BULK RATE
U. S. POSTAGE
PAID
Permit No. 19542
Los Angeles, Calif.

LARRY
FOR YOUR FILE!
PARDO

HENRY F. PARDO
MANAGER
COST REDUCTION PLANNING

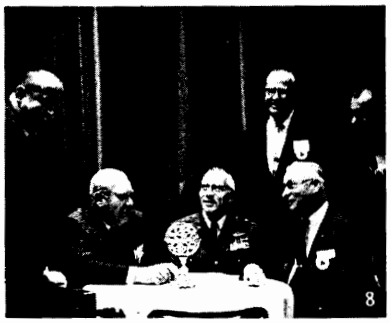
THE Bendix CORPORATION
PACIFIC DIVISION • 11600 SHERMAN WAY
NORTH HOLLYWOOD, CALIFORNIA
765-1010, AREA CODE 213

eturn Requested
06 N. La Cienega Blvd.
os Angeles, Calif. 90069

LOS ANGELES
engineer/scientist
LATSC COUNCIL BULLETIN

OCTOBER, 19
VOL. 5 NO.

Society of American Value Engineers Symposium at WESCON



THE SAVE SYMPOSIUM at WESCON drew top engineers from throughout the Southern California area. As a unified technical production it was described as "one of the most worthwhile" projects undertaken by the Los Angeles chapter of SAVE, according to president Henry Pardo. The photos above are of that symposium. **(1)** Tony Tocco, TRW, holds a tableside conversation with Jack Weber, Hughes; John Flentz, SAVE vice president; Glen Hart, Aerojet; Walt Bayne, Rocketdyne; Ralph Lamm, Bendix, and Leigh Parker, U.S. Navy. **(2)** Pardo presents one of the founders of value engineering, Larry D. Miles, with a plaque of appreciation. **(3)** In this photo Miles is shown with Bendix-Pacific general manager David H. Brown who strongly supported the symposium's goals. **(4)** SAVE past president Glen Hart discusses the value of future projects of this sort with Robert J. Gillespie, VE coordinator at Sylvania. **(5)** Bill Heyne, director of the SAVE booth at WESCON; Emil Reisman, publisher of ENGINEER/SCIENTIST, and Don Larson, manager of WESCON exhibits, hold a pre-show discussion. **(6)** Top military men taking part in the symposium were George E. Fouch, deputy assistant to the secretary of defense; Brig. Gen. Arthur E. Exon and his aide; and Major Gen. Frank C. Gideon. **(7)** TRW men Tocco, Burke Cochran and Ivar Holiday. **(8)** Here Pardo talks to speakers Fouch, Gen. Exon, Morgan Roderick of the Navy, Dick Biedenbender with DoD, and Everett Knickerbocker, ammunition procurement. **(9)** Biedenbender, shown with Tocco, is head of his department's value analysis office.

On The Move

DR. PAUL BLATZ, formerly an associate professor of materials science, California Institute of Technology, recently joined the technical staff of North American Aviation's Science Center. The expert in polymer science and the physical properties of solid propellants, retains a lectureship at CalTech where he teaches two polymer courses.

WILLIAM E. LEONHARD has accepted a senior vice presidency at the Ralph H. Parsons Co., Pasadena. The former Air Force General is also assistant general manager.

RALPH H. PETRI, who was with RCA Service Co. and IBM, has been appointed sales engineer for DynaSales Co., sales representatives in Los Angeles.

MINORU TONAI, former manager of profit planning and analysis with Bunker-Ramo Corp., is currently controller for Informatics, Inc., Sherman Oaks.

MAX M. KLEINBERG, former quality control manager for the Space-Science Division, Vitro Engineering Corp., joined Rantec Corp., Calabassas, as quality assurance manager. He is a senior member of ASQC and belongs to ICCC and ASTME. Rantec Corp. is a division of Emerson Electrict, St. Louis.

NORMAN GAITHER, formerly with the B. F. Goodrich Corporation, has been appointed manager of the Morgan Hill, Calif. plant of Olin Chemical Corp. He joined Olin as an industrial engineer in 1963. The Morgan Hill plant produces pyrotechnic signal flares and clay targets used in trap shooting.

Gaither

M. K. SANDERS, Rocketdyne, has been appointed assistant manager under Dr. C. A. Trilling, manager of Atomics International development and test program.

MIKE SOPKO, Plastic Center, Inc., of Los Angeles, has been named sales engineer of Plastic Center-Norcal, a company plant located at Mt. View, Calif.

F. W. JAMSEN, Rocketdyne, is in training at Columbia Teachers College, New York, preparing for a Peace Corps assignment in Uganda, South Central Africa. Jamsen, a computing engineer with Rocketdyne's Long Range Development Advanced Projects, holds a masters degree in mathmatics and is an ardent mountain climber.

LOS ANGELES
engineer/scientist
LATSC COUNCIL BULLETIN

Published monthly by
Melrose Publishing Co., Inc.
706 North La Cienega Blvd.
Los Angeles, Calif. 90069 • (213) 657-4780

Corresepondence regarding advertising, editorial or subscriptions should be mailed to the above address.

Emil Reisman . . . EDITOR & PUBLISHER
Michael C. Kotlan . . . STAFF EDITOR
John R. Berthune (ASTME) . . . LATSC REP.
James O. Sullivan . . . ART DIRECTOR
Ruth Reisman . . . CIRCULATION MANAGER
Maggie Morris . . . ADVERTISING SALES
Jo Capehart . . . CLASSIFIED ADVERTISING

CLOSING DATES: Editorial Deadline is 10th day of the month preceding month of issue. Advertising forms close the 5th of the month preceding month of issue.

SUBSCRIPTIONS: Students and Society Chapters $1.00 per year per member.

CHANGE OF ADRESS: To change address, send old mailing label together with new address. Allow 30 days for change to become effective.

© 1966 *BY MELROSE PUBLISHING CO., INC. ALL RIGHTS RESERVED. REPRODUCTION IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION IS PROHIBITED.*

Consultants

and professional services directory

RAYMOND D. FINKLE. Ph.D.
consultant in
RADIATION SAFETY
broad experience — resume on request
(213) VE 7-5535
2800 McConnell Dr. Los Angeles 90064

J. W. MORRIS & ASSOCIATES
Consultants in Engineering & Management
7038 Shoshone Ave., Van Nuys, Calif. 91406
Tel: (213) 342-3676 or 657-5440

PHILIP S. WESSELS
Registered EE
Consulting Electronics Engineer
Systems • Solid State • Feedback
• Statistical Design •
425 Charmingdale Road
Diamond Bar, California 91766
(714) 595-3015

SPEC TECH PUBLICATIONS, INC.
Quality Control Consulting
Preparation of Manuals
Military, Federal, NASA specifications and standards
Automatic updating service
Library service
8170 Beverly Blvd., Los Angeles 90048
(213) 651-1370

ANACHEM LABORATORIES
COMPLETE QUALITY CONTROL FOR METAL FINISHING
Chemical Analysis: Wet — Instrumental
Testing of Protective Coatings
Certification to Military & Vendor Specs.
Phone: 294-1262
1724 W. 58th St. Los Angeles 90062

RANDOM CONTROL
Experimental Design
Optimization
Statistical Analysis
Modern Data Processing
9763 W. Pico Blvd., Los Angeles 90035
(213) 273-8805

CRD
Chemical Research and Development Co.
Technical Group of Chemists and Engineers
5263 4th St., Irwindale, Cal. (213) 962-2015

NATIONAL
CONSULTING REGISTER
the register of known consultants and their specialties
For free registration information, write:
4703 Eagle Rock Blvd.. Los Angeles
254-8661

KLAUS F. GOETZE, L.S.
GEODETIC ENGINEER
ELECTRO-OPTICAL LENGTH MEASUREMENT
GEODETIC & BOUNDARY SURVEYS
PHOTOGRAMMETRY & PROGRAMMING
P.O. Box 1911 Glendale, California
(213) 244-6365

HARRY G. ROMIG, Ph.D., P.E.
Systems & Industrial Engineering
Reliability & Quality Assurance
Configuration Management
351 Alma Real Dr., Pacific Palisades, Calif. 90272
Telephone: (213) 454-9933

BUSCHE ASSOCIATES
Electro-Mechanical
Film Handling
Fluidics
Displays/Terminals
Graphic Communications
Information Retrieval
18728 Prairie St., Northridge, Calif. 91324
(213) 349-5399

C. L. Carter, Jr. & Associates
Management & Personnel Consultants
Specializing in
Quality Assurance, Quality Control, Training, Value Analysis & Manufacturing Management
Commercial - Military - NASA
Nationwide Search & Placement of Engineering & Management Personnel
435 Braniff Bldg., Dallas, Texas 75235
AC (214) FLeetwood 2-8019

QUALITY CONTROL ENGINEERS, INC.
Consulting—Training—Modernization
Quality Control, Quality Assurance - Reliability.
Specialists in Vendor Surveys, Source Inspection
Engineers in Key Centers from Coast to Coast
Write for Free Copy of "Servire"
or Phone (213) 877-6860
R. Calvert Haws, Fellow ASQC
10850 Riverside Drive, N. Hollywood, Calif.

MESSINGER CONSULTANTS CO.
COMMUNICATIONS ENGINEERS
Telemetry-Supervisory Control
Data Systems
Radio-Microwave-Wire
2360 Huntington Dr., San Marino, Calif. 91108
(213) 283-4171

President's Message

"Problems and Opportunities"

What is *your* society's most important problem? If yours is typical, technical meeting attendance by present and prospective members is high on the list. Good attendance is not an end in itself. Rather, it shows your society leaders are meeting their responsibility to provide a dynamic technical education program. With advancing technology, such continuing education is essential if we are to avoid be coming "obsolete engineers."

But providing a technical program with *significant value* to members is a difficult art. If you are not among present or ex-program chairman, just ask those who have tried! However, successful programs *can* be rewarding, both to atttendees and leaders. We all realize the satisfaction, perhaps too infrequently, of attending an outstanding technical program. Some of us have proved, by presenting technical papers, that "those who teach, learn the most." While many of us are capable, relatively few have experienced the challenge and reward of leading a successful technical educational program.

