Gemini 5 Trip Proved Value Of Fuel Cell Power

By JOHN BARBOUR

NEW YORK (AP)—The Gemini 5 spacecraft darted across the summer night like a small excited star—with a hot, 126-year-old idea in its tail.

Probably within the coming decade, that idea will be providing power for more and more of traveling America.

The Gemini 5 power came from fuel cells—flameless, smokeless, noiseless fuel cells.

They produce electricity, with hardly a moving part. And the only exhaust is water.

It is a neat, simple and beautiful idea. But it will be some time—if ever—before fuel cells produce the power for your home. Still it's nice to think about.

The compact package in the basement or the hall closet—not so much as a loud whisper, fueled by gas tanks delivered each month, unaffected by storms or winds.

The fuel cells that powered Gemini 5 weighed less than an astronaut. Yet they did the job of a ton of storage batteries.

The beauty of it is that it uses a natural and highly efficient phenomenon: the oxidation of an element—actually the quiet burning of hydrogen gas. It borrows the electrons freed temporarily in this chemical reaction, uses them as electricity, and returns them to complete the reaction.

The silence, portability, smokelessness and smoglessness of the fuel cells makes them ideal for some uses—as low-weight power for battlefield radar; for trucks that operate on electricity indoors; for isolated, unmanned stations like beacons or buoys.

Perhaps eventually, some fuel cell manufacturers hope, the silent, smogless power may operate America's cars and trucks, for fuel cells are by far more efficient than internal combustion engines.

Ironically the fuel cell is an old idea. The first one was made by Sir William Grove in 1839. By the end of the 19th century it was being widely hailed as the power source that would warm and run American homes within a few years.

It still hasn't happened.

But 20th century know-how and materials are producing efficient fuel cells like the ones on Gemini 5—and manufacturers expect to begin testing their industrial and domestic uses.

The Gemini fuel cells worked most simply of all—by joining hydrogen and oxygen, using the freed electrical energy, and in the end producing water.

It's a contradiction of the old maxim—"neither a borrower, nor a lender be."

The fuel cell does both—and profitably.

It has two stations—call them the borrowing and lending stations. Hydrogen gas enters at the borrowing station where the electrons orbiting the hydrogen atoms are borrowed and put to work, traveling through a wire as electricity. The denuded hydrogen atom, or ion, heads for the lending station where oxygen has been introduced. Hydrogen and oxygen combine readily.

At the lending station, electrons that have already done their electrical work for man are fed back in to complete the chemical reaction—the joining of hydrogen and oxygen to produce water.

In later Gemini flights, the water produced by the fuel cells will be filtered for drinking purposes.

Whatever the future of fuel cells, in a power-hungry world weary of noise and fumes, it looks like a pretty idea.

The Battalion

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United Fund Drive To Open Monday In College Station

The 10-day College Station United Chest campaign will open Monday to raise $20,000 for 17 agencies.

Organizational ranks swelled this week, causing drive leaders to predict the usual successful response to the annual appeal.

"The enthusiastic preparations for the campaign point up dedication and accomplishment," declared Chris H. Groneman, United Chest president. "The community already senses the need for the $1,000 goal increase, up from $19,000."

Clark C. Munroe, campaign director, underlined Groneman's confidence by forecasting a record attendance for the kickoff breakfast at 7 a.m. Monday in the Ramada Inn.

Robert L. Smith Jr., is shaping the campus phase of the drive. Key University officials will anchor the push with department heads responsible for solicitations in their areas.

Dennis Goehring is chairman of the group to contact commercial establishments. Others who will take leading roles off campus include Mrs. Eugenia Godfrey, Taylor Reidel, Barney Welch, John Sandstedt, M. C. Hughes, Ran Boswell, Dr. T. O. Walton Jr., Dick Haddix, Bill Holt, W. B. Moon, Dick Hervey and Bowie Blakeley.

Jack Bradshaw is chairman for the federal agencies solicitations. Jim Lindsey has charge of campaign coverage for the news media.

In addition to Groneman, United Chest officers are Paul B. Crawford, first vice president; W. A. Tarrow, second vice president, and John E. Oliver, treasurer.

The Budget and Admissions Committee which screens requests of participating agencies works under Crawford, chairman. Other members are Mrs. Gus Biering, W. K. Gibbs, Herb Shaffer, R. M. Stevenson and Tarrow.

Horace Schaffer heads the Local Charity Committee with Roble Langston and Mrs. Charles Richardson as members.

