

# the news



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PHILADELPHIA SECTION  
**AMERICAN SOCIETY OF CIVIL ENGINEERS**  
1317 Spruce Street, Philadelphia, PA 19107

VOL. 56 - 5

OUR 71st YEAR

February, 1984

## FEBRUARY DINNER MEETING

Philadelphia Section, American Society of Civil Engineers

**TUESDAY, FEBRUARY 14, 1984**

Joint Meeting with the Women's Auxiliary

Engineers' Club, 1317 Spruce Street, Philadelphia

Cocktails — 5:30 P.M.      Dinner — 6:30 P.M.      Meeting — 7:30 P.M.

**SUBJECT:**

**BRIDGES — — FALLING DOWN?**

**SPEAKERS:**

**ALFRED F. LYNG**, Chief Engineer of Highway Administration, Pennsylvania Department of Transportation; and  
**A. G. LICHTENSTEIN**, President, A. G. Lichtenstein & Associates.

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## MARCH DINNER MEETING

**TUESDAY, MARCH 13, 1984**

Cocktails — 5:30 P.M.      Dinner — 6:30 P.M.      Meeting — 7:30 P.M.

**SUBJECT:**

**SCHUYLKILL EXPRESSWAY REHABILITATION**

**SPEAKERS:**

**Robert Rowland**, District Engineer & **Jeff Green**, Project Coordinator for the Schuylkill Expressway PennDOT, District 6-0.

While the region's Center City, Philadelphia, is blessed with an extensive network of radial public transport lines, we have but two radial freeways that serve as the lifeline for truck and auto traffic — I-95, and I-76, the legendary Schuylkill Expressway.

The latter facility suffers not only from over-age—but from over-use, with its roadway and much of its bridges in need of rehabilitation.. Actually the earliest section of the Expressway was planned and designed in the 1940's, with the section in King of Prussia opened in 1951.

The challenges that face the PennDOT engineers are formidable; and Messrs. Rowland and Green are responsible for solving all of them.

**SPECIAL EVENT:**

**PRESENTATION OF LIFE MEMBERSHIP CERTIFICATES**

Please call Mr. deKovacs at the Engineers' Club immediately (215 735-5234), for reservations. New Dinner Meal Charge:

ASCE Member—\$9.00      Non-Member—\$10.00      Students—\$4.00  
STUDENTS — Note that your Dinner Charge is LESS than one-half price. Plan to attend for Dinner or Meeting after Dinner.

## TECHNICAL GROUP ACTIVITIES

Engineering Management

February Meeting

Date: *Wednesday, February 15, 1984*

Engineers' Club—7:00 P.M.

Cocktails—5:30 P.M.

Dinner—6:00 P.M.

Subject: Panel Discussion—*The Critical Path Method (CPM) of Scheduling*

Panelists:

*Joseph Gaudet*, President, Gaudet Associates, Inc.

*Philip Alterman*, Vice President, S. T. Hudson Engineers, Inc., and

*Paul Somers*, President, Somers Construction, Inc.

Moderator: *Richard Burnham, Esq.*, Senior Consultant, T. J. Traumer Associates, Inc.

Program Host: *Susan K. Lior*, Chairperson, Engineering Management Group

The format of the meeting will be in several parts. First, each panelist will give a brief summary of their views on CPMs, both its advantages and disadvantages. Second, the moderator will present the panel with several situations which require a management decision. After stating their views for each situation, the audience may interject its own ideas and opinions.

A brief summary of what a CPM is and how one is developed was prepared for the meeting and mailed to the membership of the Engineering Management Group. If you were not on the mailing list and wish to have a copy, please contact *Susan Lior*.

As always, your continued support has been most appreciated. Our last meeting with Mr. David Gunn was a grand success. Let's make this one even more successful.

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**IMPORTANT!! 1983 - 1984 Meeting Notices**

THE NEWS is now being mailed at Non-Profit Organization Bulk Rate. While this promises postage savings to the Section, it also runs the risk of much longer delivery time from your local post office to your mail box. Therefore, please refer to your 1983 - 1984 Section Meeting Program Schedule and mark your calendar for all meetings and social functions. Listed below is a summary of remaining meeting dates.

All Dinner Meetings --

Cocktails: 5:30 p.m. -- Dinner: 6:30 p.m. -- Meeting: 7:30 p.m.