What is required for leadership of such a program? Careful analysis shows that the same general approach and skills employed by industry and service organizations apply equally to technical society administration. Table A summarizes five common requirements for success in industrial manufacturing and a providing a significant technical society educational program.

It is no coincidence that industrial executives are eagerly sought to lead our technical societies. The professional advancement of engineers and scientists active in society program planning and administration is also no coincidence. As shown in Table A, top technical managers in industry need the same skills and experience which can be gained from society program planning and administration. Thus, active participation in your society affairs can not only prevent your technical obsolescence but also qualify you for better jobs!

The next time you are approached by your president to become a society (or LATSC!) committee member or officer, THINK! The job may be challenging, but it can be rewarding. When you accept, remember, you benefit only in proportion to your efforts.

Alan O. Abel
President

Dr. Starr Takes Job As UCLA Dean Of Engineering: Flaherty Advances At AI

North American gained Dr. Starr after the war as the director of atomic research. It was under his guidance that Atomics International took shape.

The appointment of the AI president came as a replacement for the late L. M. K. Boelter who was Dean of Engineering at UCLA for 21 years. UCLA Chancellor Franklin D. Murphy pointedly remarked that "by training, by experience, and by performance, Dr. Starr is a unique blend of scholar-administrator."

The appointment ends an intensive search for a successor to the late Dean Boelter who was so much responsible for the growth of UCLA's College of Engineering. At present the school has 2252 students and 347 faculty members.

A member of California's Advisory Council on Atomic Energy Development, National Academy of Engineering, American Nuclear Society; a Fellow of the American Physical Society, ANS and a senior member of the American Institute of Aeronautics and Astronautics; past president of ANS; an affiliate of the American Association for the Advancement of Science, the Society of Nuclear Medicine and Sigma Xi, as well as being chairman of the board of governors of the Scientific Research Society of America and an Eminent Member of Eta Kappa Nu, Dr. Starr has been described by Chancellor Murphy as unique, with interests that "encompass the full range from pure science to applied technology of the most sophisticated sort."

J. J. FLAHERTY

Replacing Dr. Starr at Atomics International will be John J. Flaherty, executive vice president under Dr. Starr since 1961.

Flaherty, who was with the Manhattan District and the subsequently formed Atomic Energy Commission for 14 years, is a native of Michigan and a graduate of the University of Michigan. While working with the Navy he was awarded the Legion of Merit and the Navy Secretary's commendation. In 1957 he received the AEC's outstanding service award.

It is expected that Flaherty will continue to work closely with Dr. Starr, who will retain a vice presidency with North American until January when he will become a consultant for AI.

Dr. Chauncey Starr, the 54-year-old president of Atomics International, North American Aviation, turned the leadership of AI over to executive vice president John J. Flaherty last month in order to become the new Dean of Engineering, UCLA.

Dr. Starr

An 11-year veteran of AI, six years as president and five as general Manager, Dr. Starr said upon acceptance of the position with UCLA that "after 20 years in industry I feel it appropriate that I now give some time to public service."

Born in New Jersey, Dr. Starr received an electrical engineering degree in 1932 and a Ph.D. in physics in 1935 from Rensselaer Polytechnic Institute, Troy, N.Y. For six years Dr. Starr conducted research at Harvard and MIT.

World War II propelled him into the field of nuclear energy, notably the Manhatttan District, then the radiation laboratory at UC Berkeley, the Tennessee Eastman Corp. at Oak Ridge and the Clinton Laboratories, also at Oak Ridge.

Table A
COMMON REQUIREMENTS FOR SUCCESSFUL INDUSTRIAL MANUFACTURERS AND TECHNICAL SOCIETY PROGRAM CHAIRMEN

Area	Manufacturer Functions	Technical Society Program Chairman Functions
State-of-the-art	Determines available technology and current areas of R&D	Determines available technology and current areas of R&D
Market Research	Finds product characteristics of greatest value to potential customers	Finds technical subjects of greatest value to society members
Product Design	Designs product employing available technology which best meets customer needs	Designs technical educational program which best meets society members' needs
Manufacturing Planning	Arranges for facilities, equipment and personnel to manufacture the product	Arranges for facilities, equipment and speakers to present the programs
Sales Promottion	Publicizes the availability, cost and benefits of the product and when and where it may be purchased	Publicizes the availability, post and benefits of the program and when and where it will be held

Los Angeles Technical Societies Council

706 N. La Cienega Blvd., Los Angeles, Calif. 90060 • 657-4780

Roster of Member Societies

PRESIDENT	VICE PRESIDENT	TREASURER	SECRETARY	PAST PRESIDENT
Alan O. Abel (ISA)	E. F. Van Winkle (SAMPE)	Jack W. Pierce (ASCE)	Dr. Paul G. Miller (SCIFT)	T. L. Golmis (SES)
272-7784 (B) 340-4212 (H)	684-1727 (B) 797-9188 (H)	689-2973 (B)	245-6966 (B) 352-4513 (H)	(714) 871-3232, ext. 2167 (B)

President/Chairman	Secretary	LATSC Delegate
AMERICAN ASSOCIATION OF COST ENGINEERS (AACE) — So. Calif. Sec.		
M. L. Hosfelt	H. E. Maguire	A. Z. Thornburg
262-6111 (B)	262-6111 x 1188 (B)	MA 9-2484 (B)
AMERICAN CERAMIC SOCIETY (ACS) — So. Calif. Sec.		
H. L. Hedrick	Don Beard	John Svet
689-2815 (B)	372-2135 (B)	698-5664 (B)
AMERICAN FOUNDRYMEN'S SOCIETY (AFS) — So. Calif. Chapter		
Thomas A. Lloyd	Eli A. Lockard	Harold Simmons
723-3266	624-1806 (B)	DA 3-9500 x 1065 (B)
AMERICAN INSTITUTE OF AERONAUTICS & ASTRONAUTICS (AIAA) — L. A. Section		
D. R. Bartz	Ralph B. Oakley	Robert Roensch
355-4060	923-8111 x 5948 (B)	421 2711 x 3748 (B)
AMERICAN INSTITUTE OF CHEMISTS (AIC)		
Dr. F. G. Sawyer	William E. Duggins	L. D. Freeman
629-2484 (B)	RI 7-6111 (B)	382-8231 x 284
AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS, INC. (AIIE) — L. A. Chapter		
S. T. Wolfberg	R. A. Smooke	Robert L. Hennessy
DU 7-5363 (B)	685-5220 x 413 (B)	689-2886 (B)
AMERICAN INSTITUTE OF MINING, METALLURGICAL & PETROLEUM ENGINEERS (AIME)		
J. Morrow Elias	Cliffton H. Gray, Jr.	Walter M. Pollit
NO 3-3361 (B)	MA 0-3560 (B)	MA 4-9261 x 273 (B)
AMERICAN INSTITUTE OF PLANT ENGINEERS (APIE) — L.A. Chapter		
Ted Soderberg	Leonard Pani	Leonard Pani
321-5000 (B)	321-4111 (B)	321-4111 (B)
AMERICAN POWDER METALLURGY INSTITUTE (APMI) — West Coast Sec.		
George A. Streber	William F. Graden	Donald M. Paullin
245-8803 (B)	589-4777 (B)	321-4595 (B)
AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC) — L.A. Section		
Dean Edgerton	Eric Hoeg	K. J. Presner
883-2400 x 1183 (B)	897-0311 x 3956 (B)	367-2211 x 396 (B)
AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) — So. Calif. District		
Les Louden	Frank R. Galloway	Jack Pierce
481-3211 x 3136 (B)	353-1440 (H)	689-2345 (B)
AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) — L. A. Section		
William J. Carroll	H. T. Holton	Finley B. Laverty
681-5619 (B)	626-4282 (B)	CL 6-7397 (B)
AMERICAN SOCIETY OF TOOL & MANUFACTURING ENGINEERS (ASTME) —Chapter 99		
J. H. Meredith	Walter H. Ott	John R. Bethune
845-7809 (B)	DI 7-0551 (B)	CH 5-5524 (B)
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS (CSPE) — East San Gabriel Valley Chapter		
J. A. Hutchison	Roland Maurer	W. H. Dresser
962-1071 (B)	339-2098 (B)	625-8971 (B)
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS (CSPE) — Downey-Whittier Chapter		
Dean Fuller	Paul Helfrey	John Sidle
DU 4-1281 (B)	696-1608 (H)	PA 1-3342 (H)
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS (CSPE) — Long Beach Chapter		
Henry M. Roberts	Don L. Kinnsch	Lloyd A. Wallis
(714) 827-6987 (H)	GE 1-7505 (H)	LU 7-7752 (B)
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS (CSPE) — Los Angeles		
Robt. W. Hutchinson	Michael Spiegel	R. C. Blankenburg
254-3961 (B)	620-3090 (B)	MA 4-7111 (B)
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS (CSPE) — Pasadena Chapter		
Irving Selden	William P. Markling	A. H. Granneman
334-6211 x 4201 (B)	446-0277 (B)	345-4295 (B)

