inc.biz, or fax to: 215-968-3649. Mail to: Patricia Richards; Director of Human Resources; Pickering, Corts & Summerson, Inc.; 828 B Newtown-Yardley Road, Newtown, PA 18940.

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Proficiency in current MicroStation and AutoCAD versions required for development/preparation of topo, right of way, & roadway/ structure drawings using PADOT & NJDOT standards. Exp. with base plan development for survey & land development work, InRoads & Land Desktop is a +. Min. of five years active work experience required. Submit your resume to: Prichards@pcs-inc.biz , fax: 215-968-3649. Mail to: Patricia Richards, HR Director; Pickering, Corts & Summerson, Inc.; 828 B Newtown-Yardley Road, Newtown, PA. 18940. EOE.

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"Capitol" continued from p. 5

A loan issued under this program would be subject to the following terms and conditions: (1) The loan would be subject to an interest rate of 2%, (2) The loan would be repaid within 15 years of the date of the loan, (3) Any other terms and conditions as promulgated by the department.

Voted favorably from House Veterans Affairs/Emergency Preparedness Committee, 913/2005

HB 652 RE: Mediation of Claims (by Rep. Keith McCall, et al)

Amends Title 62 (Procurement) by adding provisions related to delays beyond the control of a contractor, contractors' claims for concealed or unknown conditions, and mediation for claims arising of construction contracts.

House State Government Committee Workshop held, 9/14/2005

H Res. 33 RE: Toll Roads Study (by Rep. Rick Geist, et al)

Resolution recognizing the responsibility of the Commonwealth to examine the quality and efficiency of its State highway system; and establishing a select committee to consider toll roads.

Adopted, 2/15/2005 (195-0)

Public hearing held in House Transportation Committee, 8/23/2005

New Bills Introduced

HB 1915 RE: Construction Contracts (by Rep. Daylin Leach, et al)

Amends act regulating the letting of certain contracts for erection, construction & alteration of public buildings further providing for bidding on contracts for erection, construction & alteration of public buildings.

Referred to House State Government Committee, 8/18/2005

HB 1950 RE: Liquid Fuels Tax (by Rep. Scott Petri, et al)

Amends Title 75 (Vehicles) further providing, in liquid fuels and fuels tax, for imposition; and further providing, in highway maintenance and construction taxes, for imposition.

Filed, not yet referred, 9/7/2005

H Res. 425 RE: Small Business Health Care Coverage (by Rep. Jennifer Mann, et al)

Resolution directing the Legislative Budget & Finance Committee to investigate & report on the advantages & disadvantages of allowing small businesses to buy coverage for employees through the adult basic coverage insurance program.

Filed, not yet referred, 9/14/2005

Upcoming Meetings of Interest

None scheduled at time of print.

House & Senate Fall Session Days Schedule

2005 House Fall Session Schedule

September	26, 27, 28
October	3 (non-voting), 17, 18, 19, 20, 24, 25, 26, 27, 31
November	1, 2, 3, 14, 15, 16, 21, 22
December	5, 6, 7, 12, 13, 14, 19 (non-voting)

2005 Senate Fall Session Schedule

September	19, 20, 21, 26, 27, 28
October	17, 18, 19, 24, 25, 26, 31
November	1, 2, 14, 15, 16
December	5, 6, 7, 12, 13, 14

Copies of all bills of interest are available from the PSPE office, or they can be accessed via the Internet at www.legis.state.pa.us/WU01/LI/BI/billroom.htm. ■

Political Action Committee

2005 Sponsor Recognition

Many thanks to the following individuals who contribute to the PSPE Political Action Committee fund. The PAC fund allows PSPE lobbyists to influence bills on behalf of PSPE members. PSPE is very active at the Pennsylvania state capitol. Each session we monitor legislation that could impact PSPE members in their profession. Your contributions are critical as PSPE affects bills such as those found in the article "On Capitol Hill."

To receive monthly legislative updates from the PSPE listserv, simply send an e-mail message to jennifer@wannerassoc.com with the subject: "add me to the monthly update." To support to Political Action Committee, send a PERSONAL check to PSPE/PAC, 908 N. Second Street, Harrisburg, PA 17102.

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2006

January 28	PSPE Board of Directors *Harrisburg, PA*
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May 18-20	PSPE Annual Conference *Sheraton Park Ridge* *King of Prussia, PA*

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