Tuesday, April 10, 1984, Engineers' Club

Joint Dinner Meeting with Philadelphia Post, Society of American Military Engineers (SAME)

Subject: "Conrail Coal Handling Operations from the Mines to the Ships"

Speaker: (Representative from Conrail to be announced)

Saturday Evening, May 5, 1984 --

Annual Spring Social  
Engineers' Club, Philadelphia, Pa.

**FEBRUARY MEETING**

(continued from page 1)

The structural integrity of our nation's bridges will be the subject of this evening's meeting. It will be presented by two of our nation's noted experts in the field.

Abba G. Lichtenstein, P.E., is President of a consulting engineering firm that bears his name—with offices in Langhorne, Pennsylvania; Fairlawn, New Jersey and New York City. This firm specializes in the design of bridges and dams, and in the evaluation of existing bridges. Since 1963 his firm has inspected and rated over 2,500 bridges, including various moveable and fixed structures for highways, railways and pedestrian use. Mr. Lichtenstein, a licensed professional engineer in twelve states, was recently awarded "Engineer of the Year" by the A. S. C. E. New Jersey Branch; and is Chairman of the A. S. C. E. Subcommittee on Rehabilitation of Existing Bridges. Mr. Lichtenstein is active in several other engineering societies and publishes widely on bridge matters. He holds a distinguished Alumnus Award from Ohio State University.

Al Lyng is Chief Engineer, Highway Administration for the Pennsylvania Department of Transportation. PennDOT is responsible for 4,000 miles of roads and 27,000 bridges; making it the third largest Department of Transportation behind the states of Texas and California. Mr. Lyng was graduated from Clarkson College of Technology, with a Bachelor of Science degree in Civil Engineering. He is licensed in five states. Mr. Lyng is a member of the American Society of Civil Engineers and several other professional societies.

**SPECIAL FEATURE:**

**TEMPLE UNIVERSITY AND UNIVERSITY OF PENNSYLVANIA NIGHT**

The ASCE Student Chapter, Faculty and Alumni of the Civil Engineering Departments will be honored at this meeting. All Temple and Penn students, faculty and alumni are cordially invited to attend.

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**TECHNICAL GROUP ACTIVITIES**

(continued from page 1)

For more information and reservations contact: The Engineers' Club at (215) 735-5234, or

Susan K. Lior, Chairperson, or Charles N. Juliana, Secretary, EMTG c/o T. J. Trauner Associates, Inc. Widener Bldg., Chestnut at Juniper Philadelphia, PA 19107 (215) 854-0887

**Geotechnical**

**February Meeting**

Date: Tuesday, February 21, 1984

Engineers' Club

Meeting: 7:00 P.M.

Speaker: Joseph P. Welsh, P.E., Vice President, Hayward Baker Company  
Subject: Dynamic Deep Compaction  
Program Host: Moustafa A. Gouda, P.E. Chairman, Geotechnical Group (609) 461-1239

Dynamic Deep Compaction is the Ground Modification technique of utilizing heavy weights dropped from high distances to densify soils. Although used world-wide in hundreds of projects since the mid-30's, it was only introduced into the United States in the mid-1970's. This presentation will go into the fundamentals of Dynamic Deep Compaction presenting a movie on a few of the earlier projects in the United States and discuss current design criteria. The major soil types in which this technique has proven to be applicable are: loose granular soils, fills, mine spoils, sanitary landfills, and collapsing soil.

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**PHILADELPHIA SECTION  
AMERICAN SOCIETY OF  
CIVIL ENGINEERS**

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**COPY DEADLINE FOR  
MARCH, 1984 ISSUE  
FEBRUARY 14, 1984**

**TECHNICAL GROUP ACTIVITIES**

(continued from page 2)

Included in the Case Histories will be the largest project accomplished in the United States so far, densification of 20 acres for two fossil units in Jacksonville, Florida utilizing the most energy in the United States dropping a 33-ton weight from over 100 ft., and the use of dutch cone and dilatometer to verify the results obtained. Cost information will also be presented.

Joseph P. Welsh received his B.S.C.E. from Villanova University in 1955, and has spent the majority of the last 25 years as Principal with various Ground Modification construction firms accomplishing over 1,300 construction projects mainly involving grouting, piling, Dynamic Deep Compaction, anchors, underpinning, fabric forms, etc. He has been Vice-President of the Hayward Baker Company for the last 5 years in which this organization has developed as the major construction firm in the United States in the specialized area of Dynamic Deep Compaction.