President/Chairman	Secretary	LATSC Delegate
CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERSS (CSPE) — San Fernando Valley		
Rowen Brooks	Dr. Lester Nypan	D. W. Demetry
872-1630 (B)	349-1200 x 1616 (B)	620-4335 (B
CHEMICAL MARKET RESEARCH ASSOCIATION OF SOUTHERN CALIFORNIA (CMRA) —		
Fred G. Sawyer	William Duggins	Vern D. Freeman
629-2484 (B)	RI 7-6111 (B)	DU 2-8231 (B)
ENGINEERS AND ARCHITECTS INSTITUTE (EAI) — Los Angeles Section		
Robert J. Palen	Winifred Smith	Robert J. Palen
MA 0-3824 (B)	MA 5-8655 (B)	MA 0-3834 (B)
GAS APPLIANCE ENGINEERS SOCIETY (GAES) — West Coast Section		
Milo Dudden	Harold Cole	C. R. Fields
AN 2-8723 (B)	232-4711 (B)	628-1201 (B)
INSTITUTE OF FOOD TECHNOLOGISTS (SCIFT) — So. Calif. Section		
Dr. Wilbur S. Claus	E. L. Meyers	Dr. Paul G. Miller
ST 5-6596 (B)	723-0511 x 331 (B)	CH 5-6986 (B)
INSTITUTE OF MANAGEMENT SCIENCE (IMS) – So. Calif. Chapter		
A. R. Mastor	J. E. Stember	John D. Toellner
OR 0-9151 x 1241 (B)	397-0711 x 3709 (B)	626-9324 (B)
INSTRUMENT SOCIETY OF AMERICA (ISA) — Los Angeles Section		
J. C. Sanchez	Jud E. White	M. L. Whitaker
449-1230 x 2321 (B)	688-2972 (B)	723-6611, x 247 (B)
NATIONAL ASSOCIATION OF CORROSION ENGINEERS (NACE) — Los Angeles Section		
Charles E. Lee	D. R. Reedy	James J. Schneider
689-2987 (B)	(714) 593-4541 (B)	RA 3-4777 (B)
SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS (SESA)—Southwest Chap		
Alex Yorgiadis	J. F. Dolowy, Jr.	Vincent W. Anderson
827-?3635 (H)	781-2121 (B)	349-1200 x 691 (B)
SOCIETY FOR NONDESTRUCTIVE TESTING, INC. (SNT)—Los Angeles Sec.		
L. B. Halley	Robert Shultz	J. W. Morris
685-6001 (B)	923-3278 (B)	657-5440 (B)
SOCIETY FOR AERONAUTICAL WEIGHT ENGINEERS (SAWE) — Los Angeles Section (Chapter)		
Howard A. Nielsen	Mrs. Edna Jacobs	G. R. Scheibel
681-2000 (B)	(714) 772-8111 x 5825	347-5651 x 2234 (B)
SOCIETY OF AEROSPACE MATERIALS & PROCESS ENGINEERS (SAMPE)— Los Angeles Sec.		
Robert A. Dunaetz	R. E. Bailey	A. J. Tuckerman
391-0711 x 6428 (B)		3917-0711 x 6582 (B)
SOCIETY OF AMERICAN MILITARY ENGINEERS (SAME)—Los Angeles Post		
Col. John Dillord	David S. Hatchor	A. Max Jensen
688-5693 (B)	688-5457 (B)	LU 3-1161 (B)
SOCIETY OF AMERICAN VALUE ENGINEERS (SAVE) — Los Angeles Chap.		
Henry Pardo	Leigh Parker	John Flentz
877-2881 (B)	596-5511 x 510 (B)	OR 0-9151 x 3902 (B)
SOCIETY OF APPLIED INDUSTRIAL ENGINEERING (SAIE) — Los Angeles Section		
Maurice Smith	Miss Martha Meis	Robert Norstad
772-4571 (B)	OR 0-9151 x 4136 (B)	UP 0-7111 x 4504 (B)
SOCIETY OF FIRE PROTECTION ENGINEERS (SFPE)—So. Calif.-Ariz. Chap.		
John G. Degenkolb	Vernon M. Larson	Orville C. Sherman
257-1107 (B)	681-2703 (B)	626-0361 x 7 (B)
SOCIETY OF PETROLEUM ENGINEERS OF AIME (SPE of AIME) — Los Angeles Section		
F. R. Wade	J. W. Mintz	John I. Gates
482-7600 x 388 (B)	938-2211 (B)	HU 2-3131 (B)
SOCIETY OF WOMEN ENGINEERS (SWE) —		
Loring Nicholson	Frances LaMar	Maj. Arminta Harness
UP 0-8641 x 7298 (B)	NE 6-0961 x 3265 (B)	643-0010 (B)
STANDARDS ENGINEERS SOCIETY (SES) — Los Angeles Secttion		
Michael A. Reinert	Millie Krueger	T. L. Golmis
639-7970 x 572 (B)	639-7870 x 572	871-3232 x 2167 (B)
STRUCTURAL ENGINEERS ASSN. OF SOUTHERN CALIFORNIA (SEAOSC) —		
David L. Narver, Jr.	Don Wiltse	George Gray
627-4377 x 213 (B)	DU 5-4424 (B)	256-3101 (B)

ADI—A New Field Growing In A World Of Technology

by Miss Ann Walker
Dept. Editor, Research & Technology Div.
System Development Corporation

To be successful, an information system must be user-oriented; that is, it must be carefully planned and skillfully designed to meet the needs of all its potential users. The greater the variety in users' knowledge and experience, and the more various the uses to which they will put the information, the greater the requirement on planners and designers to construct a system that satisfies all of its user's information needs.

Miss Walker

The 24th Annual Meeting of the American Documentation Institute (ADI), which will be held in Santa Monica October 3-7, has been planned and designed to satisfy the information needs of an audience in which many disciplines and many levels of knowledge are represented.

Theme of the 1966 meeting, "Progress in Information Science and Technology," reflects the giant steps being taken in the field; it also reflects the innovations that have been made in the design of the meeting itself, which will meet the varying wants and expectations of ADI meeting attendees. It offers something for just about everybody — the inexperienced and the expert, the engineer and the librarian, the hardware specialist and the linguist.

The conference will encourage active participation. The individual papers that have been selected will be delivered to small groups to permit audiences to engage in lively, informal discussion with the authors.

Attendees without extensive experience in the field have an opportunity to learn in a series of tutorial sessions; here, instructors are to introduce some of the areas to be covered, describe current problems in those areas, and indicate ways in which the problems are being solved.

A major part of the program will focus on twelve chapters in ADI's new series, the *"Annual Review of Information Science and Technology,"* a collection of comprehensive reviews of the literature in major areas of the field. For each chapter, a Progress Review Panel will be conducted in which the chapter is discussed by the author and a panel of persons who offer complementary points of view. These sessions will provide stimulating appraisals of progress in the major areas of information science, and will be a way of bringing attendees up to date on recent advances.

Some elements of this "information system" — the 1966 ADI conference — are experimental, but the designers of the conference claim that it will be highly informative, enjoyable, and responsive to the needs of its users.

Union-Employer Continuum

Sponored by the Industrial and Production Engineering Division, ASME, the University of Southern California plans a "Union-Management Relations Continuum" Oct. 19.

The session is to be chaired by John P. Carlson, management professor M. M. Mautner will develop the continuum utilizing practical methods.

Thomas Roth

Thomas W. Roth, a member of the Illumination Engineers Society since 1907, passed away recently. The one-time president and Fellow Emeritus of IES was 81 years old. During his 59 years with the society Mr. Roth, who lived in Pasadena, became a well known pillar of the Society.

The Pipeline

by Jud Morris

My favorite story has to do with the circus which found itself suddenly and unexpectedly in need of a lion tamer.

With little hope of success, the manager placed an ad in the "Help Wanted" column of the local newspaper. To his astonishment, there were not one, but *two* applicants at his office the following morning: a gorgeous red-headed gal and a athletic-looking young fellow. Thinking that it would be the stroke of luck of the season if it were to turn out that the attractive chick could actually handle lions (but admitting to himself that such an event would simply be too good to be true), the manager directed the two applicants to dressing rooms with instructions to meet him at the lion cage as soon as they were ready. Sure enough, a few minutes later when they arrived at the arena, his hopes fell. The young man was classically arrayed in a royal blue uniform liberally sprinkled with brass buttons and gold braid. In his hands, he carried the usual whip, pistol, and chair. The red-head, however, was clad simply in a nondescript trench coat and carried no equipment whatsoever.

Resigned to the fact that his dreams of a spectacularly beautiful, young female lion tamer were nothing more than wishful thinking, he instructed the girl to demonstrate her ability with the snarling beasts.

Without a word, she stepped into the cage where the vicious brutes were prowling back and forth, their tails lashing and their lips drawn back menacingly. The first (and most ferocious) lion was less than a yard from the girl when, unbuttoning her trench coat, she allowed it to slide sinuously from her shoulders and stood revealed nude in the center of the cage! As if by magic, the wild beasts dropped to their bellies and, rolling about like a litter of household kitttens, crawled up to the girl and licked her feet affectionately.

"Boy!" said the circus manager triumphantly turning to the second applicant, "Do you think you can top *that!*"

"You bet I can!" answered the young man eagerly, "Just get those stupid lions out of the cage!"

THE MORAL: If you've been doing a thing in a certain manner for a long while, It's usually worthwhile to consider an entirely new approach.

THE END

SPECIALIZED TECHNICAL READING PROGRAMS
Guaranteed minimum 100% improvement or 1000 words per minute.
DAN/RO SYSTEM of Rapid Reading
Tel: (213) OL 5-4770

MASS SPECTROMETRY
- Qualitative-Quantitative Analysis
- Compound Identification
- Molecular Weight Determination
- Gas Analysis

WEST COAST TECHNICAL SERVICE
1049 South San Gabriel Blvd.
San Gabriel / (213) 287-2657

Longinotti's
SAN FRANCISCO
Restaurant
Complete Dinners
$3.50 to $4.95
Men's Luncheon
The Nob Hill Room
WILSHIRE at 9th
SANTA MONICA
UP-0-1934
DINER'S CLUB · CARTE BLANCHE · AMERICAN EXPRESS

General Exon Lays Guidelines For New DCASR Value Engineering Incentives

Key speaker at the SAVE-WESCON symposium in August was Brig. Gen Arthur E. Exon, director, Defense Contract Administration Services Region, Los Angeles.

Gen. Exon's address, which was one of the clearest summaries of current DCASR policies made in recent months, contained two major points of immediate interest to prime and sub contractors and the engineering people associated with them: the value engineering incentive clauses and relationship of DCASR to the contractor.

Under the value engineering incentive clause, to be contained in most Department of Defense contracts in excess of $100,000 and by special arrangement in contracts of less than $100,000, the contractor is assured "a percentage share of savings which resulted from his value engineering efforts on the instant contract."

Gen. Exon pointed out that such a clause "may also guarantee the contractor a share of follow-on savings on subsequent procurement of substantially the same item, even though he may not be awarded contracts for the item."

Contracts negotiated with incentive clauses may extend contractor sharing to value engineer savings in operation, maintenance, logistic support and government furnished property, Gen Exon said.

Besides the incentive clause which rewards companies for achieving cost savings, Department of Defense contracts in excess of $1 million specify "the contractor's performance of value engineering a line item of the contract, and requires that he maintain a full-time value engineering effort within his organization, for which he is paid under the terms of the contract."