Hal Taylor, editor and head of the Agricultural Information Office, replaces Dr. Daniel Pfannstiel on the Board of Directors. Pfannstiel has accepted a visiting professorship at the National Agricultural Extension Center for Advanced Study at the University of Wisconsin.

Other directors include R. H. Davis, Mrs. Charles Richardson, Donald Huss, Charles Wooten, John E. Oliver, Walter Parsons, Groneman, Crawford, Langston, Tarrow, Bradshaw, Munroe and Lindsey.

Ag Station Gets Grants For $15,250

Four research grants totaling $15,250, one of them from the Pennsalt Chemicals Corporation in Bryan, have been made available to the Texas Agricultural Experiment Station.

Dr. R. E. Patterson, station director, said two of the grants come from the Morris Animal Foundation in Denver, Colo. One is $10,000 for studies on infectious anemia in horses, with Dr. R. W. Moore of the Texas A&M College of Veterinary Medicine as project supervisor.

The other Morris grant is $4,000 for research on internal parasites in horses under direction of Dr. R. D. Turk of the veterinary college.

The Pennsalt firm has provided $500 for cotton insect control investigations being conducted by Dr. R. L. Hanna of the A&M Entomology Department.

A $750 grant from Southwestern Humus, Inc., of Hereford is for fertilizer studies on cotton. H. J. Walker of the South Plains Research and Extension Center at Lubbock is supervising the study.

RUDDERS MEET NEW PROF

President and Mrs. Earl Rudder welcome Dr. Richard Bader of the Department of Oceanography to the faculty-staff reception. The reception, held Tuesday night in the Memorial Student Center, was in honor of the new faculty and staff. The Rudders hosted the annual event.

Scientists Urge Appropriation For Predicting Earthquakes

By RAYMOND J. CROWLEY

WASHINGTON (AP) — A $137-million effort to find ways of predicting earthquakes was recommended Tuesday night by a panel of scientists named by the government.

The research drive, extending over 10 years, would aim at saving lives and reducing property damage.

The panel, headed by Frank Press, geophysics professor at Massachusetts Institute of Technology, was convened after the great Good Friday earthquake in Alaska in 1964. This disturbance cost at least 114 lives, and an estimated $300-million damage.

The panel, responding to a request by Donald F. Hornig, director of the U.S. Office of Science and Technology, issued a report saying:

A research program which included the installations of suitable instruments along major geological fault fracture systems in the United States might, in 10 years or so, lead to a method for predicting major earthquakes before they occur. Since the cause of earthquakes is unknown, the search drive would be largely an empirical one, using many methods.

The program calls for "a new generation of instruments" for monitoring earthquake faults in California and Alaska, where quakes have been relatively frequent.

Geological and geophysical surveys and mapping would also be emphasized, along with laboratory studies of rocks under pressure.

The panel recommended strongly that more attention be paid to finding ways of constructing quake-resistant buildings, bridges, dams and so on. At present, there is insufficient knowledge of exactly how the ground behaves in an earthquake, and how structures respond.

In no country in the world, the report said, "is there a really comprehensive, rational, earthquake-resistant design code which can insure a reasonable balance between economics and safety."

Students Take Training Cruse

Seven graduate students and four technicians at Texas A&M are participating in a 10-day training cruise aboard the Alaminos in the Campeche Gulf.

Bela James, a graduate oceanography student, is chief scientist for the cruise in the southwest corner of the Gulf of Mexico near the Yucatan Peninsula.

The group will take concentrated biological samples via large mid-water trawls and dredges. The cruise is scheduled to end October 10 at Galveston.

Johnny Cash Arrested On Smuggling Charge

County, Western Singer Still Set For Town Hall

A grim-faced Johnny Cash, scheduled for a Town Hall appearance here Nov. 24, posted $1,500 bond in El Paso yesterday and was freed after being charged with smuggling and concealing illicit drugs the Associated Press reported Tuesday.

The lanky troubador, one of the kings of country and western music, was arrested Monday night at the El Paso International Airport.

U. S. Customs officers said he had 668 tablets of dexardrine, a stimulant, and 475 tablets of equanil, a tranquilizer, in his possession. Officers said Cash had apparently gotten the drugs in Juarez, Mexico, just across the Rio Grande from El Paso.

His attorney, Woodrow Wilson Bean, former El Paso country judge, said Cash was leaving for his Casitas Springs, Calif., home.

Cash 33, was wearing a gray gabardine suit with a velvet collar and turned up velvet cuffs when he appeared before U. S. Commissioner Colbert Coldwell.

The commissioner said Cash was not to leave the continental United States until further notice, apparently referring to possible grand jury action and a subsequent trial.