Mr. Welsh is a Past Director and Vice-President of the Philadelphia Section of ASCE and is currently a member of the ASCE Improvement and Placement of Soils Committee. In addition to numerous technical articles and presentations, Mr. Welsh has co-authored a book with Phila. Section Past President Dr. Robert Koerner of Drexel University, entitled, "Construction and Geotechnical Engineering with Synthetic Fabric" and co-presents this course at ASCE Conventions.

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**Transportation and Urban Development February Meeting**Date: *Monday, February 27, 1984*

Engineers' Club—7:30 P.M.

Cocktails—6:00 P.M.

Dinner—6:30 P.M.

Subject: *A Transportation Engineer's Visit to the Peoples Republic of China (P. R. C.)*

Speaker: *Ira N. Pierce, P.E.*

President, Kassner Pierce; Consulting Engineers, Philadelphia, Pa.

Program Host: *Janusz Supernak;*  
Chairman, T & U D Group

Mr. Pierce will present an update on progress to bring the P.R.C.'s infrastructure in line with needs and current engineering practice. The presentation will be illustrated with color slides and will include photos of many major projects and of the people of China.

Ira Pierce is a Vice President of the

Philadelphia Section, and served as Chairman of ASCE's National Transportation Policy Committee and the National Urban Transportation Division.

For reservations, please call *Marilyn Macklin* at Dr. Supernak's office, Dept. of Civil Engineering, Drexel University (215) 895-2341.

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**Water & Environmental Engineering Group***in Collaboration with*

*The Water Resources and Environmental Engineering Graduate Program of the Department of Civil Engineering, Villanova University*

**February Dinner Meeting and Symposium**Date: *Thursday, February 16, 1984*

Place: **Connelly Center (Radnor, Wayne and St. Davids Rooms) Villanova University, Villanova, Pa.**

Cocktails—5:30 P.M.

Dinner—6:15 P.M.

Meeting—7:15 P.M.

Cost: Approximately \$10.00 per person  
Students: Approximately \$5.00

Cocktails may be purchased at cash bar.

Subject: *Small Scale Hydropower in Pennsylvania*

Speakers and Topics:

*Frank B. Pilling*, Planning Analyst, Pennsylvania Public Utility Commission, Bureau of Conservation, Economics & Energy Planning, Harrisburg, Pa.

—*State and Federal Policy Issues; Status of Small Scale Hydropower in Pennsylvania*

*Peter A. McGrath*, President, American Hydropower Co., Villanova, Pa.

—*Financing and Developing a Small Scale Hydropower Project; Marketing of Power*

*Kenneth R. Broome*, Principal, Williams and Broome, Inc., Exton, Pa.

—*An Engineering Consultant's Viewpoint — Technical and Environmental Approaches*

*Angelo M. Capuzzi*, Civil Engineer, Civil and Structural Section, U. S. Army Corps of Engineers, Philadelphia District, Philadelphia, Pa.

—*Methodology of Determining Optimum Installed Capacity for a Conventional Run-of-River Hydropower Project*

*James H. Fischer*, Product Manager, Standard Hydroelectric Unit, Allis-Chalmers Corporation, Hydro-Turbine Division, York, Pa.

—*Development of Low-Head Hydraul-*

*ic Turbines for Small Scale Hydropower; Present Status and Future Trends*

Program Hosts: *H. Y. Rajagopal*, Chairman, and *David Campbell*, Vice-Chairman, Water & Environmental Engineering Group.

For Reservations call: *H. Y. Rajagopal ("Raj")*, Chairman, WEEG (215) 422-3032 or *David Campbell*, Vice Chairman, WEEG (215) 628-9100.

In case of inclement weather, please call either number listed above or *Villanova University* (215) 645-4500.

The object of the symposium is to promote greater interest in small scale hydropower as an alternate energy source in general, and to discuss, in particular, its current status and its future prospects in Pennsylvania. The symposium will be addressed by a distinguished panel of experts in the field.

This symposium presents a forum for discussion of various aspects of small scale hydropower in Pennsylvania and is one of the very few to be held in the Philadelphia area. Do not miss this fine opportunity of getting a state-of-the-art picture of this important topic and discussing the issues with experts. Many of our members have already expressed an interest in attending the meeting. Others that are interested are, therefore, urged to call early to make reservations. Spouses are welcome.