Subcontractor value engineering programs are also encouraged, and policy permits prime contractors to count subcontractors share of value engineering savings as part of the cost.

Obviously the incentive program will cause a closer relationship to exist between the contractor and originating agency – in most cases, DCASR. Full time value engineers have been assigned to DCASR offices who will:

1.) **Promote overall DCAS efforts.**
2.) **Promote the value engineering program—which includes conferences, seminars and meetings with government and contractor personnel.**
3.) **Cooperate with the Department of Defense Value Engineering Services Office.**
4.) **Maintain coordination with Army, Navy, Air Force , DSA and NASA offices.**
5.) **Undertake special studies, projects or assigned tasks.**

Obviously the value engineer in the DCASR office will also be primarily involved in evaluating any possible cost reduction which might produce a reward for the contractor under his incentive clause.

"It is totally possible," Gen Exon said, "to reduce the total overall cost even though the unit price of the item is increased." This is part of the value engineer's role – to determine if a savings is actually being made.

Time is of the essence, the general pointed out. "The sooner the life cycle of an item the value engineering effort can be applied, the greater the potential for value engineering savings," he said.

To effect the goals of the incentive program, DCASR will work even closer in the future with contractors and their value engineering personnel. Inquiries about phases of the program are available by contacting DCASR, Los Angeles.

The address is 11099 S. La Cienega Blvd., Los Angeles 90048, or telephone 643-1216.

FREE TECHNICAL BULLETIN
ON HARD ANODIZING
Write on your letterhead or call
universal finishing co.
840 Columbia St., San Diego, Calif.
(714) BElmont 2-7555

KANIGEN®
ELECTROLESS NICKEL IS
CONSISTENT QUALITY
Electroless nickel is a plated alloy consisting of nickel and phosphorus. In the KANIGAN® regenerative and continuous filtration system, a patented process, the phosphorus content is a controlled 8.5 to 9.5%. The various batch methods used by other companies produce phosphorus contents varying from 3% to 14%. The KANIGEN® process assures you of consistent alloy, hardness and corrosion resistance, free of roughness or "gall out".
Approved by All Military Prime Contractors
World's largest Electroless Nickel Plating job shop.
Write for free Bulletin #664
CHEMPLATE CORP.
4355 E. Shiela
Los Angeles 23, Calif.
Phone: ANgelus 8-9265
®GEN. AMER. TRANS. CORP. REG. T.M.

Did you know
Du Pont's new ZINC Brightener
makes parts sparkle
like diamonds?
Try us for diamonds!
AUTOMATION PLATING CORP.
6709 San Fernando Road, Glendale 91201 • 245-4951

Metal Finishing Association members are pledged to improve the business stature of the metal finishing industry by using the most modern management and production methods. For Quality and Reliability contact your nearest association member.
Metal Finishing Association of Southern California, Inc.
8170 Beverly Blvd.,
Los Angeles, Calif. 90048
(213) 651-1575

The Value Line

by Archie M. Schwieso
Senior Value Engineer
Aerojet General Corporation

The SAVE sponsored symposium at WESCON was one of the most significant symposiums to be held on the West Coast this year.

No industry engaged in government and military contracting can afford to disregard the tremendous push being given value enginering by the Department of Defense. The exchange of information at the symposium furnished a common melting pot, of interest to all societies.

This raises the question: Why should members of other technical societies be interested in and belong to SAVE? What benefits will accrue to them as individuals and professional people? What benefits will accrue in their companies?

The answer to these questions lies in the broad goals of the SAVE organization, as expressed in the August issue of ENGINEER/SCIENTIST by SAVE past president Glenn Hart.

Each technical society has its own goals. But in our complex business environment, the one underlying goal, whatever the business, is to make a profit. Without a black ledger book at the end of the year there may not be any business — your company may fail — you may not have a job.

Value engineering is not a fad; it is not a panacea. It does not substitute for experience, ability or planning. It does offer the planner or designer techniques for achieving better values from the start — the best value engineering — as well as providing the techniques and disciplines for "second view" cost reduction.

Value is the ability of an item, process or service to provide reliably a useful function.

SAVE opens its doors to all professional engineers. It is dedicated to reducing cost in every phase of engineering in government and business.

AIIE Hosts Eighth Industrial Seminar

Principal speaker at the Eighth Annual Industrial Engineering Seminar scheduled Oct. 16 at USC's Founder Hall will be Henry G. Edler, an eight year veteran of the President's National Aeronautics and Space Council.

Edler, former president of the National Rocket Corporation, is to speak on "Advance Planning — Priority Requirement of True Cost Effectiveness."

The seminar is divided into: (1.) The Consultant Industrial Engineer, covering new programs being installed in companies around the world, from "Marriage — IE Style" to "ECODE," the sessions will be presented by various consultants:

(2.) The Chief Industrial Engineer, range from topics like "Indirect Cost in a Motion Picture Studio" to "Techniques Used in Measuring Work by Physiological Methods," directed at supervisor and management personnel.

(3.) The Technical Industrial Engineer, provides the technician with information to improve performance from "Contract Maintenance" to "New Usages of the Learning Curve."

Fees: Member AIIE or EJC Societies, $10; non-members, $12.50, and students, $5.

Local AICHE Chapter Honors Past President

Dr. Frederick G. Sawyer, a Pasadena engineering consultant, was recently distinguished as the outstanding engineer of the American Institute of Chemical Engineers, Southern California Section.

Dr. Sawyer, past chairman of AIChE, is currently a member of the National Water Supply and Water Pollution Committee of that society. He is chairman of the Chemical Market Research Association and is a past president of the American Institute of Chemists.

A graduate of Polytechnic Institute of Brooklyn, where he received his Ph.D. in chemical enginering, Dr. Sawyer obliquely expanded his horizons to include the entire discipline of chemical engineering.

Devoted to the philosophy that a "professional" should turn at least part of his own initiative toward increasing the public welfare, the former assistant to the director of Stanford Research Institute is deeply concerned about problems of water pollution and conservation. Dr. Sawyer says the engineer or scientist really becomes a professional when he voluntarily turns his efforts towards the solution of a "community" problem.

As a consultant, Dr. Sawyer specializes in technical public relations, scientific communications, research management and chemical business development.

NACE To Hold Regional Convention October 5-7

Participating in the National Association of Corrosion Engineer's Regional Convention being held in San Francisco Oct. 5-7 are 23 area engineers.

The entire program is to be held at the Jack Tar Hotel. A special Ladies Program includes a bus tour of San Francisco with stops at the Japanese Tea Garden and Ghiradelli Square; Luncheon and a fashion show at the Normandie International Restaurant; and a tour of Chinatown.

SOCIETY OF AMERICAN VALUE ENGINEERS
Membership Director,
Los Angeles Chapter
SOCIETY OF AMERICAN VALUE ENGINEERS
706 N. La Cienega Blvd.,
Los Angeles, Ca. 90069
Phone: 657-4780
Please send me information about membership in the Los Angeles Chapter of the Society of American Value Engineers.
Name (please print)
Address
City Zip Code
Phone No. Extension

MICROPLATE
Dense Chromium Process
Thin Coatings for Maximum
Wear and Corrosion Resistance
Important Engineering Design
Aid on Precision Metal Components
Send for Free Engineering Manual
MICROPLATE COMPANY, INC.
1013 W. Hillcrest Blvd.
Inglewood, Calif. 90301
(213) 678-5478

AEROSPACE
ELECTRONIC
ENCLOSURES
Complete In-Plant Operation
Certified Spot Welding
Metal Fabrication Paint and Bake
Engrave and Silk Screen
Aluminum Dip Braze Structures
UNIT ENGINEERING CO.
443 EAST ALONDRA BLVD.
Gardena, Calif. • 321-9111

Conference To Cure Disparity Between New Information Production And Use

According to Dr. George Martin, program chairman for a Metal Industry Research-Production Coupling Problem Conference scheduled at the International Hotel Oct. 5-7 by the American Institute of Mining, Metallurgical and Petroleum Engineers, one of the overwhelming problems in the metals industry is the output of valuable new information.

Jointly backed by NASA, Department of the Army, Air Force Materials Laboratory and the Department of the Navy, the symposium is designed to draw attention to the problem, map its extent and consider solutions, Dr. Martin said.

Possible approaches to solving the problem of translating this raw material into useable technology could include making research scientists more aware of application problems; upgrading the scientific awareness of production personnel; or generating a new breed of engineer-scientist whose specific job is to interpret the findings of research for production personnel.

Some 20 speakers will address the subject from four different points of view: Education, Federal Agencies, Industry and Case Histories. Session chairmen are: M. E. Tanenbaum, Director of Research for Western Electric; R. J. Thomson, Director of Materials Science, Advanced Research Projects Agency; M. A. Steinberg, Deputy Chief Scientist, Lockheed Aircraft Corporation; J. J. Harwood, Manager of the Metallurgy Department, Ford Motor Company; and G. V. Bennetts, Chief of Materials and Ceramics Research, Douglas MSSD.

Registration for the meeting is $25 and will include a copy of the Proceedings Volume. For further information about the symposium, contact Program Chairman, Dr. George Martin, 4125 Murietta Avenue, Sherman Oaks.

Metals Structure Featured

American Society of Metals plans a two-day seminar on "Atomic and Electronic Structure of Metals" Oct. 29-30. To be held in Chicago the seminar precedes the National Metal Congress and Exposition sponsored by AIME.

PRECIOUS METAL PLATED WIRE TO ALL MIL SPECS GOLD, SILVER, RHODIUM, ETC.

BURTON RESEARCH LABORATORIES
Division of Burton Silverplating Company
6341 Arizona Circle, Los Angeles, California 90045
Phone 776-4090 • 391-6743

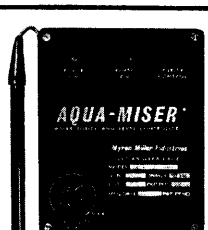
NEW CONTINUOUS PLATING OF PRECIOUS METALS ON RIBBON IMPROVES QUALITY OF PLATED STRIPS, CAN BE SELECTIVE, SAVES UP TO 40% PRECIOUS METAL COSTS!