Bean said he would be able to have the singer in court in El Paso in 24 hours.

Testimony at an arraignment hearing earlier Tuesday brought out that Cash had checks worth some $12,000 on his person when arrested.

Cash cursed a reporter and threatened to kick a newsman's camera at that session. He also waived a preliminary hearing then.

Tuesday night he had no comment to newsmen.

Mrs. Betsy Fisher, Memorial Student Center public relations director, said late Tuesday that Cash would probably be able to honor his Nov. 24 committment.

The Cash performance is scheduled for Thanksgiving Eve, after the Bonfire preceding the A&M-Texas game.

Fish Drill Team Tryouts Scheduled

Tryouts for the Fish Drill Team are scheduled for 5 p.m. the rest of the week.

All freshman who are interested in trying out for the crack drill outfit are asked to meet in the Duncan Dining Hall area.

Approximately 250 freshmen reported to the first tryout Monday but the count dropped to 150 on Tuesday.

Team officials said that fish who will be trying out will be excused from intramurals.

Last year the Fish Drill Team won top honors at the Louisiana State meet and the Texas A&M Invitational. The team also captured numerous other awards during the year.

Postmaster Reveals Mail Service Tips

College Station Postmaster Ernest Gregg issued Tuesday several suggestions designed at improving local postal service to Texas A&M students.

Gregg said that the most urgently-needed change is the inclusion of Zip Code on all outgoing correspondence so that all incoming mail will soon include the Zip Code.

"The importance of notifying your correspondent of the Zip Code cannot be overemphasized," Gregg said, "because soon it will be a must on your address."

Area Zip Codes are 77840 for all city delivery addresses, 77841 for main office box numbers, 7842 for South Station (Memorial Student Center) boxes and 77-843 for faculty exchange mail.

Gregg also urged students to have persons writing them to use only a name, box address and city name. The addition of Memorial Student Center Station or Texas A&M University can cause a delay in the delivery of mail.

Gregg added that service of misaddressed mail is consuming several man-hours weekly and can be kept to a minimum only with the cooperation of all students.

Students receiving misaddressed mail should report it to postal clerks immediately so that it can be delivered to the proper address at the earliest possible time.

He Should Be Dead

Heart Attack Victim Suffers 11 Stoppages But Survives

LAFAYETTE, La. (AP) — Ursin Mouton, 60, should be dead.

But, Mouton, victim of a severe heart attack, lives and talks from his hospital bed.

His heart stopped at least 11 times during a crucial three-hour period while two skilled doctors fought to keep him alive. The odds against recovery were said to be one in several million.

The fight against death occurred in Lafayette General Hospital Sept. 7, but the news was kept quiet until Tuesday.

The doctors talked freely of the techniques used, but refused to permit the use of their names. One is a surgeon, the other a specialists in internal medicine.

Mouton was taken to the hospital after fainting at work. The surgeon recognized a coronary thrombosis and called in his colleague.

They found Mouton had no pulse, no heart sound, no blood pressure, no respiration. Medically speaking, he was dead.

The surgeon began to massage the patient's chest with his hands, a technique that often works in cardiac arrest cases. This time it didn't.

A tube was quickly inserted into the windpipe to supply oxygen to Mouton's lungs.

The doctors then made a broad incision into the chest where they could see that the heart had stopped. Attempts were made to start the heart by massage, but these also failed.

A defibrillator — an electrical instrument that emits varying amounts of high voltage — was put into use.

"The first attempt at the use of the defibrillator was unsuccessful," one doctor said. "When we applied it a second time, the heart, after massage, contracted for several beats of irregular contractions and then ceased. On the fourth defibrillation and masage, the heart began contracting."

The doctors observed the heart beating through the open chest for a half hour, then closed the incision. The tracheal tube was removed from the windpipe — and the heart stopped again.

"We assumed that it was because of a vagal reflex," one doctor said. "The vagus nerve, which affects the pacing of the heart, had somehow been affected again.

"We had to open again." Cutting through the sutures, they found the heart was not working.

The debrillator was used again the heart began beating.

"I guess God willed the heart to start beating again, I knew of no reason — medical or otherwise — why it should have," one doctor said.

The heart hasn't stopped since. And Tuesday Mouton is reported well on the road to recovery.

TO TRY FOR REPEAT PERFORMANCE

The Brothers Four, who two years ago performed to a record audience, will try to repeat their previous show as they are scheduled for 8 p. m. Friday for a Town Hall show in G. Rollie White Coliseum. Tickets are now on sale at the Student Programs Office at the Memorial Student Center. The Brothers Four will kickoff the first big weekend on campus this semester.