

State and Local

Shuttle design tests scheduled

Successful results could allow flight renewal in early 1988

SPACE CENTER, Houston (AP) — NASA said Tuesday it will begin tests later this year on a new booster rocket design that uses a third rubberized O-ring and a metal brace to prevent leaks like the one blamed for the Challenger disaster.

John Thomas, the manager of a solid rocket motor redesign team, said that if the hot-fire tests this fall and full-scale tests next year succeed, the space shuttle should be able to resume flights in early 1988.

Thomas, speaking at news conference at the Marshall Space Flight Center in Huntsville, Ala., said his team had submitted a fundamental new rocket motor design that will prevent the problem that triggered the Jan. 28 accident that killed seven crew members.

"We've taken every step to understand what happened on Challenger and to preclude that from happening again," said Thomas.

Starting this fall, he said, engi-

neers will conduct hot-fire tests using rocket segments that include the new design. If results are good from 20 or more of these tests, said Thomas, then firing of full-scale test engines will be conducted, followed in September or October of 1987 by firings of six qualification motors.

Thomas said the design changes will correct all of the problems found in the Challenger accident investigation, and yet will permit NASA to use solid rocket motor segments already built.

"I don't know why it was not done a long, long time ago," Thomas said of the changes.

A presidential commission blamed the Challenger accident on failure of a seal in a solid rocket booster joint. The National Aeronautics and Space Administration grounded the shuttle fleet until the design flaw could be corrected.

The major flaw in the rocket used for Challenger was in a seal formed

by two O-rings. The commission said the rings came unsealed and allowed superheated gases to burn through the rocket casing and then penetrate the wall of an oxidizer propellant tank. Fuel and oxidizer from the tank erupted in a fireball.

Thomas said the new design will include a third rubberized O-ring and a metal brace that will force the rocket joint to remain sealed. He said there will also be interlocking insulation that will prevent hot gas from touching the rubberized O-rings.

The Challenger commission concluded that pressure within the rocket forced the joint to open slightly, unsealing the O-rings.

With the new design, pressure will actually tighten the seal, forcing the third O-ring against its sealing seat, Thomas said. Also, he said, the metal lip will hold the joint rigid under pressure.

"No matter what happens with

movement of the joint, one of those (three O-rings) will close," he said.

Frigid temperatures on the morning that Challenger was launched are blamed for part of the problem. Commission investigators said that the cold may have robbed the O-rings of elasticity, preventing them from sealing before the hot burned a pathway to the outside.

Thomas said heater strips will be installed in the new rocket joint to maintain even temperatures in cold conditions.

Thomas said two astronauts are on the design team and have expressed "nothing but support" for the new design. One finding of the commission was that astronauts were not even informed of problems that had occurred on earlier missions with the rocket seals.

"We can always come up with some better ideas," he said, "but at some point you've got to freeze the design and press on."

Budget crunch breeds ideas

Kiln built of surplus bricks

By Mary Frances Scott
Staff Writer

While the budget crunch is causing many professors to do without new equipment, a Texas A&M ceramic instructor in the Department of Environmental Design is getting a new kiln.

Joan Moore and a graduate student, Tim Brown, are building it from scratch — their way of dealing with the skimpy budget.

It'll be late summer before the 60-cubic-foot gas kiln is complete, says Moore, the assistant professor who put the project together.

It all started when Moore heard about over 12,000 bricks in storage at University Surplus. The bricks came from an old boiler at the Power Plant and date back to 1935.

Because the bricks were surplus material, she got them at no

charge. After the spring semester, the pair stacked between 5,000 and 6,000 bricks, each wearing out two pairs of gloves in the process.

The bricks normally would be the most expensive component of the kiln, but since they were free, the kiln so far has cost only \$50 — the price of a can of mortar. A kiln half the size retails for about \$10,000.

Though the final costs will increase once all the necessary parts are purchased, Moore expects an enormous savings over the retail price.

Brown, who studies urban and regional planning, designed the kiln, which will be his sixth.

It is located outside the Langford Architecture Building in a garage-like structure adjacent to the ceramics studio. But the kiln isn't just a big oven formed out of a stack of bricks.

"A kiln is more complicated than most people think," Moore says. "If you have as much as five degrees difference, it can affect the glaze."

Because the kiln will reach temperatures of 2,400 degrees Fahrenheit, only the bricks in the Roman arch that constitutes the top of the kiln are actually cemented together. The bricks in the walls of the kiln are simply stacked on top of each other and then braced at the corners with steel reinforcing. This allows the kiln to expand when temperatures rise.

Moore says the new gas kiln will allow more diversity in the kinds of ceramics she can fire.

Not only will the kiln hold more objects than the four electric kilns currently in use combined, but it will also fire objects in six to eight hours, about twice as fast as the existing kilns.

Texas won't replace fish killed by river pollutants

DALLAS (AP) — State officials do not plan to replace thousands of sporting fish killed when various pollutants robbed oxygen from a 40-mile stretch of the Trinity River.

