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Hydrogen fuel needs work

by Robert McGlohn

Battalion Staff
The hydrogen production breakthrough that was announced Thursday is important, but it won't change the energy industry overnight, says Dr. John O. Bockris, director of the Texas A&M research team that made the discovery.

Dr. Marek Szklarczyk, 31, of Poland, and Dr. Aliasgar Q. Contractor, 32, of India, developed the process of efficiently and economically extracting hydrogen fuel from water using solar energy.

Research on the process has not been completed, Bockris said. Several years of laboratory and engineering research, at the very least, are needed before construction can begin on the first pilot plant, he said.

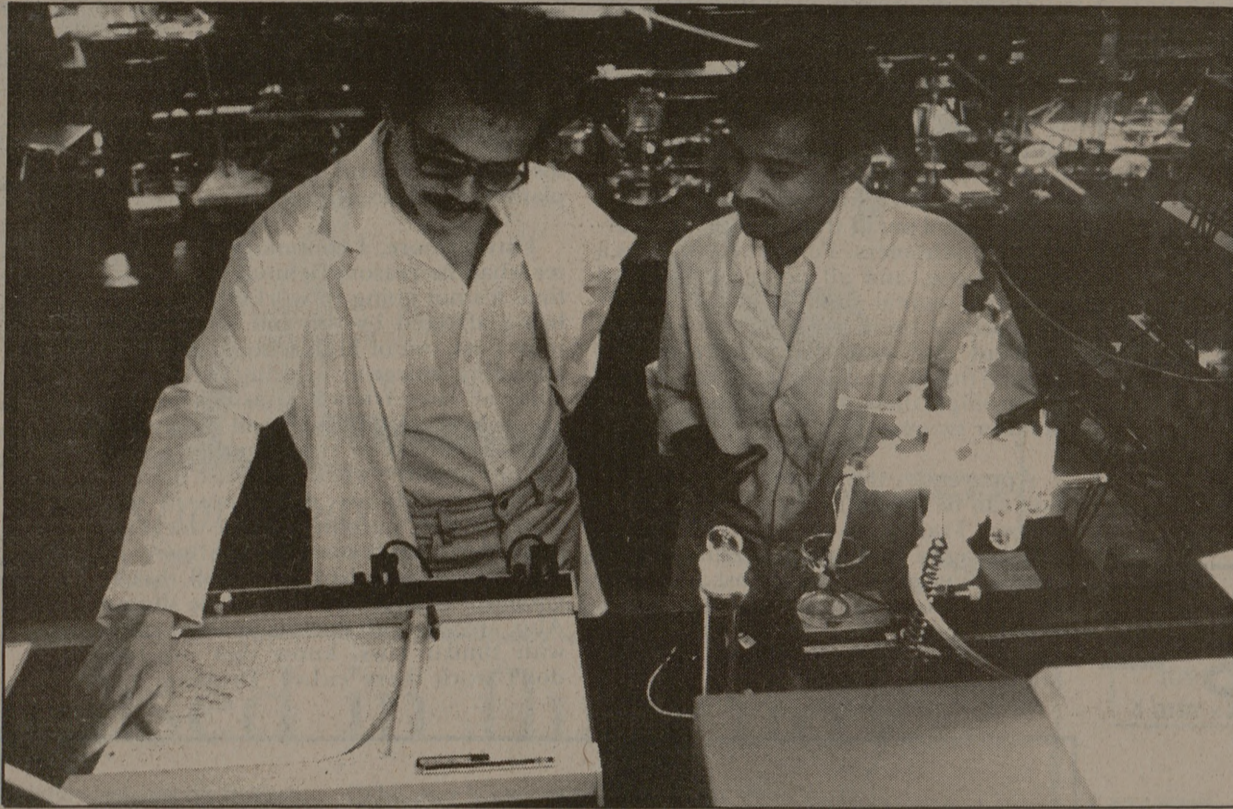
A commercial power plant based on hydrogen fuel will cost between \$3,000 and \$4,000 per kilowatt, he said. Large power plants are typically about 2 million kilowatts in size.

"You have to have a pilot plant before you can get anywhere," he said. "You have to have a commercial group, a company willing to put in the right money and with the right drive to build all sorts of auxiliary things."

"It (commercial development) will take a very long time simply in respect to the capital investment. This isn't particularly for our device but for any new device."

Contractor agreed that funding may be a problem.