Villanova University is located at Villanova, Pa., on Lancaster Pike (U. S. Route 30) six miles west of City Line Avenue, Philadelphia, Pa. Parking is available at the main parking lot of the University on the south side of Lancaster Pike. The campus can also be reached by train (Paoli line) or by trolley (SEPTA Norristown High Speed Line). Get off at Villanova Station.

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**March Luncheon Meeting**Date: *Wednesday, March 14, 1984*

Engineers' Club

Luncheon—12:30 P.M.

Lecture—1:15 P.M.

Subject: *Dam Safety Issues in Pennsylvania*

Speaker: *William S. Bivins*

Senior Policy Analyst, Federal Emergency Management Agency (FEMA), Washington, D. C.

Program Host: *Dr. H. Y. Rajagopal ("Raj")*, Chairman, Water and Environmental Engineering Group.

For full information and Luncheon reservations, please call Dr. Rajagopal at (215) 422-3032.

## JANUARY MEETING

January 10, 1984      Engineers' Club  
**SUPERFUND**

by Michael Peleszak, Staff Writer

The January meeting of the Philadelphia Section was attended by more than 150 members, guests and members of the Drexel Student ASCE Chapter, alumni and Civil Engineering faculty of Drexel University. All enjoyed an interesting talk and slide presentation by *Anthony Bartolomeo*, of the Environmental Protection Agency. The topic of his discussion was the Superfund.

*H. Y. Rajagopal*, Chairman of the Section's Water and Environmental Group, was the very capable Program Host for the meeting.

### Section Members Win Awards

Phila. Section President, William Malarkey was pleased to announce that two Section members had won awards. Past President *James McPhillips* has won the *National ASCE Zone I Government Civil Engineer Award for 1983*. (See the January, 1984 issue of THE NEWS for detailed article). Mr. Malarkey also presented to *Greg Neiderer*, the *1983 Daniel Mead Award for Zone III*. Gneg is a Staff Writer of THE NEWS.

### Drexel Night

One of the highlights of the meeting was honoring the Student ASCE Chapter and faculty of Drexel. *Kerry Petrasic*, Student Chapter President, thanked the Section for the honor and recognition of the Chapter. He introduced the other officers and faculty in attendance:

*Richard Roberts*—Vice President

*Joseph Arentz*—Treasurer

*Barbara Feeney*—Recording Secretary

*Phil Franzone*—Membership Secretary

*Dr. Gene Parlein*—Faculty Advisor

The very strong participation in the Student Chapter was pointed out by President Petrasic and was evident by the large turnout. Student Activities at Drexel's ASCE reflect student concerns in engineering and also with the community. For the students there are various social events, intermural sports and the Annual Concrete Canoe race. The Chapter holds special activities for underprivileged children.

### Mr. Wess Pipes Introduced

Mr. Pipes has been acting as Chairman of the Civil Engineering Department at Drexel while Chairman McNamee is on sabbatical leave. Chairman Pipes also introduced to the Section a newly appointed faculty member, and dedicated Philadelphia Section

Member and Past President, *Kenneth Zitomer*. Chairman Pipes spoke on one of the newest programs at the University, the purchase of microcomputers by all undergraduates at Drexel. He also spoke on the new graduate degree program to be offered in the area of Hazardous Waste Management. Declining undergraduate enrollment and the difficulty in providing modern laboratories, problems which face most Universities, were also discussed by Chairman Pipes.

### Anthony Bartolomeo Introduced

Mr. Bartolomeo, an Environmental Engineer with the EPA, who has worked with the hazardous waste/superfund program since it began, spoke on this very pressing problem.

### What Is the Superfund?

The Superfund, legislated into law during the Carter administration, is an attempt to clean up potential dangers to the environment. The Superfund Act and the other laws that reinforce it, have given government officials and attorneys powers that had not existed before. Now, once a toxic waste dump was discovered it could be ordered closed and cleaned up by the owner, or if the owner refused, the government could step in clean the site up and sue the owner to recover damages.

### What Is a Response?

There are three ways in which the EPA may act after a hazardous waste site has been discovered. The first is called the *Emergency Response*, which varies from fighting a fire in which a hazardous waste is present to the fencing-in of a site. Next is the *Planned Removal*, in which case an evaluation can be made but emergency action must be taken. The last type of action is the *Remedial Response*. In this type of action the site is investigated, details and designs of handling the problem are taken into account, bids for the clean-up are submitted and appropriate action is taken.