BURTON RESEARCH LABORATORIES
Division of Burton Silverplating Company
6341 Arizona Circle, Los Angeles, California 90045
Phone 776-4090 • 391-6743

NEW PRECIOUS METAL PLATING PROCESS FOR SEMI-CONDUCTOR UNITS GREATLY REDUCES COST, IMPROVES QUALITY.

BURTON RESEARCH LABORATORIES
Division of Burton Silverplating Company
6341 Arizona Circle, Los Angeles, California 90045
Phone 776-4090 • 391-6743

AQUA* MISER



CONSERVES WATER
CONTROLS PURITY
REGULATES WATER

AQUA-MISER—How It Works. The Aqua-Miser senses the amount of contamination of the water in the rinse tank caused by the introduction of metal, or alkali salts, acids or caustics. When an excessive contamination level is reached, the Aqua-miser causes a solenoid valve to open and fresh water flows in. As soon as the impurities are flushed out, the Aqua-miser turns off the water. Aqua-miser will also sense a dropping water level and regulate it correctly.

The desired purity level of water can be pre-set by adjusting a dial.

*Patent Pending

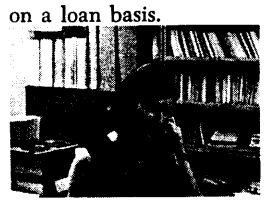
MYRON MILLER INDUSTRIES

8170 Beverly Blvd., Los Angeles 90048 • (213) 651-1372

MILITARY SPECIFICATION LIBRARY SERVICE

Need a specification for immediate reference?

Over 27,000 Military and Federal Specifications, Standards, and related documents are available on a loan basis.



If you want to retain the specification for permanent reference, you can obtain your own copy by reproducing from our library copy . . . or, by purchasing the document. Telephone our Spec Tech Girl for immediate service.

MILITARY SPECIFICATION UPDATING SERVICE

Ideal for small and medium sized companies. You provide us with a list of the documents you want controlled—we will immediately update (if required)—and, on an annual contract basis automatically keep your library current at all times.

OTHER SPEC TECH SERVICES

MIL-SPEC Wall Charts
SAMP-L-MATIC
Literature Searches
Translations
The Engineers Plating Manual
Quality Control Posters
Quality Control Manuals

SPEC TECH PUBLICATIONS, INC.

8170 Beverly Blvd
Los Angeles, Calif. 90048
(213) 651-1370

Los Angeles Business & Finance

TUESDAY MORNING, JULY 6, 1965

Go-Ahead on Supersonic: It Could Spell Airframe Boom

Lockheed has said it would build an entirely new facility at Palmdale to build a supersonic transport. This hardly could fail to kick off a boom in that area.

Time is running out!

The Los Angeles Regional Planning Commission described the Antelope Valley as the "one remaining reserve of flat developeable land in Southern California."

Should Lockheed begin to build its new SST facility, Antelope Valley land prices will soar and stories of the men who became rich in the process will add a new chapter to the book of Southern California real estate millionaires.

What do you think the value of the L.A. County land near a new Lockheed SST Palmdale facility will be in 2 years from today, or 5 years, or 10 years from now? Think about what happened in the San Fernando Valley. Is Los Angeles County land going to go down in value? Or will it skyrocket to new heights?

We have investment land in Los Angeles County. It lies in the rich and promising Antelope Valley. Today you can still begin to participate in a sound land investment program, right in the path of progress, for as little as $500.00. Don't just take our word for it. As a sensible investor with a sharp eye on future land values, you want to get the cold, hard facts! We offer you these facts absolutely free and with no obligation of any kind on your part! Simply fill out the coupon and return it to us. We will rush you by return mail a Fact Sheet giving full details and impartial expert views on the growth potential of Antelope Valley.

CALAVAL INVESTMENT CORP. CR 3-2330
9777 Wilshire Blvd., Beverly Hills, Calif.

Please send me your Antelope Valley Fact Sheet.

Name_____

Address_____

City_____ Zip Code_____

Bus. Phone_____ Res. Phone_____

Calendar

To see that your society's meeting announcements appear regularly in this column send full details to: Calendar Editor, ENGINEER/SCIENTIST, 706 N. La Cienega Blvd., Los Angeles, Calif. 90069. October meeting announcements must be received by Sept. 10.

OCT. 4 **AMERICAN SOCIETY FOR QUALITY CONTROL, ORANGE EMPIRE SECTION**
Place: Jolly Roger Inn, 640 W. Katella, Anaheim.
Time: Clinic 6:30 p.m. — Dinner 7:30 p.m. — Program 8 p.m.
Topic: "Are Your Military Specs Up-To-Date?" by Earl K. Yost, Defense Supply Agency Headquarters, Alexandria, Va.
Reservations: D. R. Bowles — 776-1221, ext. 345.

OCT. 5 **POWER, PIPELINE AND HYDRAULIC DIVISIONS, AMERICAN SOCIETY OF CIVIL ENGINEERS**
Place: Chalon Mart, 1933 S. Broadway, Los Angeles.
Time: Social 5:30 p.m. — Dinner 6:30 p.m. — Program 7:30 p.m.
Topic: "Castaic Power Project — California Water Aqueduct, West Branch," by a panel composed of William E. Warne, director, Department of Water Resources; Samuel B. Nelson, general manager, Los Angeles Department of Water and Power; Alfred R. Golze, chief engineer, Department of Water Resources, and James R. Sakamoto, Department of Water and Power.
Reservations: Jim Anthony — 481-5356.

OCT. 5 **INSTRUMENT SOCIETY OF AMERICA, ORANGE COUNTY**
Place: Fullerton Elks Club, 1451 Brea Ave., Fullerton.
Time: Social 6 p.m. — Dinner 7 p.m.
Topic: Plant tour of the Owens Illinois Glass Manufacturing Facility, City of Industry.
Reservations: Phyllis Nelson — (213) 685-6304 or Gloria Humphreys — (714) 371-4848, ext. 346.

OCT. 5 **AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, SAN FERNANDO VALLEY CHAPTER 99**
Place: Hody's Restaurant, Lankershim Blvd. and Oxnard St., North Hollywood.
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Current Trends in Our Industrial Development," by J. L. Gescheider, assistant vice president, Industrial Investment Service, Bank of America.

OCT. 6 **PRODUCTION RESEARCH GROUP, SPE OF AIME**
Place: Mill Restaurant, 4201 W. Commonwealth Ave., Fullerton.
Time: Social 6 p.m. — Dinner 6:30 p.m. — Program 8 p.m.
Topic: "Effect of Pressure Drawdown on the Cleanup of Clay of Silt-blocked Sandstone," by Holand F. Krueger.
Reservations: None required.

OCT. 10 **SOCIETY FOR NON-DESTRUCTIVE TESTING, LOS ANGELES SECTION**
Place: Chalon Mart Restaurant, 1933 S. Broadway, Los Angeles.
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Comparison of U.S. and European Ultrasonic Weld Inspections," by Henry Rompas, Rompas and Associates.
Reservations: Robert Shultz — 773-3828 or 923-3278.

OCT. 10 **SOCIETY OF AMERICAN MATERIALS AND PROCESS ENGINEERS, SAN FERNANDO VALLEY CHAPTER**
Place: Pucci's, 16065 Ventura Blvd., Encino.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Management Development," by W. F. Young, Douglas Aircraft.
Reservations: Milton Buck — 222-0201.

OCT. 11 **LONG BEACH PETROLEUM FORUM, AIME**
Place: Long Beach Petroleum Club, 3636 Linden Ave., Long Beach.
Time: Luncheon at noon.
Topic: "Oil and the Asphalt Jungle," by Arthur O. Spaulding, petroleum administrator of the City of Los Angeles, will include history and accelerated drilling activities in urban areas.
Reservations: Kay Conklin — 775-3469 or 437-0041.

OCT. 11 **INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, JOINT MEETING**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Topic: "Computer Time-Sharing, A New Engineering Tool," by Lacy E. Johnson, Jr., General Electric Co., which will be presented at a joint meeting of the Metropolitan Section, the Industries and General Applications Group, and the Power Group.
Reservations: Mrs. Doris Guston — 625-7381, ext. 307.

OCT. 11 **SOCIETY OF AMERICAN MILITARY ENGINEERS, LOS ANGELES POST**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 11:45 a.m. — Lunch 12:15 p.m.
Topic: "California Water Plan," by William E. Warne, director, Department of Water Resources. Discussion of the general plan adopted by the State Legislature in 1959 as the California Water Plan.
Reservations: Margo Robinson — 688-5334.

OCT. 12 **SOCIETY OF AMERICAN VALUE ENGINEERS, LOS ANGELES**
Place: Les Freres Taix Restaurant, 1911 Sunset Blvd., Los Angeles.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Value Engineering as Applied to Military Packaging and Preservation," by Frank Virgin, American Urethane Corp.; Walter Wolf, Therma Plastics Inc., and Douglas Stuhr, NAVAN Products, Inc.
Reservations: M. Gonick — 765-1010, ext. 391.

Calendar

OCT. 12 **CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS, DOWNEY-WHITTIER CHAPTER**
Place: Shangri-La Restaurant, 9604 E. Whittier Blvd., Pico-Rivera.
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Civil Defense and the Alaskan Earthquake," by Cmdr. Charles Bates, Area E. Civil Defense Post. A film will also be shown.
Reservations: Gerald Weisburg — 861-6088.

OCT. 12 **INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, ORANGE COUNTY**
Place: Orange County Medical Association, 300 S. Flower St., Orange.
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Engineers and Rabbits — Biomedical Research in Fertility," by Dr. Jessamine Hillard, research anatomist, UCLA. IEEE Ladies Auxiliary will be hostess. Wives of members are especially invited.
Reservations: Miss Puckett — (714) 534-4441, ext. 63.

OCT. 12 **INSTRUMENT SOCIETY OF AMERICA—LOS ANGELES SECTION**
Place: Greater Los Angeles Press Club, 600 N. Vermont Ave.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Development of Process Automation — practical process instrumentation requirements from viewpoints of operation, design and suppliers in industry and aerospace programs." Panel discussion by H. Joseph, Gene Pribble Co.; E. P. Edwards, C. F. Braun Co.; Gene Pettler, Pace-Wianko Div. of Whittaker Controls; R. A. Robinson, Prod. Mgr., Advanced Instruments, ITT Controls and Instrument Div.; Moderator.

