

the news



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AMERICAN SOCIETY OF CIVIL ENGINEERS
1317 Spruce Street, Philadelphia, Pa. 19107

VOL. 53 - 4

OUR 68th YEAR

January, 1981

JANUARY DINNER MEETING

Philadelphia Section, American Society of Civil Engineers

Joint Meeting with Women's Auxiliary

TUESDAY, JANUARY 13, 1981

Engineers' Club, 1317 Spruce Street

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

(Cocktails 2 for 1 — Downstairs Bar 4 - 6 P.M.)

SUBJECT:

NUCLEAR ENERGY — PROS AND CONS

SPEAKERS:

DOUG BAKER, Past President of Limerick Ecology Action and
VINCENT S. BOYER, Vice President, Philadelphia Electric Co.

The advantages and disadvantages of nuclear power has been discussed for some time. The recent accident at Three Mile Island has increased the incidence and volume of these debates.

Doug Baker will present the anti-nuclear position in this point/counterpoint format. Mr. Baker received his B.S. in Aeronautical Engineering from Penn State University and a M.S. in Environmental Engineering from Drexel University. He worked on a variety of defense projects for General Electric Company and since 1973 has taught mathematics and physics at the Kimberton Farm School in Phoenixville. Mr. Baker is a Past President of Limerick Ecology Action and from 1970 to 1973 served as Executive Co-Director of the Environmental Coalition on Nuclear Power.

Vincent S. Boyer will present the pro-nuclear position. Mr. Boyer received his B.S. and M.S. degrees in Mechanical Engineering from Swarthmore College and the University of Pennsylvania respectively. He has been with Philadelphia Electric Company since 1939 serving in a variety of posts leading to election to his present position of Senior Vice President, Nuclear Power. Mr. Boyer is a Fellow and Past Director of the American Nuclear Society and has served as President of the Philadelphia Post SAME. In March, 1980 he was elected to membership in the National Academy of Engineering. Mr. Boyer is a registered Professional Engineer and in 1979 was selected as Delaware Valley Engineer of The Year.

SPECIAL FEATURE:

DREXEL UNIVERSITY NIGHT

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

No Dinner Reservation Mailing Cards will be sent until further notice. Please call Mr. deKovacs at the Engineers' Club immediately. (215) 735-5234.

STUDENTS — Plan to attend for Dinner (Half Price) or meeting after Dinner

NEXT MONTH'S MEETING

MARK YOUR CALENDAR

DINNER MEETING

PHILA. SECTION ASCE

Date: **Tuesday, February 10, 1981**

Engineers' Club—7:30 P.M.

Cocktails: 5:30 Dinner: 6:30

Subject: **COGNAC: World's Tallest Offshore Oil Platform**

Speaker: **D. G. Godfrey**, Manager of Offshore Engineering and Construction, Shell Development Company
Temple University Night

READING BRANCH

The January meeting of the Reading Branch is **Ladies' Night** which will be held on **Friday, January 16, 1981**, at the Green Valley Country Club, Sinking Spring, Pa. **Evans Goodling** will speak on **The History of Brecknock Township, Pa.** Dinner will be at 7:00 p.m., the meeting at 8:00 p.m. Contact Ben Nacar Program Chairman at Gilbert Associates Inc., P. O. Box 1498, Reading, PA 19603 (775-2600, Ext. 3422) for reservations.

SOUTH JERSEY BRANCH

The South Jersey Branch **January meeting** is scheduled for **Wednesday, January 28, 1981** at the Woodbine Inn on State Highway 73 and Remington Avenue, Pennsauken. (The Woodbine is east of the Tacony-Palmyra Bridge) **Please note this is a revised day and date from the earlier announcement.** The program will be on aerial photogrammetry and includes a visit to the ADR facilities. Reservations for dinner which is \$12.00 should be made by calling 663-6400 indicating your choice of roast beef or flounder. Social hour at 6:00 p.m., dinner at 7 p.m. and meeting at 8 p.m.