"It's basically a problem of changing the attitudes of the policy-makers," he said. "There are a lot of vested interests that stand to gain or lose from this process."



staff photo by Diana Sultenfuss

Dr. Marek Szklarczyk, left, and Dr. A.Q. Contractor examine a recorder that graphs the efficiency of their new hydrogen extraction process.

Bockris said the federal government probably will not help finance the research if industry does not.

"They (the federal government) have a decreasing interest in all alternate energy resources," he said. "Since Mr. Reagan came to power they'll have cut back on every-

thing except nuclear and coal. Their attitude is to develop coal ... and nuclear power. The whole attitude of the Reagan government has been to cut back, cut back, cut back."

Bockris cited scientific and political reasons for this policy. The

nuclear industry is advanced and the United States has abundant coal deposits, he said.

"You can understand this attitude," Bockris said. "I think it's an unwise attitude for the long-term future, but it is understandable."

Szklarczyk and Contractor have been at Texas A&M less than a

year. Both scientists said Bockris, long an advocate of hydrogen fuel, was the primary factor in their decision to come to the University.

Contractor said: "As an electrochemist, it is an obvious thing (to come to Texas A&M). Dr. Bockris is the leading electrochemist in the world. Naturally I wanted to work under him."

Szklarczyk agreed, saying it was correspondence with Bockris that persuaded him to come to Texas A&M.

"He is very helpful," Szklarczyk said. "He planned our work (and) we often discussed our problems with him. His theoretical knowledge is vast. So he is able to help from this point of view, and very often he has very good advice in the practical area, too."

The process the team discovered involves three steps.

First, the sun's energy is absorbed by a solar receptor. In this process, the solar receptor is a silicon cathode.

The energy of the sun then is used to excite an electron from a state of low energy to a state of high energy — where it becomes reactive.

This electron combines with hydrogen ions present in water to produce hydrogen gas.

Bockris was careful to point out that the Texas A&M team is not the first one to separate hydrogen from water. He praised the work of Dr. Adam Heller of Bell Laboratories, who recently achieved a 14 percent efficiency rate using indium phosphide.

"There is no doubt that his work is excellent," Bockris said. "(But he used) indium phosphide, which is see HYDROGEN page 12

Project to aid research

by Hope E. Paasch

Battalion Staff
A proposed Texas A&M research park will give faculty and students the opportunity to gain industrial research experience at Texas A&M University, the chairman of the park development committee says.

Dr. Frank W.R. Hubert said the park will be owned by the University, but research operations primarily will be run by private companies.

Research at the park, which is in the early developmental stages, will support and enhance research at the University, he said.

"Tenants will have operations that find a counterpart in the University," he said. "Types of research will include basic science, engineering, agriculture and both human and animal medicine — anything that would fit in with research at the University."

"It's an interesting project. Over the long term, the park will increase support for research and teaching programs at the University."

While companies at the park will hire professional scientists and engineers, Hubert said, faculty will have frequent opportunities to consult with them.

"There also will be opportunities for University faculty to invite researchers in for lectures on the current state of the art in industry," he said.

"Once the professional staff is in place, the company will probably employ, on a part-time basis, graduate students or maybe even undergraduates to assist with the execution of research activities."

The real-world experience students gain from working at the park will increase their chances of getting a better job after graduation, Hubert said.

A park site has not been found, but the committee will make a site recommendation by January. The site will be between 500 and 600 acres and will be near the campus, he said.

"Once the site is selected and agreed upon, the next step will be to develop a master plan," Hubert said. "A master plan will include where the roads will be, gutters and utilities. It's not an overnight operation. I estimate it will be a minimum of a year to 18 months before the site is ready for occupancy."

Industries that move into the park will lease a lot from the University, pay for construction of facilities and pay a monthly income to the University. At the end of the lease period, the property and any permanent fixtures on it will revert to the University.

Jobless rate may hit 10% today

United Press International
WASHINGTON — Industry and labor economists expect the nation's jobless rate to break the 10 percent level today, placing even greater focus on unemployment in the November congressional elections.

Although President Reagan acknowledges the rate may climb into double figures for the first time since the Great Depression, he says — at most — he should have to shoulder only part of the responsibility.

In talking with GOP candidates at the White House Wednesday, the president pinned the bulk of the blame on policies of past Democratic administrations.