Dinner: $4.25 (Students and Educators $1.00)
Reservations: W. D. Wilson — 682-3327.

OCT. 12 **AMERICAN CERAMIC SOCIETY, SOUTHERN CALIFORNIA SECTION**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Educational Meeting — For High School Counselors," by Dr. Richard M. Fulrath, UC at Berkeley.
Reservations: Bill Payne — 391-0711, ext. 2588.

OCT. 13 **AMERICAN ASSOCIATION OF COST ENGINEERS, SOUTHERN CALIFORNIA CHAPTER**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "United We Stand — Divided We Fall," by D. S. Tappin, vice president of Fluor Corp., Ltd. Talk concerns interdependence of management decision making and estimating-cost engineering. Reservations: Betty Haigler — 262-6111.

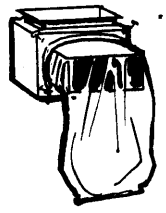
NEW

CLEAN, CLEAN AIR

. . . for nuclear facilities

. . . for bacterial laboratories

. . . wherever toxic dusts are handled



Now you can have high efficiency air filtration plus **safe filter changing.** 1000 cfm per Caisson, combine for facilities of any size. No facility shut-down for service in multi-installations. Meets AEC requirements. Uses standard Farr HEPA filters. Couples to present or new system. Easy to operate . . . no protective clothing required. Investigate the new

SGN CAISSON®

Mfg. in U.S.A.

Southern California Distributor:

DUST CONTROL INC.

P.O. Box 2440 • Gardena, California
Phone: 321-9614 (Area Code 213)

MIL SPECS and ST'DS

Single copies or complete service!

- MIL-SPEC UPDATING SERVICE
- MS and AN REVISION SERVICE
- SELECTION SERVICE
- SPEC-BULLETIN, weekly

World-wide updating service for current "instant accuracy"

213-782-1010 (LOCAL) PHONES DAY or NITE 213-873-5566 (LOS ANGELES)

Phone, write or wire for literature

DECO Document Engineering Co., Inc.
13912 Saticoy St., Van Nuys, Calif. 91402

YOUR COMPLETE SOURCE FOR ALL NON DESTRUCTIVE TESTING SUPPLIES & EQUIPMENT

UNIFLUX

Rugged, low maintenance magnetic particle equipment. The ultimate cost saving magnetic system.

TRACER-TECH®

PENETRANT MATERIALS

The newest concepts in liquid penerant testing equipment.

FEDREX X-RAY EQUIPMENT

Dark Room, Exposure Cabinets and Accessories noted for compact, rugged, lightweight construction.

For information call:

Uresco

124124S. Benedict Ave., Downey, Calif.
Phone: (213) 773-3828

New Technical Books

MICROELECTRONIC DESIGN by Howard Bierman. Directed at broadening a design engineer's interdisciplinary base of knowledge to prepare him for a technology of micro- and, possibly, pico-electronics. The book offers 90 authoritative articles on different aspects of design. Theory, design guidelines, circuit conversion from conventional to microelectronics, as well as subjects like packaging and cost reduction are covered.
Hayden **$11.50**

HANDBOOK OF DIFFERENTIAL THERMAL ANALYSIS by Smothers and Chiang. Revised edition of Differential Thermal Analysis Theory and Practice by the same authors. New developments — equipment, methods, instructions — in DTA are presented in detail with comprehensive bibliography and list of suppliers.
Chemical **$17.50**

AEROSPACE STRUCTURAL METALS HANDBOOK (Vol. I & II) by Weiss. Detailed information on chemical, physical and mechanical properties of 138 metals and alloys for aerospace structural applications with general discussions of alloys: properties, fabrication, heating and heat treating terms, fracture toughness and cross index. Revisions available.
Syracuse **Vol I $14.00**
Vol. II $17.50

ENGINEERS' HANDBOOK sponsored by the National Association of Relay Manufacturers. Operating principals, properties, performance characteristics, application requirements, specifications and testing of relays for engineers, management and technicians. The appendix contains engineering information for the incorporation of relays into circuits and systems.
Hayden **$11.95**

Books for Science & Industry
Technical - Engineering
Dictionaries - Mechanics - Aeronautics - Electronic
Mathematics - Physics - Chemistry
California Book Supply
215 E Regent, Inglewood 678-3320

Calendar

OCT. 13 **CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS**
Place: Department of Water and Power, 111 N. Hope St., Los Angeles.
Time: Social and Building Tour 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: Joint Meeting of area chapters. Wives, families and guests have been invited to attend and a non-technical, exotic travel movie has been scheduled.
Reservations: 254-3961.

OCT 13 **CHEMICAL MARKET RESEARCH ASSOCIATION OF SOUTHERN CALIFORNIA**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Luncheon at noon.
Topic: "The Cost of Transporting Ores and Raw Material in World Markets," by Phillip J. Maddox, engineering and management consultant.
Reservations: H. R. Sherburne — 685-7970.

OCT. 14 **SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS, JOINT MEETING OF SOUTHERN AND NORTHERN CALIFORNIA CHAPTERS**
Place: Santa Barbara Biltmore Hotel, Santa Barbara.
Time: Oct. 14-15.
Topic: Four major papers are to be presented.
Reservations: Vernon E. Shelton, P.O. Box 856, Manhattan Beach 90266 — (213) 670-1515.

OCT. 14 **AMERICAN FOUNDRYMEN'S SOCIETY, SOUTHERN CALIFORNIA CHAPTER**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 6:30 p.m. — Dinner 7:15 p.m. — Program 8:00 p.m.
Topic: "Well Base — No Bake Cores," by Edward Koglin.
Reservations Pete Demtkowski — 583-6761.

OCT 14 **AMERICAN CHEMICAL SOCIETY, SOUTHERN CALIFORNIA SECTION**
Place: Stuart Co., 3360 E. Footbill Blvd., Pasadena.
Time: Social 6:30 p.m. — Dinner 8:30 p.m.
Topic: Annual Ladies' Night and Wine-Tasting Party. No Formal program.
Reservations: 469-7278.

OCT. 17 **INSTITUTE OF ENVIRONMENTAL SCIENCES, LOS ANGELES, ORANGE COUNTY AND SAN FERNANDO VALLEY CHAPTERS**
Place: TRW Systems, 1 Space Park, Redondo Beach.
Time: Dinner 6:30 p.m. — Program 7:30 p.m.
Topic: "Space Vehicle Testing," by George Harter, TRW.
Reservations: Melanie Schneider — 679-8711, ext. 63649.

OCT. 18 **AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, SOUTHERN CALIFORNIA SECTION**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 5:30 p.m. — Dinner 6:30 p.m. — Program 7:30 p.m.
Topic: "Instrumentation," by A. M. Whistler and Herbert Simon, The Flour Corp., and R. F. Barber, The Foxboro Co. The three will discuss instrumentation in plant operation, process design and control systems design, then answer questions from the floor.
Reservations: 282-7438.

OCT. 19 **AMERICAN SOCIETY OF LUBRICATING ENGINEERS, LOS ANGELES SECTION**
Place: Sir Michael's Restaurant, 6309 E. Washington Blvd., Los Angeles.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Spectrographic Analysis of Lubricating Oils," by Edward Forgeron.
Reservations: E. L. Scofield, Jr. — 482-0722, ext. 429.

OCT. 19 **INSTITUTE OF FOOD TECHNOLOGISTS, SOUTHERN CALIFORNIA SECTION**
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Clinic 5 p.m. — Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: Suppliers' Night
Reservations: E. L. Meyers — 723-0511.

OCT. 22 **SOCIETY OF AEROSPACE MATERIAL AND PROCESS ENGINEERS, LOS ANGELES CHAPTER**
Place: Petroleum Club of Long Beach, 3636 Linden Ave., Long Beach.
Time: Social 7 p.m. — Dinner 8 p.m.
Topic: The Annual Halloween Dinner Dance. Costumes are optional.
Reservations: Joyce Tockar — 391-0711, ext. 3462 or Diane — 670-9151, ext. 2760.

Systems Engineering

Comprehensive evening program leading to the degree of Master of Science, with options in

SYSTEMS MANAGEMENT **SYSTEMS ANALYSIS**

Next New Classes: Monday, October 24, 1966

For full information, phone 382-1372, ext. 15, or write to

West Coast University

3006 W. 7th Street • Los Angeles 90005

Approved for Veterans

One of the largest ferrous and non-ferrous forging producers in the West and producer of industrial fittings and valves has openings for

METALLURGICAL LAB TECHNICIANS

Minimum 1 year college with interest in attaining degree in metallurgy. Previous experience desired, but not required.

COMBUSTION ENGINEERS

Requires degree and minimum 2 years experience.

These are permanent positions with attractive salaries, benefits and retirement.

Ladish-Pacific Div.

LADISH CO.

3321 E. Slauson, Los Angeles 90058

583-4681

THE CALIFORNIA INVESTOR

By STANLEY J. WEISS

President, Intercontinental Properties.

The uncertainty of the stock market in recent weeks has resulted in a new investment trend.

People, who for years invested only in stocks, are now diverting a portion of their investment portfolio into undeveloped acreage. They are taking advantage of the present "Buyers Market" and are also hedging their investments.

Stocks are, as we have been experiencing recently, subject not only to meteoric climbs, but also to meteoric falls. Land, however, rises at a slow, steady pace and is not affected by day to day events such as war news, strikes, health of the President, etc.

The growing complexity of Land Investment today demands the technical advice of experts who can cope with the manifold problems encountered in acquisition and subsequent resale. In my opinion, a person who is engaged in his daily profession is unable to take upon himself the immense task of investigating the investment potential and problems of any given area.

Land Consultants, such as Intercontinental Properties, spend hundreds of man hours and large sums of money on research of properties for the benefit of their clients. If you are seriously considering switching part of your ininvestment portfolio to land, then we recommend you consult with experts and avoid the pitfalls you can create by being a *Do It Yourselfer.*

WE RECOMEND

20 ACRES at $800 per acre, close in to fast growing city that experts predict will be a major city of the future. 25% down – interest only for 2 years.

ip INTERCONTINENTAL PROPERTIES

9021 Melrose Avenue
Los Angeles 69, Calif.
Phone: TR 8-3344

ADVANCE / SY JONES
Engineering
Management Consultants

AEROSPACE ENG./SCIENTISTS: If you are considering a change of positions, let ADVANCE present you. Whatever your discipline, we've got you covered.
Phone: 344-5066 or 345-0514
Resumes: 7219 Canby Ave., Reseda, Calif.

