

Scanfax

POSTMASTER:
SECOND CLASS POSTAGE
paid at Chicago, Illinois

(Publication number)
(ISSN 0018-9227)

SCANFAX, 125 S. CLARK ST., CHICAGO, IL 60603

Official Publication of the Chicago Section • Institute of Electrical & Electronics Engineers • June 1980

CALENDAR OF EVENTS

For reservations call the IEEE office at 236-4609 (unless otherwise indicated)

COPY DEADLINE: FIRST OF THE MONTH

JUNE	10	Monthly Meeting	IEEE Executive Cte.	Brown & Root Offices 2001 Spring Rd. Oak Brook	Meeting 7:30 PM
	11	Product Fair & Technical Presen.	Vehicular Tech. Grp. (Call Sue Hendriksen 255-9800, x 372)	Hewlett Packard 5201 Tollview Rd. Rolling Meadows	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
	18-19	21st Annual Chgo. Spring Conf. on Consumer Electcnics.	IEEE BCCES & Chgo. Sec. IEEE	Arlington Pk. Hilton Euclid Av/Rohlwing Rd Arlington Heights	(Call Conf.Chmn. Wayne Bretl 391-7000, x8386)
JULY	8	Monthly Meeting	IEEE Executive Cte.	Brown & Root Offices 2001 Spring Rd. Oak Brook	Meeting 7:30 PM
AUG.	12	Monthly Meeting	IEEE Executive Cte.	Brown & Root Offices 2001 Spring Rd. Oak Brook	Meeting 7:30 PM



LOOK

FOR

US

IN

SEPTEMBER



HAVE

A

NICE

SUMMER

On Wednesday, June 11, Hewlett Packard will host the meeting of the Vehicular Technology Group with a product fair/technical presentation at their Midwest Regional Headquarters, 5201 Tollview Drive in Rolling Meadows. Various types of test and measurement equipment will be available for "hands on" operation during the evening. The technical presentation will be at 8:00 PM on Logic Development Systems.

Social hour will be at 6:00 PM and dinner at 7:00 PM. A nominal charge of \$4.00 for dinner will be payable at the door. Reservations are required; call Susan Hendriksen, 255-9800, ext. 372 no later than June 3.



The 21st Annual Chicago Spring Conference on Consumer Electronics will be held June 18 and 19 at the Arlington Park Hilton in Arlington Heights. The Conference is sponsored by the IEEE BCCES and the IEEE Chicago Section.

Topics for the 18th are: Automotive Electronics; Signal Processing; TV Tuners/Tuner Control; Teletext; Local Program Sources; and Subscription TV. For the 19th, the topics are: Display; Teletext; Teletext/TV Receivers; Special Radio; and Radio Tuning.

There will be an Award Luncheon on both days and an Industry Cocktail Party on the 18th. For further information, call Conference Chairman, Wayne Bretl at Zenith Radio Corporation, 391-7000, extension 8386.

1980-81 CHICAGO SECTION SOCIETY/GROUP CHAIRMEN

Congratulations to the following new Chicago Section Group/Society Chairmen for the 1980-81 term: Fox Valley Subsection — EDWARD BARRETT, A. M. International; Northwest Subsection — NORMAN PHOENIX, Extel Corporation; Antennas & Propagation/Microwave Theory & Techniques — BURTON LEVIN, Northrop Corporation; Communications — (unknown at press time); Computer — TOM GRIEST, Chicago Laser Systems, Inc.; Electron Devices — CLIFF TORBERT, Honeywell, Inc.; Engineering in Medicine & Biology — (unknown at press time); Industrial Applications Society & Industrial Electronics Control Instrumentation — GEORGE THOMAS, Contemporary Control Systems, Inc.; Power Engineering — KEN ROONEY, Commonwealth Edison Company; Reliability — RAY SCHIRMER, A. B. Dick Company; Vehicular Technology — RICHARD SCHNEDORF, FAA.

DATA DOMAIN

THE TOTAL COMPUTER PEOPLE

Alpha-Microsystems, Apple, and Hewlett-Packard Personal Computers
and Hewlett-Packard Calculators

fully supported by a complete line of accessories and software.

We offer factory-trained service . . . plus the largest selection of
computer-related books, magazines, and software in the midwestern states.