"I know lately there's been a nice game of saying, 'Well, the tack today is

to blame those over the last 20 years that caused these things and we don't take the blame for anything," he said. "No, I want to be fair. Unemployment is 9.8 percent. When we took office it was 7.4 percent. OK, I'll take blame for 2.4 percent of the unemployment."

If it goes to 10 percent, he said, "well, then I'll take blame for 2.6 percent."

For the past two months, the nation's jobless rate has been at a post-World War II high of 9.8 percent.

Throughout the industrial Midwest, unemployment is the main issue in the congressional elections, and a major concern in races in other areas of the nation.

In Peoria, Ill., where Caterpillar

Tractor Co. has laid off 8,000 workers, House GOP Leader Robert Michel faces a serious challenge from Democrat G. Douglas Stephens, a former attorney for the United Auto Workers union.

In Rockford, Ill., which had the nation's highest jobless rate at 18.5 percent in August, Democrat Carl Schwerdtfeger has focused on unemployment in his bid to unseat Republican Rep. Lynn Martin.

Throughout Michigan, the state with the highest unemployment rate — 15.2 percent — Democratic candidates are harping on joblessness as a main campaign issue.

Lay-offs at International Harvester in Indiana is a big focus of the campaign in that state, where four-term

Democrat Rep. Floyd Fithian is trying to unseat Republican Sen. Richard Lugar.

The Lugar campaign points to a poll showing Lugar with a wide lead even among the unemployed, and a spokesman says: "It takes no talent to moan and groan about how bad things are. It takes a lot of talent to fill up that factory."

In Minnesota, unemployment of near 20 percent in Duluth and near 40 percent among miners and steelworkers in the Iron Range has made that the major issue in the race between Sen. Dave Durenberger, R-Minn., and Mark Dayton, the Democratic-Farmer-Labor candidate.

Joe Smargia, president of a United Steelworkers union local at Virginia,

Minn., thinks the wrong election is being held in November.

"The problem is we can't vote on the right guy because Reagan isn't running," he said.

Longshoremen's union official E. L. "Buster" Slaughter of Duluth was blunt in his assessment.

"You hit a worker in the pocket-book and you are asking for trouble," he said.

California Gov. Edmund Brown Jr., who has attacked Reagan's economic program, believes his own Senate campaign has felt the pinch of unemployment when he appeared in cities with singer Kris Kristofferson and comic Andy Kaufman.

Police stumped in Tylenol case

Poison records seven deaths

United Press International
CHICAGO — Police admit they don't know how cyanide got into the ExtraStrength Tylenol capsules that killed seven people, and the head of the 130-member task force says the investigation is "not close" to the killer.

Officials Thursday ruled out any connections between the April death of a Philadelphia graduate student and the Chicago deaths blamed on Tylenol capsules filled with poison.

"We are not close to making an arrest," said Illinois Attorney General Tyrone Fahner, head of the 8-day-old investigation.

Fahner said although no significant developments had been uncovered since Wednesday, he still was

"personally optimistic" about finding the killer.

Among the most recent leads being looked at were telephone calls from "four or five psychics whose information has been duly noted," he said.

More than a dozen other deaths and illnesses in California, Wisconsin, Ohio, Kansas, Tennessee and Texas also have been discussed.

"The evidence indicates there is no connection with our problems and any place else in the country," Fahner said.

Chicago Police Superintendent Richard J. Brzeczek said he was confident the case would be solved, but admitted officials were left with no hard suspects and few promising leads.

"As times pass from the initial event, it becomes more difficult," Brzeczek said.

Authorities narrowed a list of 24 suspects to "eight or nine."

"We're still in the process of trying to understand the scenario of events as to how the cyanide got into those bottles," the superintendent said. "That's what you need to do to tie it in with a specific person."

Philadelphia police said they intended to continue their investigation into the April 3 death of William Pascual, 26, a University of Pennsylvania graduate student.