The Superfund does, however, put restrictions on the amount of money spent. In the case of an Emergency Response, a bill is submitted after the emergency is over. The Planned Response is limited to 6 months or \$1 million, whichever comes first. For the Remedial Response, there is no limit to the amount spent, but the action must fall within the limits of competitive bidding procedures. In the case of the last type of response, the Superfund does empower the government to sue the owner of a site for the money spent on clean-up.

### A Superfund Clean-Up Site

Mr. Bartolomeo presented a slide presentation on one of the first sites to use Superfund money. The Lehigh Electric Co. site, located in Old Forge, Pennsylvania, had been the location of an old coal fired electric generating station. The site had been taken over and used as a storage facility for old electrical equipment. The danger of the facility was in its use and proximity to a residential area.

Some of the electrical equipment stored on the site, at various times had contained PCB's, an insulating solution used in electrical equipment. Many pieces of equipment had leaked or were leaking the PCB's into the surrounding soil. There were no fences around the facility and children played there and adults used the facility to walk their dogs.

The first action of the EPA was to secure the site with a fence, in March of 1981. Next the rate of contamination was determined. It was found the contamination levels ranged from zero in some areas, to 110,000 parts per million near the stored electrical equipment.

The second phase of the clean-up was divided into two parts; removal of leaking electrical equipment and then the removal of the contaminated soil.

### Implementation of the Second Phase

The implementation of the second phase of clean-up began with the setting up of a clean area, where there was no contamination. Next was the removal of the electrical equipment. However, the trucks used in transporting equipment and men working in the contaminated area had to first pass through a decontamination station. Strict safety guidelines were followed; all laborers had to wear appropriate safety equipment.

After the leaking equipment was removed and destroyed, the task of the project engineers turned to the problem of soil contamination. The entire site was placed under a grid system of 50 foot by 50 foot squares. Next the depth of contamination in each square was determined by core borings. After the depth of contamination was determined, the soil was removed and disposed of properly. The entire project cost has not been determined and will be completed in the Spring of 1984.

### Questions and Answers

After his presentation, Mr. Bartolomeo received some interesting questions from the audience.

One major interest to the audience  
 (continued on page 5)

## MEMBERS IN THE NEWS

### Parkin and Speece Awarded ASCE Medal

Dr. Gene F. Parkin, Associate Professor of Civil Engineering, and Dr. Richard E. Speece, Betz Chair Professor of Environmental Engineering, both of Drexel University, have been awarded the National ASCE 1983 J. James R. Croes Medal. They received the medal, one of the Society's most prestigious awards, for their paper: "Modeling Toxicity in Methane Fermentation Systems." The award was presented at the ASCE Annual Convention in Houston, TX, in October, 1983.

Dr. Parkin has been for many years the Faculty Advisor of the Drexel ASCE Student Chapter. The Philadelphia Section congratulates these two distinguished affiliates for their achievement of the high honor.

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## READING BRANCH SWINGING BRIDGE FUND RAISER

To kindle support for the restoration of the Swinging Bridge, tee shirts depicting the old bridge in a setting sun are available through the Reading Branch of the Phila. Section, ASCE. Designed by a local artist, they are available in a matrix of colors and sizes as supplies last. The cost is \$6.50, payable to the Reading Branch, ASCE. If you would like a tee shirt, call or drop a note stating size, color, quantity with payment to:

Jay C. Steinmetz  
Gilbert Associates, Inc.  
P. O. Box 1498  
Reading, PA 19603  
(215) 775-2600 x 2108

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## JANUARY MEETING (continued from page 4)

was what was being done about sites like this one across the country. Mr. Bartolomeo put the problem into perspective; there are 14,000 unknown dump sites across the country but not enough funds to clean them all up at once. However, as more revenue from business taxes, and settlements with owners for cleaning up mistakes, comes into the fund then more sites can be cleaned up.

After the question and answer session, Section President Bill Malarkey presented Mr. Bartolomeo with the Section's Certificate of Appreciation for his outstanding address.

## LEHIGH VALLEY SECTION STRUCTURAL SEMINAR

BETHLEHEM, PA, MARCH 14, 1984

The Philadelphia Section, ASCE Membership is cordially invited to participate in a One-Day Seminar sponsored by the Structures Technical Group of the Lehigh Valley Section. Entitled: "Design and Economic Considerations for Industrial Buildings," the Seminar is designed as an intensified short course for practitioners to become familiarized with the latest structural design and economic elements of light single-story industrial buildings, warehouses, shopping centers, etc. These buildings usually are low-rise steel-framed structures. The Seminar will cover the design of framing members, with emphasis on stability and bracing requirements, as well as cost-effective methods.