IMPORTANT!!

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 1980-1981 Section Meeting Program Schedule and mark your calendar for all meetings and social functions. Listed below is a summary of remaining meeting dates.

Tuesday, January 13, 1981 — Section Dinner Meeting, Engineers' Club
 Subject: "Nuclear Energy — How Safe? Point/Counterpoint"
 Speakers: Representatives from Phila. Electric Co. and the Union of Concerned Scientists. Drexel University Night.
Joint Meeting with the Women's Auxiliary.

Tuesday, February 10, 1981 — Section Dinner Meeting, Engineers' Club
 Subject: "COGNAC — World's Tallest Offshore Oil Platform" (1980 Outstanding Civil Engineering Achievement Award)
 Speaker: **Dan Godfrey**, Shell Development Co., Houston, Texas
 Temple University Night.

Tuesday, March 10, 1981 — Section Dinner Meeting, Engineers' Club
 Subject: "Environmental and Geotechnical Considerations of the Alaskan Pipeline"
 Speaker: **William Moore**, Principal, Dames and Moore, San Francisco, CA
 University of Pennsylvania Night.

WEDNESDAY, April 8, 1981 — Joint Dinner Meeting with Philadelphia Post, Society of Military Engineers (SAME), at the **PHILADELPHIA NAVAL BASE.**

Saturday, May 9, 1981 — Annual Spring Social at the Engineers' Club.

Note: This is a change from your Program Card.
 This Year's Social is NOT at Bala Golf Club.

TECHNICAL GROUP ACTIVITIES**CONSTRUCTION****January Meeting**

Date: **Tuesday, January 27, 1981**

7:00 p.m. — Engineers' Club

Subject: **Field Documentation for Construction Claims Management**

Speaker: **Benjamin F. Blair, P.E.**, President, Blair, Fisher & Wallace, Inc.
 Program Host: **Fredric L. Plotnick**, Chairman, Construction Group

By the time it becomes apparent that an 18 month project is going to take 36 months to complete, or the costs have over-run the estimate by 50 percent, it may be too late to properly prepare (or defend against) the resultant claim. Through case histories, field documentation for successful claims management will be discussed.

Blair, Fisher & Wallace, Inc., a center city consulting firm utilizes its engineering, legal, scheduling and cost expertise in the analysis of contract disputes and the preparation of expert reports which document their cause and effect.

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GEOTECHNICAL**January Meeting**

Date: **Tuesday, January 20, 1981**

7:00 p.m. — Engineers' Club

Subject: **Geotechnical Aspects of Offshore Drilling and Production Platforms**

Speaker: **M. S. Glasscock, P.E.**, Staff Engineer, Headquarters Engineering and Research-Platform Design, Exxon Company, U.S.A., Houston, Texas
 Program Host: **Dr. Ziyad I. Husami**, Chairman, Geotechnical Group

This is the fourth lecture in the series on Geotechnical Aspects of Energy. An offshore platform foundation analysis and design involves two distinct activities:

- * evaluating the regional and site geological processes, with emphasis on stability, in order to assess the applicability of a foundation
- * designing for the loads and deformations that occur throughout the soil-structure system for the chosen foundation concept

This lecture covers these areas of geotechnical considerations as currently practiced by offshore platform designers. Stability studies and pile-founded structures are emphasized. Several case studies of recent site investigations and soil problems will be presented.

Highlighted is a platform concept designed to withstand soil loads developed by soil movements in the Mississippi delta area.

HYDRAULICS & SANITARY**January Meeting**

Date: **Wednesday, January 14, 1981**

Luncheon - 12 noon — Engineers' Club
 Subject: **Small-Scale Hydroelectric Development**

Speaker: **Leonardo D. Dia**, Managing Engineer, O'Brien & Gere Engineers, Philadelphia

Program Host: **Dana R. Pizarro**, Vice Chairman, Hydraulics & Sanitary

An overview on the assessment of small scale hydro projects will be presented.