ASCE Plans Oct. 12 Water Conference

An all day water seminar, beginning with a noon officers board meeting at Rodger Young Auditorium is scheduled Oct. 12 by the American Society of Civil Engineers, Los Angeles Section.

Under the general title "Resources Management and Environmental Engineering," the seminar will open at 2:30 p.m. with an address by Willi am J. Carroll, president of the Los Angeles Chapter of ASCE.

Seminar chairman Paul Hennessy, of James M. Montgomery, Inc., will outline the seminar for guests and then introduce keynote speaker, Dr. Jack E. McKee, of CalTech, who will speak on "The Water Equation in the Urban Environment – An Overall View."

Other speakers will be Robert A. Skinner, general manager of the Metropolitan Water District, on "Progression in Water Resources Development;" Dr. Melville C. Branch, president of the Los Angelees City Planning Commission, on "Megopolis – Southern California, A Challenge to Civil Engineering," and one other afternoon speaker to be announced.

After a question and answer period, open to written questions from the floor, a general meeting is scheduled with Frank C. Di Luzio, assistant secretary of the interior for water pollution control, on "The Regional Approach to Resources Planning."

Although water has been a long term problem with civil engineers, the October seminar was prompted by increased pressure squeezing American water resources. An estimated $10 billion a year is being spent on water pollution control and water supply projects.

THIS MONTH'S BEST LAND INVESTMENTS

SD-0222 205 Acres east of San Diego, rolling hills. Water district — last of the low-priced land. Can be sold in smaller parcels. $1000 per acre. 15 years terms.

AV-0221 60 Acres west of Lancaster. Flat land wih excellent valley view. Terms to suit. $500 per acre.

SS-0187 40 Acres Cucamonga area, close to planned race track and Lytton Savings property. Foothill Freeway and Devore Cutoff. Freeway very close. $4000 per acre.

ip **Intercontinental Properties**
9021 Melrose Ave.,
Los Angeles 69, Calif.
TR 8-3344
E/S—10/66

☐ Please send me information about listing #_____ above.
☐ I am interested in other acreage. Please phone for appointment.
☐ I would like you to sell my property.

NAME
PHONE
ADDRESS
CITY & STATE ZIP

"Profits through Service to both Buyer and Seller"

APICS To Present A Two Day Management Seminar

Management science, utilizing the latest techniques in the application of computer technology, production control and inventory management theory, will be presented at the Statler-Hilton Hotel Oct. 12-13 by the American Production and Inventory Control Society.

Taking part as one of the speakers Oct. 13 will be J. W. Morris, ENGINEER/SCIENTIST columnist. He will speak on "Professionalism."

★ ★ ★

ENGINEERS

CIVIL
DESIGNER—$8,352 to $10,387

ELECTRICAL
ASSOCIATE—$10,387 to $12,932
DESIGNER—$8,352 to $10,387

Fine personal growth opportunities with 2nd largest school system in the U. S. Sustained annual growth rate of 5%! For duties, requirements, other information and applications. Call —

KENDALL ELLINGWOOD—747-6342

grow with LOS ANGELES CITY SCHOOLS

3rd Annual Tour Program for LATSC Members and Families

Not charters—all tours depart from and return to Los Angeles. All prices are based on 2 persons sharing a twin-bed room.

Hawaii 15 Days—5 Islands $395 plus tax
MEXICO 10 Days—$239 14 Days— $329

LATSC Tour Chairman, care of
ROUND THE WORLD TOURIST
334 N. Fairfax Ave., Los Angeles 90036 WE 7-1650

SWE Elects Morgan National President

Miss Alice Morgan, a member of the Los Angeles Section of the Society of Women Engineers, was recently installed as national president of SWE at the annual convention in Phoenix, Arizona.

Miss Morgan

Currently a design engineer on the Saturn Apollo Project for Douglas Aircraft, Miss Morgan can claim a successfully varied background in electronics engineering. Among her professional accomplishments, Miss Morgan can count being the first woman engineer hired by Bendix Corporation – they put her in charge of an all-male radio control unit design group; founder of a successful electronics company and design engineer on thePolaris Missile with Lockheed.

One of her most active duties with SWE has been the recruitment of talented young women to study engineering in college. Last year the Los Angeles chapter chartered a junior chapter at USC.

Calendar

OCT 26 AMERICAN POWDER METALLURGY INSTITUTE, SOUTHERN CALIFORNIA SECTION
Place: Rodger Young Auditorium, 936 W. Washington Blvd., Los Angeles.
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "Surface Phenomena in Powder Metallurgy," by Dr. George Y. Onada,
Reservations W. F. Graden Co. — (213) 581-7104.

OCT. 26 AMERICAN INSTITUTE OF PLANT ENGINEERS, LOS ANGELES CHAPTER 17
Place: Fortune Room, 15500 S. Western Ave., Gardena.
Time: Dinner 6 p.m. — Program 7 p.m.
Topic: "Creative Thinking and How To Apply It," by J. B. Flentz, manager of value engineering at North American and vice president of the Los Angeles chapter of SAVE.
Reservations: Leonard Pani — 321-4111.

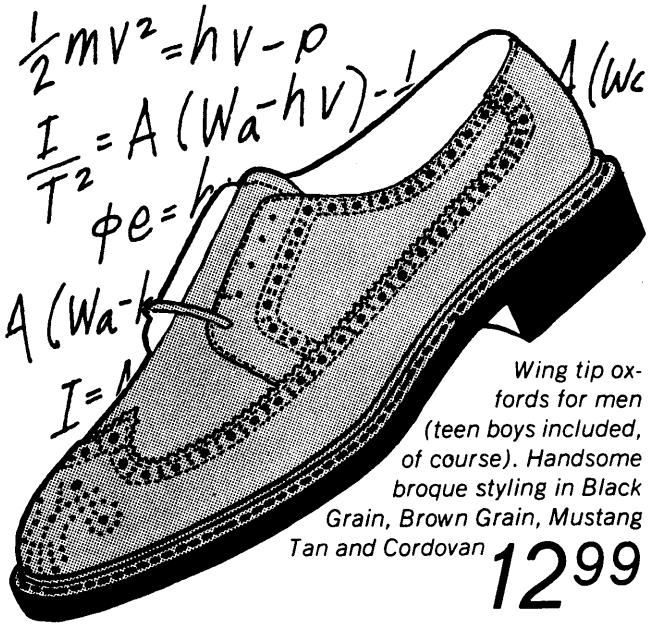
OCT. 26 MAGNETICS GROUP, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
Place: Edison Auditorium, 601 W. 5th St., Los Angeles.
Time: Program 7 p.m.
Topic: "Magnetic CORE STACK Design Considerations," by Andrew Nizynski, Lockheed Electronics Co.
Reservations: Sam Zwass — 394-3571, ext. 279.

OCT. 26 AMERICAN SOCIETY OF CIVIL ENGINEERS, LOS ANGELES SECTION
Place: Furniture Mart, 1933 S. Broadway, Los Angeles.
Time: Social 5:30 p.m. — Dinner 6:30 p.m. — Program 7:30 p.m.
Topic: "The Next 50 Years in Space," by Theodore J. Gordon, director of Advanced Space and Planetary Systems, Douglas Aircraft, Inc.
Reservations: Albert Bush's secretary — 272-8911, ext. 7127.

OCT. 27 AMERICAN INSTITUTE OF CHEMISTS, WESTERN CHAPTER
Place: Los Angeles Athletic Club, 431 W. 7th St., Los Angeles.
Time: Social 6 p.m. — Dinner 7 p.m.
Topic: Testimonial Dinner in honor of Truman F. Bewley.
Reservations: H. Fairchild — 723-9711, ext. 28.

OCT. 27 THE INSTITUTE OF MANAGEMENT SCIENCES, SOUTHERN CALIFORNIA CHAPTER
Place: Meeting location had not been set by time of publication.
Call Maurice Monley — 393-9411, ext. 6746 — for information.
Time: Social 6 p.m. — Dinner 7 p.m. — Program 8 p.m.
Topic: "The Success Story of Management Science at Matson Navigation Company," by Foster Weldon, vice president.
Reservations: M. Monley — 393-9411, ext. 6746.

Technically speaking



Wing tip oxfords for men (teen boys included, of course). Handsome broque styling in Black Grain, Brown Grain, Mustang Tan and Cordovan 12.99

GALLENKAMP

SHOES FOR THE ENTIRE FAMILY

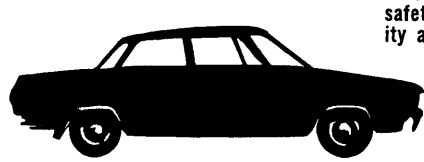
holiday motors

1967 ROVER 2000TC SPORTS SEDAN

THE ROVER 2000 "WORLD'S SAFEST CAR"

says Road Test Magazine (which accepts no advertising)

"...In fact, the unanimous consensus of the magazine's staff is that the 1966 Rover 2000 is an outstanding example of automobile design and construction emphasizing safety, economy, roadability and esthetic appeal."



The World's Most Modern Car

Winner—"Road Test Magazine's" Safety & Engineering Award (1966). "Car and Driver" magazine says..."Absolutely the best Sedan that has ever been presented in the pages of this magazine"...."Should be reserved for people of taste, breeding, and documented automotive enthusiasm."

SAFETY ■ BEAUTY ■ LUXURY

Come in and test-drive this sensational car today!

Priced from $3998.00

■ VISIT OUR AWARD-WINNING SERVICE DEPT.
■ TAX FREE OVERSEAS DELIVERY

5015 VAN NUYS BLVD., SHERMAN OAKS
2 blks. north of Ventura Fwy. 789-0585

Classified

TO PLACE AN AD by phone call (213) 657-4780. By mail send your ad to classified Dept., ENGINEER/SCIENTIST, 706 No. La Cienega Blvd., Los Angeles 90069. Open rate: $28.00 per col. inch. Minimum ad size: ½-inch. Box No. add $1.00. Contract rates on request.
TO REPLY TO AN AD address Box ....., ENGINEER/SCIENTIST, 706 N. La Cienega Blvd., Los Angeles 90069.