All structural engineers, whether just out of college or experienced, should find this Seminar valuable. Also, managers, supervisors, designers, planners, fabricators, inspectors, researchers and owners should find this Seminar informative, beneficial and interesting.

Lecturers include: Dr. Le-Wu Lu, Professor of Civil Engineering, Lehigh University, well known for his research in plastic design, seismic design, tall buildings, composite structures, and computer applications; Dr. Joseph A. Yura, Professor of Civil Engineering, University of Texas, a specialist in stability, plastic design and structural connections research; John L. Ruddy, Vice President of Engineering Services, Fletcher-Thompson, Inc., Architects/Engineers, Bridgeport, CT, who specializes in computer applications for structural systems and their economic considerations; Dr. Samuel J. Herrera, Senior Consultant, Technical Services, Engineering Dept., Bethlehem Steel Co., well known for his research in cold-formed structural steel design, including cladding and diaphragm bracing, as well as composite design and industrial fasteners; and Paul H. Reimer, Partner, Reimer and Fischer Engineering, Inc., Bethlehem, PA; whose major work is in Civil and Structural Engineering and materials handling.

Advance registration, by March 5, 1984 is required. The very affordable fee for the complete Seminar, including a reception and tour of the Fritz Engineering Laboratory at Lehigh University, is \$30.00 (or \$36.00 including lunch). Course materials include: preprints of all lectures, including theories, formulas, and examples, which will be distributed at the reception. The location of the Seminar is University Cen-

## 1984 ACI Seminar Series

The American Concrete Institute and the Portland Cement Association announce their 1984 series of seminars on the ACI 318-83 Building Code and PCA Simplified Design Handbook — to be conducted in cities across the United States in cosponsorship with ACI's Standard Building Code Committee, local ACI chapters, PCA regions, and other organizations. The Seminar will be presented in Philadelphia on April 19, 1984.

This seminar is vital to designers of concrete structures. Covering the latest changes to the 318-83 Building Code over the past five years, presenters are nationally recognized authorities who will explain specific design examples and demonstrate the impact these changes have on a particular design feature. Specific recommendations will be made to reduce design time of smaller buildings.

The cost for this seminar is \$150 for ACI members and \$165 for nonmembers of ACI. Participants can take advantage of an additional \$10.00 savings by registering at least seven days prior to the seminar.

Seminar handout materials will be provided—worth more than \$68.00. In addition to the ACI "318-83 Building Code Requirements for Reinforced Concrete" with "Commentary", participants will receive the PCA handbook, "Simplified Design of Concrete Buildings of Moderate Size and Height," and PCA "Notes on ACI 318-83" which explains the changes to the Building Code and provides specific design examples.

In the Phila. area contact Randall C. Cronin, Senior Structural Engr., Eastern Region, PCA, 1720 Gwynedd View Road, Norts Wales, PA 19454. Phone: 215 643-7363.

(Editor's Note: A special ACI brochure with full details about the seminar will be attached to the March, 1984 issue of THE NEWS.)

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ter, Room 308, Lehigh University, Bethlehem, PA. An income tax deduction is allowed for expenses of continuing education undertaken to maintain and improve professional skills. Your fee will be refunded if notification is given two days before the Seminar date.

For full details and registration, contact:

Dr. Millet L. Wei  
Bethlehem Steel Co.  
Room 1471 Martin Tower  
Bethlehem, PA 18016  
Phone: (215) 694-7114

### ASCE DUES BILL AND TECHNICAL GROUP DETAILS

Section members will notice in the 1984 dues bill from National ASCE Headquarters, that the PHILADELPHIA (SECTION) DUES is itemized as \$12.00. This amount includes assessment for membership in one Phila. Section Technical Group of your choice. **If you choose to be a member of more than one Group, please add \$1.00 for each Group.**

Also, because National's bill did not list the Technical Groups to which your \$1.00 payments were to be applied, you are requested to get in touch with the Chairmen of the Technical Groups of your preference, so that their membership lists can be classified.