For luncheon reservations and information, please call Sec.-Treas. **Guru Bose**, (215) 686-1776, Ext. 47-511.

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**COPY DEADLINE FOR
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 JANUARY 13, 1981**

KOERNER Engineer-of-the Year

The Phila. Section, ASCE is proud to announce that its Nominee was elected 1981 Engineer-of-the-Year for Delaware Valley. He is Section Past President **Dr. Robert M. Koerner**, Professor of Civil Engineering, Drexel University.

At the December 9, 1980 meeting, Bob thanked the Board and the Section Membership for its support and endorsement; and he promised to do his utmost to sustain the honor bestowed upon him by the Professional Societies of the Delaware Valley. He is dedicated to promote the good will and favorable public relations among the community and the profession, which are the aims and ideals of Engineers' Week.

Engineers' Week will be celebrated February 20 - 28, 1981. Full biographical information on Bob Koerner, and a schedule of activities will appear in the February, 1981 issue of THE NEWS.

MEMBERS IN THE NEWS

Coscia Heads DVRPC

John Coscia has been named the new Executive Director of the Delaware Valley Regional Planning Commission (DVRPC). John was previously DVRPC's Director of Environmental Planning. The Phila. Section extends its warmest congratulations to a former Director and dedicated ASCE Member, on this high achievement.

—o—

Plotnick Passes Bar Exams

Fredric L. Plotnick, Chairman of the Phila. Section Construction Group, recently passed the New Jersey and Pennsylvania Bar Examinations. He was sworn in as a practicing attorney in Pennsylvania on November 25, 1980; and in New Jersey on December 18th. Fred earned his J.D. (Juris Doctor) degree from Delaware Law School this past August after four grinding years of night school. He plans to continue his present practice of engineering, with emphasis on planning and scheduling and performance specifications. The Phila. Section extends its heartiest congratulations to Fred on this laudable accomplishment.

FORMIGLI MEETING SPONSOR

Thanks to the efforts of Section Past President **Bruno J. Talvacchia**, a Meeting Sponsor Program has been inaugurated in which the costs of refreshments are underwritten with the compliments of contributing organizations. The De-

cember 9, 1980 meeting sponsor was **The Formigli Corp.**, Berlin, N.J., prestressed concrete fabricators and constructors.

Joseph Sharkey, an official of Formigli, narrated a very interesting film on the precast concrete accomplishments of the firm, and developments in the industry. The Company also set up exhibits and provided literature for the attendees to examine before and after the formal meeting.

The Phila. Section is grateful to The Formigli Corp. for its generosity and courtesy.

DECEMBER MEETING

December 9, 1980 Engineers' Club
Segmental Prestressed Concrete

Editor's Note: THE NEWS is indebted to **Fredric L. Plotnick**, Chairman of the Phila. Section Construction Group, for his assistance in the preparation of the following article.

The well-attended December meeting of the Philadelphia Section discussed the timely and interesting subject: "**Innovative Design and Construction of Precast Concrete Segmental Bridges.**" Two world-renowned experts on the subject impressed and illuminated an attentive audience with their extensive knowledge and expertise. They were: Program Moderator **Charles C. Zollman**, Director of Engineering, Urban Engineers of Maryland, Inc.; and Principal Speaker **Jean M. Muller**, Chairman and Partner, Figg and Muller Engineers, Inc.

Walnut Lane Bridge - 30th Anniversary

Mr. Zollman paid a stirring tribute to the 30th anniversary of the completion of Philadelphia's famous **Walnut Lane Bridge** over Lincoln Drive, the first long-span prestressed, post-tensioned concrete bridge constructed in the United States. The bridge spearheaded the prestressed concrete process in this country, and it is now a multi-billion dollar industry. At the time of the design and construction of Walnut Lane (1948 - 1950), Mr. Zollman and another distinguished Phila. Section member - and National ASCE Past President - **Samuel S. Baxter**, participated in prime roles in the project. As Chief Engineer, Bureau of Engineering, Zoning and Surveying, Phila. Department of Public Works, Mr. Baxter was in overall charge of the design and construction of the bridge.