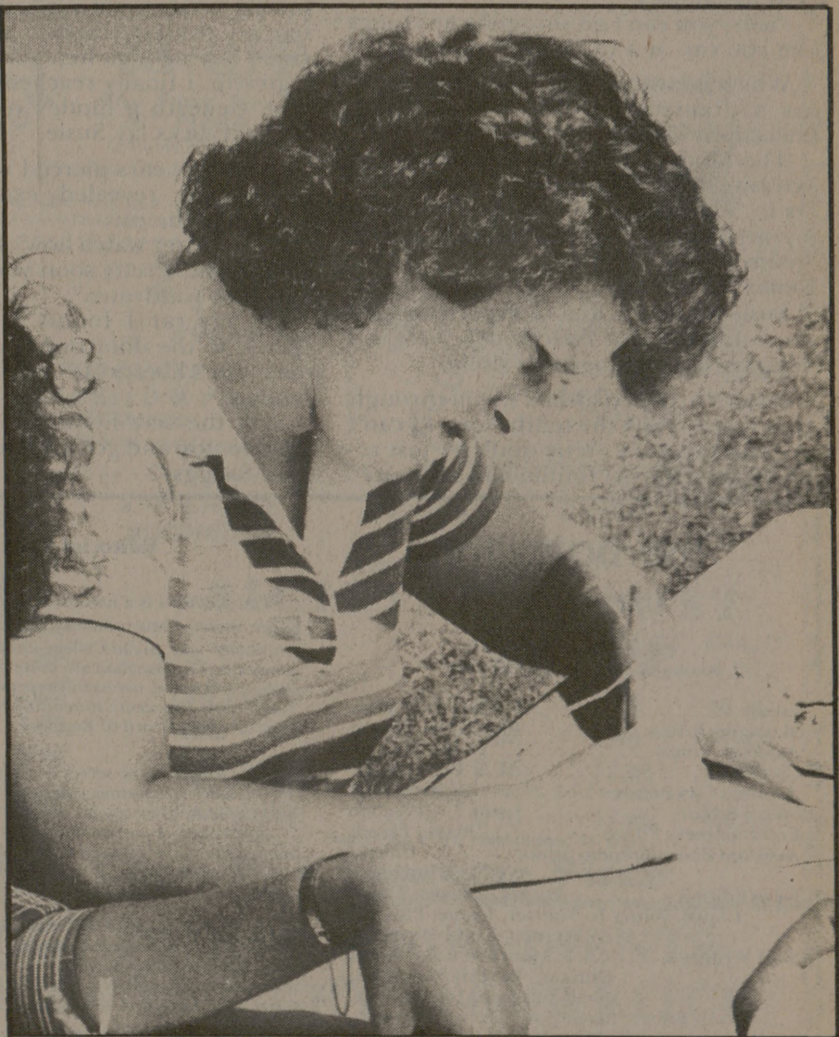
The case was reopened when cyanide was discovered in an Extra-

Strength Tylenol bottle found in Pascual's home.

"All these people are doing the best they can to see their communities are safe," Fahner said.

Chicago police abandoned plans to send officers to Philadelphia to question a friend of Pascual's after the FBI and Philadelphia police administered a lie-detector test and released him. The friend reportedly had a brother in the Chicago area he visited in April.

Industrial sabotage at manufacturing plants also has been ruled out because the capsules were in different locations and in containers carrying differing lot numbers, Fahner said, making such sabotage "a mathematical and physical impossibility."



staff photo by Irene Mees

Decisions, decisions

Julia Sloan, a freshman journalism major from Hurst, casts her ballot in Wednesday's freshman class elections. For results, see story page 4.

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forecast

Today's Forecast: High in the high 80s, low in the upper 60s. Sixty percent chance of rain later today.

3 Aggies chosen for state high court staff positions

by Dawson Clark

Three Texas A&M graduates are among the 18 state Supreme Court briefing attorneys recently chosen from a field of 170 applicants.

"It's a credit to Texas A&M that we graduate such superior students who go on to law school and do so well," Justice C.L. Ray said. Ray, a member of the Class of '52, was elected to the Texas Supreme Court in 1980 — the first Texas A&M graduate to serve on the court.

Briefing attorneys usually are involved in legal research.

The three former students chosen are Robert Seibert, who attends South Texas College of Law in Houston;

Thomas Lyles, from Southern Methodist University School of Law; and Jay Henderson, from Baylor School of Law.

Seibert and Lyles graduated from Texas A&M in 1979; Henderson graduated in 1980.

The students will begin their tenure as briefing attorneys in August. Ray said the appointments will greatly enhance the students' careers. Seibert agreed: "It's a definite plus for my future. It puts me in the limelight with other attorneys."

Lyles was equally pleased. "It gives me a chance to see a lot of different areas of law and gives me one more year to decide which area I want to go into," he said.