1612 East Algonquin Road, Schaumburg, Illinois 60195 (312) 397-8700

Store Hours: Noon to 9 p.m. Tues. thru Fri.; 11 a.m. to 5 p.m. Sat.; Closed Sun. and Mon.

SCANFAX, (Publication number) (ISSN 0018-9227), June 1980 Volume 32, Number 10, SCANFAX is published monthly, except July and August by the Chicago Section, Institute of Electrical and Electronics Engineers for the information of its members. Business Office is at 125 S. Clark St., Chicago, Illinois 60603, telephone number (312) 236-4609. Subscription rate for IEEE members collected in dues, \$1.50; for others, \$3.00 per year. Second-class postage paid at Chicago, Illinois.

Unless otherwise specified, Chicago Section IEEE neither endorses nor sanctions any positions or actions espoused in SCANFAX.

John Tyner, Editor
Electrical Energy Management
(312) 469-5534

Tom Traub, Managing Editor
Commonwealth Edison Company
(312) 294-2703

Eleanore Burda, Copy Manager
IEEE Office
(312) 236-4609

Change of Address

A change of address form is included in each issue of SPECTRUM. Your local post office will also supply you with cards; mail to Roseann Schulz, Member Services, IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. 08854. Include your SPECTRUM mailing label if possible. We cannot forward this information for you, so please do not send it to the local office.

Professional Activity

UPDATE

FCC ISSUES OPINION "DEREGULATING" TELECOMMUNICATIONS SERVICES

The FCC's final decision in the telecommunications/data processing inquiry was released May 2. It culminates a lengthy inquiry begun in 1966 to address the regulatory and policy problems raised by the interdependence of computer technology, its market applications, and communications common carrier services. The vehicle -- the First Computer Inquiry -- enabled the Commission to identify and open up understanding of problems raised by the confluence of computer and communications technologies taking place at that time.

That Inquiry resulted in a 1971 decision. The lawsuits which followed were resolved in 1973. Three years later, in 1976, the Second Computer Inquiry was begun. "The significant difference now," the opinion states, "is that the evolution of a distributed processing environment makes the issues more complicated and the resulting regulatory uncertainty greater. We believe the time has come to address these matters in a manner which gives clear direction to the marketplace, but without restricting the types of services that may be offered to customers."

The Commission's final decision will, of course, be subjected to court scrutiny.

(Source: Legislative Report Vol. II, No. 5 - 5/2/80)

THE NEW HP-85!
HEWLETT-PACKARD'S PERSONAL COMPUTER FOR PROFESSIONALS

The HP-85 is a powerful BASIC language computer complete with keyboard, CRT display, printer, and tape drive—all in one compact unit.



IN STOCK
Rent—Lease

SALE 15% OFF Hewlett-Packard's Series E Calculators

HP 41C, 38C, 34C, 33C in Stock

FARNSWORTH COMPUTER CENTER
1891 N. FARNSWORTH AVE.
(At the E-W Tollway)
AURORA (312) 851-3888
Weekdays 10 to 8 Saturday 10 to 5

CHRISTIE

High Current DC Power Supplies



Symbolic of time-tested reliability.

- DC current from 40 to 1500 amps
- Voltages to 280 VDC

Write for latest detailed catalog or call toll free for application assistance.

CHRISTIE
ELECTRIC CORP.
20665Q MANHATTAN PLACE
TORRANCE, CALIFORNIA 90501
(213) 320-0808
TWX 910-349-6260
(800) 421-2955

51 YEARS THE SOURCE

EXPLODING THREE MILE ISLAND.

Think back. It hasn't been that long ago.

Pennsylvania looked like it might be blown off the map any minute, turned into a radioactive no-man's-land forever. "Permanently uninhabitable" was the way they said it in the movie, *The China Syndrome*.

That's the trouble. A lot of people said a lot of things. And a lot of it just wasn't true. Not even close.

Take the hydrogen bubble that made all the headlines. Bubble, nothing. The implication was time bomb, ticking away. And that would've frightened anybody who didn't have a degree in chemistry.

The fact is, that bubble couldn't explode. Not by any stretch of the imagination.