Mr. Zollman - recipient of the Phila. Section's "Eminent Engineer Award" in 1979 - coordinated all the design and construction criteria among the office of

the universally-famous designer, Professor **Magnel** of Belgium, the Contractor, **Preload Corp.** of New York; and the offices of the Phila. Bureau of Engineering, Zoning and Surveying.

The Walnut Lane Bridge, in Mr. Zollman's words: "the first giant step in prestressed concrete in the United States," was honored in a special ceremony at the site, featuring local, State and National Transportation, Highway and Construction specialists, as well as ASCE officials, on May 5, 1978, as an **Outstanding Civil Engineering Achievement**. A bronze plaque commemorating the occasion was installed on a main pier just off Lincoln Drive.

Villanova Night

The spotlight focused on the ASCE Student Chapter, faculty, alumni and Civil Engineering Department of Villanova University. "Moderator of Presentations" was Student Chapter Faculty Advisor, **Dr. Lewis J. Mathers**. In his usual witty and disarming manner, Dr. Mathers proudly announced that the Villanova Student Chapter was awarded the National ASCE **Letter of Honorable Mention, 1979 - 1980**. He directed professorial counsel to graduating students and introduced Villanova ASCE Student Chapter Officers, Contact Members, C.E. Department faculty and alumni. It was a splendid turnout of Villanovans!

Greetings were extended by **Dr. Robert Lynch**, Dean of the College of Engineering, who reviewed anticipated advancements in engineering education at Villanova; and **Dr. Edward Wallo**, Head of the Department of Civil Engineering, who explained current changes and strengthening of undergraduate and post-graduate programs at the school. Dr. Lynch and Dr. Wallo are long-time distinguished and active members of the Phila. Section.

ASCE Student Chapter President (January - December, 1980) **David Seder** thanked the Phila. Section for the honors accorded it, and he introduced other officers and Chapter members in attendance. Mr. Seder synopsized the ambitious technical discussion programs, field trips, educational, social and athletic events of the year. He also paid warm tribute to Dr. Mathers - who is retiring as Faculty Advisor of the Student Chapter - for his understanding and competence during his long tenure.

Honors to Mathers and Malarkey

Phila. Section President **Joseph R. Synchron** presented Dr. Mathers and **William M. Malarkey**, Villanova Student Chapter Contact Member 1979 - 1980,

(continued on page 4)

ASCE DUES BILL AND TECHNICAL GROUP DETAILS

Section members will notice in the 1980 dues bill received recently from National ASCE Headquarters, that the PHILADELPHIA (SECTION) DUES is itemized as \$11.00. This amount includes a \$1 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:

Technical Group Liaison

Dr. Bernard M. McNamee

(Section Vice Pres.)

Dept. of Civil Engineering
Drexel University
Phila., PA 19104
(215) 895-2369

Construction Group

Frederic Plotnick, Chairman

806 Hillton Lane
Elkins Park, PA 19117
(215) 782-1246

Geotechnical Group

Dr. Ziyad I. Husami, Chairman

Stone & Webster Engineering Corp.
P.O. Box 5200
Cherry Hill, NJ 08034
(609) 482-3889

Hydraulics and Sanitary Group

Clyde Younkin, Chairman

Greeley and Hanson
1818 Market Street
Phila., PA 19103
(215) 563-3460

Structural Group

Dr. S. Tauquir Zaidi, Chairman

Bechtel Power Corp.
P.O. Box A
Sanatoga, PA 19464
(215) 327-1200, Ext. 284

Transportation and Urban Development Group

Willard R. Whitbred, Jr., Chairman

c/o George Beetle Consulting
Engineers
1518 Walnut Street
Phila., PA 19102
(215) 546-7442

DECEMBER MEETING

(continued from page 3)

Certificates of Appreciation from the Phila. Section, for their outstanding liaison work with the Section on behalf of the Chapter.