The appropriate individuals to contact are the following:

#### Liaison

**Ira N. Pierce**, Chairman  
Kassner-Pierce Consulting Engineers  
The Bourse Building  
Independence Mall East  
Philadelphia, PA 19106  
(215) 238-0222

#### Construction

**Fredric L. Plotnick**, Chairman  
806 Hillton Lane  
Elkins Park, PA 19117  
(215) 487-1443

#### Engineering Management

**Susan Lior**, Chairlady  
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(609) 461-1239

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(215) 561-0460

#### Transportation and Urban Development

**Janusz Supernak**, Chairman  
Department of Civil Engineering  
Drexel University  
Philadelphia, PA 19104  
(215) 895-2340

#### Water and Environmental Eng. Group

**H. Y. Rajagopal**, ("Raj"), Chairman  
United Engineers & Constructors, Inc.  
30 South 17th Street  
Philadelphia, PA  
(215) 422-3032

### SPECIAL GEOTECHNICAL ENGINEERING FOR ROADS AND BRIDGES

April 5 and 6, 1984  
Harrisburg, Pennsylvania

A two day conference is planned during April 5 and 6, 1984 at the Sheraton Harrisburg on "Special Geotechnical Engineering for Roads and Bridges". This is a joint conference by the Pennsylvania Department of Transportation and the Central Pennsylvania Section of the American Society of Civil Engineers.

Experts in geotechnical engineering will present talks on new, innovative and cost saving methods of design and construction and there will be displays of equipment and services presented by companies, specializing in the geotechnical field.

Dr. Thomas Larson, Secretary of Transportation, Pennsylvania Department of Transportation and Mr. Celestino Pennoni, Vice President, American Society of Civil Engineers, will be guest speakers.

A block of rooms is reserved at a discounted rate at the Sheraton Harrisburg (Telephone: (717) 774-2721). Reservations must be made early to get the special rate.

For registration, fees and additional information please contact:

*Umakant Dash*  
Department of Transportation  
P. O. Box 2926  
Harrisburg, PA 17120  
Telephone: (717) 787-4266

### REFLECTION ON A RAILROAD COMPANY

*Editor's Note:* The following is abstracted from an article in INDUSTRIAL RESEARCH & DEVELOPMENT Magazine (June, 1983) by *Erwin Frand*, President of Frand & Associates, Inc., Cincinnati, OH, a firm that specializes in industrial product development and marketing. THE NEWS is indebted to Section Secretary *Al Tantala* for submitting the item.

The other day I read about a company which had one foot firmly planted in the 19th century and the other tentatively placed in the 21st. When it came time to move one of the feet, the company elected to move backward rather than forward. The company in question is the Southern Pacific Railroad. They decided, after considerable effort to develop their Sprint microwave telephone communications net-

work, that they would rather be in the railroad business, and sold this profitable data communications business to GTE.

Thinking about a railroad missing another new business opportunity in a transportationlike field started me thinking about Theodore Levitt's famous article called "Marketing Myopia". One of the key examples he uses of companies which thought too small and therefore missed opportunities was the railroads. He stated that the railroads thought of themselves as being in the railroad business rather than being in the transportation business and, therefore, when airplanes came along, they elected not to enter that business.

In thinking further about this example, I started wondering what business the railroads really were in. I have finally come to the conclusion that the railroads are not in the transportation business and, in fact, they are not even in the railroad business. *They are in the civil engineering construction business and have always been.*

The railroads have always prided themselves on their ability to cross rivers and canyons, to go around, over, and through mountains, and to perform amazing feats of civil engineering and construction. When the railroads arrived in the cities and it was time to build stations, they went all the way back to the edifices of antiquity for their inspirations. *The railroads did not build terminals, they built temples to the gods of engineering.*

Psychologists tell us that engineers are, by nature, things oriented rather than people oriented. As long as the engineers dealt with track and ties and timetables and even cars filled with grain and coal, things were fine. However, when it came time to deal with people, they fell apart. To this day, the railroads are preoccupied with running a railroad from an engineering rather than from the service and passenger standpoint. Fashions come and go, but railroad engineers still wear funny striped hats, and conductors wear blue gabardine suits with brass buttons.

The Southern Pacific Corp. intuitively realized that being in the data communications business was more than building microwave towers on every hilltop. The real key of the business was staying current on the state-of-the-art computerized switching equipment and providing service. Thus, the old habits and traits caught up with them, and they decided they would rather be in the railroad business than in communications and data transportation.