To understand why, you have to understand how the hydrogen got there in the first place. And that takes some understanding of how the reactor at Three Mile Island was designed to work.

It's the pressurized-water type, meaning the fuel core was cooled by keeping it submerged in water. H_2O . Hydrogen and oxygen. Heated by the core to more than 550 degrees, well beyond the boiling point.

What kept it from boiling was pressure, approximately 2,000 pounds worth. But on March 28th, last year, a relief valve on the pressurizer stuck open, the pressure dropped, and the water—the H_2O —inside the reactor boiled into steam.

When that happened, the zirconium-alloy tubes housing the fuel underwent a chemical reaction. A kind of accelerated rusting that combined the zirconium from the tubes with oxygen from the water to form zirconium oxide.

That's important, because with all the oxygen used up by the chemical reaction, the only part of the water left was hydrogen. The bubble. And what nobody bothered to tell you at the time was that without oxygen, hydrogen can't explode.

On May 1st, more than a month later, the Nuclear Regulatory Commission admitted the scare was all a mistake. Roger Mattson, Director of its Systems Safety Division, told a congressional committee there "never was any danger of a hydrogen explosion in that bubble."

That never made headlines.

And more than likely, neither will the fact that even if there had been a meltdown, it wouldn't have spelled disaster for Pennsylvania. It couldn't have.

First of all, the fuel core in the reactor vessel was surrounded by a containment building. Not just any building, an immense fortress with an enormously thick

floor. Eleven feet of solid concrete reinforced with steel.

Second, for a molten mass to eat through it, that concrete-and-steel floor couldn't be covered with water. But water is what's used to cool the core. And when the relief valve on the pressurizer stuck open, sending several hundred thousand gallons shooting out, the law of gravity gave it only one place to go.

Down to the floor, right under the reactor vessel. Right in the path a molten mass would take.

That's the fallacy of the meltdown theory. In spite of the overwhelming odds against it, if all systems failed, if the entire core melted, if it got through the foot-thick steel reactor vessel in one piece and dropped to the floor below, it would've been stopped right there. Cooled by an ocean of water inside the containment building, not 20 feet from where the meltdown started.

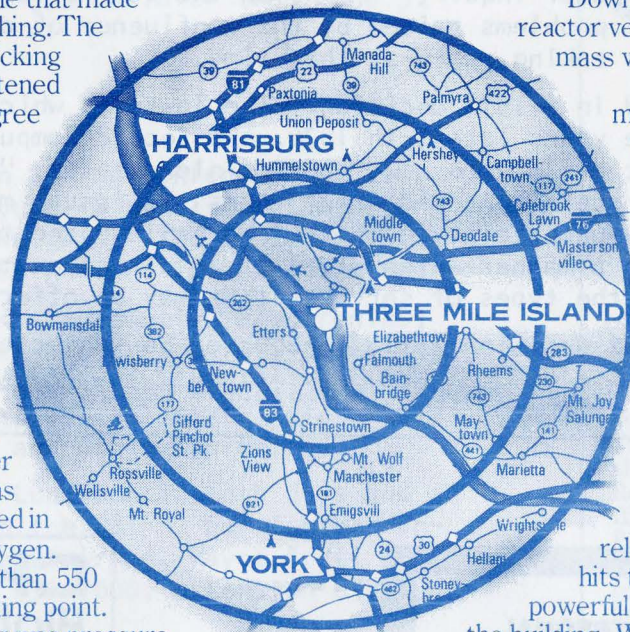
As for any sudden burst of steam pressure that might be released when the molten mass hits the water, it wouldn't be nearly powerful enough to rupture the walls of the building. Walls capable of withstanding almost twice as much force.

In other words, there was no way for significant radioactivity to reach the atmosphere outside.

The point of it all is that Three Mile Island and nuclear power itself deserve a fairer shake. A second look minus the hysteria, the hyperbole, the half-truths, and the untruths. They deserve a close, careful reading of the facts.

True, we've experienced the worst accident in the 22 years America has been using nuclear energy to produce electricity. But it wasn't the apocalypse. No one died. And except for the stress of being scared stiff, no one was injured. Despite the equipment failures and failures in judgment, despite everything that went wrong, the safety systems worked.

What really exploded were myths.



Commonwealth Edison