Mr. Muller and the Second Giant Step

As Mr. Zollman underscored the Walnut Lane Bridge as the first giant step in the precast, prestressed concrete industry - so did our principal speaker, Jean Muller, articulate the second giant step: segmental construction.

Mr. Muller, an associate of the late Eugene Freyssinet - the great French designer acknowledged as the grandfather of prestressed concrete - is a recognized international expert in the design and construction of segmental bridges. He holds a Master's Degree in Engineering (1947) from L'Ecole Centrale des Arts et Manufactures, Paris, France. In an inspired recitation, profusely illustrated with beautiful color slides, Mr. Muller shared with his audience his 34 years of involvement in the development of prestressed concrete structures throughout the world. He almost magically transfused the excitement and sense of accomplishment in which he was personally involved: the design of the first segmental bridge with match-marking joints as early as 1952 in New York; the many bridges throughout Europe and the Continent, including his preeminence as designer of 19 out of 20 precast concrete segmental bridges over the Seine River last year; many bridges throughout the United States, South America and Australia.

The Elements of Segmental

Mr. Muller described the early birth of the 20 to 300-ton segment members, fabrication procedure, assembly and post tensioning of the precast concrete elements which are functions of the segmental technique. He illustrated the multitude of architectural styles, structural characteristics, types and shapes of multiple spans (up to 1,000 feet spans), lengths of 10 miles and more, and adaptation of the process to almost uncanny horizontal curve requirements.

A Parade of Accomplishments

Of prominent interest were the problems and solutions involved in the 37

bridges connecting the Florida Keys to each other and the mainland, creating a bridge system which was constructed in record time and at a lower cost than conventional systems. One of the more remarkable aspects was that the finishing system used on the precast segments was of such high quality, and the matching system of segment to segment so precise, that the precast finish surface was approved by the State of Florida as the permanent roadway surface.

Another challenging problem which described by Mr. Muller was the building of highway bridges through areas where no access to the piers was possible on the ground. In the North Carolina National Park, erection of foundations, piers, and the entire bridge was performed from the completed portion of the bridge - a true bootstrap operation - and one which guaranteed that the environmental impact of the constructive process would be negligible. The difficulties of prefabrication of the segments were also discussed. As the highway bridge was curved to follow the natural contour of the park below, many segments were prefabricated with a hyperbolic plane as their roadway surface.

Mr. Muller concluded with spectacular slides of arch-supported and cable-stayed bridges which utilized precast segmental construction. None of the audience could argue with Engineering News Records prediction, in 1953, that Jean Muller would be one of the young engineers who would make a lasting mark upon, and contribution to, the art and profession of engineering and construction.

All the world loves a bridge builder. The Phila. Section, ASCE is indeed fortunate and appreciative of Jean Muller's magnificent presentation.

Section President Synchron presented Mr. Muller the Section's Certificate of Appreciation and a copy of the 1976 Bicentennial ASCE Annual ASCE Convention Commemorative Book published by the Phila. Section: "The History of Civil Engineering and Construction in the Delaware Valley."

ATTENTION - SECTION MEMBERS

If your job location, business or residential address for mailing is changed; or if you move out of the Philadelphia Section area jurisdiction; or if you do not receive Section mailings (THE NEWS, special notices, etc.), please notify Secretary **Albert M. Tantalá**, c/o Tantalá Associates, 4903 Frankford Ave., Phila., PA 19124 — Phone: (215) 289-4600.

Details of The 1981 DANIEL W. MEAD CONTEST for Associate Members will appear in the February, 1981 issue of THE NEWS. If you are interested right now, please call Editor Sidney Robin at (215) 322-7464.