SERVICES

Prestige Offices For Rent

New modern four-story office building located on the Van Nuys Airport. Less than one mile from the San Diego Freeway at the corner of Sherman Way and Hayenhurst.

Large or small suites available — long term lease not required.

The "Fly-in Concept" is the fastest trend in American business.

The Hathaway Building

989-2670

STRESS ANALYSIS
"Stresscoat" Strain Gage Photostress
Static and Dynamic
Metallurgical Consulting
Mechanical Tests Chemical Analyses
METALLURGICAL SERVICE LABORATORIES
11008 S. Norwalk Blvd.
Santa Fe Springs, Calif. (213) 723-8541

SOLUTIONS TO INSTRUMENTATION PROBLEMS

Send for FREE Product Reference Manual. Pressure Transducers and Thermocouple Reference Junctions

PACE *engineering company*

13035 Saticoy Street
North Hollywood, California
TRiangle 7-0727

RESUMES WRITTEN & PRINTED WHILE YOU WAIT!

Exact prices quoted by phone — or your resumes typed and printed.

WILSHIRE RESUME 388-4395

ELNETIC (WEMA)
ELECTRONICS, INC.

Serving the electronic industry with transformers designed specifically for its products.

ULTRA SHIELDED • POWER • AUDIO
MINIATURE • SUBMINIATURE
• COMMERCIAL • MILITARY • CHOKES
2100 ZENO PLACE • VENICE, CALIF
392-3047

Writing • Expert Typing
Offset Printing
valley resume service
14200 VENTURA BLVD SUITE 104
SHERMAN OAKS, CALIF.
MILLARD RICE 784-9673
Owner/Writer

SERVICES

RESUME

Writing, IBM Typing & Offset Printing
L.A. **MA 8-6378** • Wilshire **DU 3-1695**
Pasadena **795-1178** Covina **966-4344**
Long Beach **423-6474** Phoenix **254-3462**
Van Nuys **ST 4-1596**
Inglewood **677-1900** Anaheim **635-1940**
San Francisco **474-4646**
Oakland **451-4418** • Seattle **MA 2-8733**
PROFESSIONAL RESUME SERVICE

RADIATION SAFETY

Evaluations of Safety Programs
Assistance in Isotope Applications
Tracer Uses Safety Training
Raymond D. Finkle, Ph.D.
2800 McConnell Dr. (213) VE 7-5535
Los Angeles 90064

Non-Destructive Testing Systems
oriented towards solving your individual problems.
MAGNAFLUX CORPORATION
6800 E. Washington Blvd.
L.A. 90022 — Tel.: (213) 685-6001
Manufacturer of Ultrasonic, Eddycurrent, Magnetic Particle and Penetrant Testing Equipment and Materials.

POSITIONS OFFERED

CIVIL ENGINEER—Ridgecrest, Calif. (pop. 7,221) Sal. open. Calif. C.E. regis., str. constr. eng. & supv., & sewer eng. & supv. exper. required. Apply City Administrator, 201 Panamint Ave., Ridgecrest 93555.

CIVIL ENGINEERING ASST.
$711 - $864

Bachelor's degree in Civil Engineering, or two years experience plus two years college plus EIT certificate. Salary bonus of 2½% for EIT. 5% for Calif. Registered Engr's License.

Write: Personnel Dept. City of West Covina, 1444 W. Garvey for application or call ED 8-1191.

SALES ENGINEER

Gardena based manufacturer of gaging and telemetering instruments related to the petro-chem industry requires Sales Engineer with electrical engineering background for West Coast area. Contact Personnel Dept.

Phone 770-1500

JUNIOR CIVIL ENGINEER — Ridgecrest, Calif. (pop. 7,221) $615-748. B.S. in Civil Eng. Apply City Administrator, 201 Panamint Ave., Ridgecrest 93555.

POSITIONS OFFERED

MARQUARDT

Has immediate openings for Engineers with minimum B.S. Degree and at least 3 years experience in the following areas:

GAS DYNAMICS . . . experimental and analytical investigations with inlet aerodynamics, internal air-breathing engine flow, and exhaust nozzle kinetics.

ALL FLUID CONTROLS . . . research on all fluid control and measurement devices for chemical and nuclear power systems. Requires knowledge of control theory.

MISSION ANALYSIS . . . mission analysis of aircraft and missiles utilizing a knowledge of trajectory analysis, aerodynamics, thermodynamics, structures, and engine/vehicle integration.

STRUCTURAL DESIGN . . . structural design of high temperature composite structures for high Mach airbreathing propulsion systems.

SYSTEM ANALYSIS . . . detailed Scramjet propulsion system and cycle analysis for various vehicle applications. Involves IBM programming.

METALLURGY . . . materials and process development, failure analysis and consulting for project support of ramjet and rocket programs.

MATERIALS . . . evaluation and development of composite structures. Must be able to see application potentials to new concepts.

INSTRUMENTATION . . . develop instrumentation systems and components, including analysis, research, and design, for application to propulsion test programs.

ROCKET DESIGN . . . design, layout and detailing of small rocket engines and components.

velopment of hypersonic inlets, roc and analytical heat transfer for development of hypersonic inlets, rocket nozzles and cryogenic heat exchanges.

Call Professional Personnel
781-2121, ext. 1726
or direct resume to Dept. 135
The Marquardt Corp.
16555 Saticoy St., Van Nuys
U.S. Citizenship Required
An Equal Opportunity Employer
Male or Female

CIVIL ENGINEERING ASST.

The city of Los Angeles needs Civil Engineers. Starting salary: $735 per mo. Requires degree from recognized 4-yr. school of engineering. Excellent Civil Service employee benefits.

Apply Civil Service Dept., Room 100A Los Angeles City Hall Phone 624-5211. ext. 2442

POSITIONS OFFERED

CHEMICAL AND MECHANICAL ENGINEERS

Openings are available in process, operating, and maintenance departments at major oil refinery locations for Chemical and Mechanical Engineers with up to eight year's experience. These challenging opportunities ultimately lead to diversified engineering technical staff, or management careers. Minimum qualification is B.S. degree in Engineering. Submit resume to:

V. W. Fredrickson
Mgr. Employment Services
UNION OIL COMPANY OF CALIFORNIA
P.O. Box 7600
Los Angeles, Calif. 90054
(An Equal Opportunity Employer)

ENGINEER

To head Structural Department.
Minimum 5 years experience building design.
California license required.
DAVIDSON & MAURER
3518 Cahuenga Blvd. West,
L.A. 90028 — 466-5381

Civil, Electrical, Mechanical, Structural Engineers and draftsmen. Excellent opportunities with well established public organization engaged in $1-Billion aqueduct system expansion. Top benefits and retirement.

Apply Personnel Office, **The Metropolitan Water District of Southern Calif., P.O. Box 54153, Los Angeles 90054.**

M.E. PREFERRED. Special machinery manufacturer, now small but rapidly growing in fiber glass field, needs a capable designer. Must be able to handle many diverse problems related to product design, manufacturing, sales, etc. on a high quality level. Real opportunity for the right man. Age, about 35 with good experience record, or younger if especially promising. Salary open. Sun Valley area. **Phone 875-1388.**

CIVIL ENGINEERS

Junior Engineer salary to $786 —Asst. to $909, depending on qualifications. Unnecessary to come to San Diego prior to employment. Requires BSCE, related degree, or EIT plus exp. Write Civil Service Dept., City Admin. Bldg., San Diego, Calif. 92101.

An Equal Opportunity Employer

PLANT MANAGER, RUBBER MFG.
Q. C. MGRS. & ENGINEERS
PROJECT. E.E.'s - RADAR
Please contact
J. R. PIERCE ASSOC., INC.
Technical Personnel Consultants
4055 Wilshire, Los Angeles DU 3-1384
521 S. Green, Pasadena MU 1-4237

Transit challenge...for engineers

The Southern California Rapid Transit District has moved into the final phase of preliminary-engineering of the initial segment of Rapid Transit for Los Angeles County.

GOAL: to create, construct and operate the most modern and efficient system of mass public transportation in the world.

Immediate openings exist for professional engineers who can make significant contributions to a progressive and dynamic planning effort. Novel and creative solutions to complex engineering problems will be welcome...and expected. Assignments require a combination of imagination, professional skill and responsible experience. These are unusually attractive, equal-opportunity career positions with a highly promising future.

If any of the following brief qualifications describes your talent and experience, you are invited to telephone or write John Curtis, Southern California Rapid Transit District, 1060 South Broadway, Los Angeles, California 90015, (213) 749-6977, Extensions 427/429.

SENIOR ENGINEER *(Civil)*
Registered professional engineer with qualifying experience in traffic and city planning. Salary range: $13,992–$17,436.

SENIOR ENGINEER *(Electrical)*
Registered professional engineer with qualifying experience in traction power and knowledge of communication and signal systems. Salary range: $13,992–$17,436.

SENIOR ENGINEER *(Mechanical)*
Registered professional engineer with qualifying experience in rail transportation equipment and knowledge of heating, ventilating and air-conditioning systems. Salary range: $13,992–$17,436.

SENIOR ENGINEER *(Right of way)*
Registered professional engineer or additional qualifying experience. Five years' experience in responsible charge of design and maintenance of high-speed rail road-bed and structures. Salary range: $13,992–$17,436.

SENIOR PLANNER – TRANSPORTATION
Masters Degree in Engineering with specialization in transportation or Masters Degree in City Planning. Five years' professional experience including responsible transportation planning work. Salary range: $13,992–$17,436.

STAFF ENGINEER
Registered professional engineer or additional qualifying experience. Bachelors Degree in Engineering or Architecture, with five years' experience in transportation planning, city planning or industrial engineering related to transportation. Salary range: $10,656–$13,272.

This exciting project assures plenty of challenge for your capabilities – plus the opportunity to work with deeply experienced, highly qualified professionals in a project that will help shape California living patterns for generations to come.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
1060 South Broadway, Los Angeles, California 90015
Contact: John Curtis, Director of Planning and Engineering
(213) 749-6977, Extensions 427/429