Catfish, shad and buffalo fish died along the kill route, which stretched from Trinidad, a town about 60 miles southeast of Dallas, downstream to U.S. Highway 79 near Oakwood, officials said.

The five-day kill, the worst in more than a year, ended Sunday, Dennis Palafox, acting chief of the Texas Parks and Wildlife Department's pollution surveillance branch, said.

Officials estimate that as many as 60,000 fish were killed. Palafox said it is not likely the toll will rise to the 184,000 killed in July 1985.

The department's fish restocking program does not provide for replenishing after a serious kill, Palafox said. The department can force pollution law violators to pay for restocking after a kill, but when no single culprit is identified, there is no remedy, he said.

The kill resulted from a wide range of urban pollution sources in the Dallas-Fort Worth area, environmental officials said.

Heavy rains before the kill stirred up harmful sediments from the river bottom, said Max Woodfin, Texas Water Commission environmental coordinator. The sediments include industrial toxins and untreated sewage discharged into the river from municipal plants.

Woodfin said it is possible the rainfall washed grease, oil, pesticides and other pollutants into the river. The combination of pollutants robbed the water of the oxygen necessary to sustain wildlife.

Oxygen levels sank to far below minimum amounts fish must breathe from the water. At one point, levels sank to less than one part for every million gallons of water. A level of two parts is necessary to sustain life and five parts is considered normal.

Oxygen levels were slowly returning to normal, Palafox said.

Clements' secret plan 'on the button'

AUSTIN (AP) — Some Democratic lawmakers have a plan to help solve the state's \$3.5 billion deficit.

They're selling big yellow buttons that read: "Where's The Secret Plan, Bill?"

The buttons were introduced Tuesday at a news conference where Sen. Chet Edwards of Houstonville, Rep. Paul Colbert of Duncanson and others called on former Gov. Bill Clements, the Republican gubernatorial candidate, to produce a so-called "secret plan" to solve the deficit.

Edwards said that Clements at one time said he had a "secret plan" that

he would produce if Gov. Mark White called a special session.

"That's why we are here to invite Bill Clements to Austin," Edwards said. "We would welcome his specific ideas on how to solve the state's multi-billion dollar deficit."

"Bill, if you have a secret plan, show us. If you have any plan, call us. But if you have no plan, Bill, tell us now."

Clements fired back, "I don't plan to buy a button."

He was asked about the buttons during a press conference Tuesday in Dallas to announce a hispanic campaign committee.

After the conference Clements' press aide, Reggie Bashur, said, "This is just a lot of political hogwash on the part of these people." Clements said his plan is to have state agency heads list their department's priorities, put a dollar figure on each, and then decide whether to eliminate, reduce or save those priorities.

"There is only one way to do this," Clements said. "There's no secret about it."

He said he could not specify cuts that should be made because he is a candidate, not an officeholder.

Colbert said the group of senators

House speaker: Shorten no-pass, no-play restriction

AUSTIN (AP) — Texans hoping to ease the no-pass, no-play rule signed up a blue-chip recruit Tuesday as House Speaker Gib Lewis urged a shorter suspension for first-time offenders.

Lewis said he asked Gov. Mark White to allow the Legislature's special session to consider such a change. If not, Lewis said the plan would be introduced when lawmakers convene in January for their regular session.

"I'll be honest with you," Lewis told a meeting of teachers and school administrators. "I've even flaked off and I'm supporting some revisions in no-pass, no-play. Nothing's perfect. And we will be making some changes."

The controversial no-pass, no-play rule prohibits a student from participating in any extra-curricular activities if he's failing any course.

Under the rule, adopted as part of the sweeping 1984 school reform law, students are suspended from sports and other activities for six weeks after receiving a failing grade.

On another subject, Lewis told approximately 800 educators that a bill to give teachers and school administrators the power to remove incorrigible students from the classroom should reach the House floor this week.

The governor promised to open the special session to consider that topic, and Lewis told the teachers, "If you want to stay around, you'll see the bill passed Thursday afternoon."

As House leader, Lewis was instrumental in steering the school reform bill through the 1984 special session. But he said Tuesday that he never strongly favored the six-week no-pass, no-play provision in that legislation.

He said students should be suspended for only three weeks the first time they receive a failing grade. If they fail a second time, the suspension then should be for six weeks, Lewis said.

"I talked to the governor this morning about the possibility of looking at that a little bit," he said. "We'll possibly be making some changes. Maybe not now, but possibly when the Legislature convenes in January."

In an interview, Lewis said White didn't rule out such a change. In public, the governor has said he

would consider a no-pass, no-play rollback a retreat from education reforms.

"He said, 'I don't want the perception to be that we're going to back off the seriousness we have committed to education,'" Lewis said. "I assured him I didn't think this would back off." White's press secretary, Ann Arnold, said the governor had no intention of opening the special session to the no-pass, no-play revisions.

The speaker's proposal received quick support from the Texas High School Coaches Association. The group's executive vice president, Eddie Joseph, said the six-week suspension discourages many students.

"In football, if a youngster goes out at the six-week period, there's no chance of him improving his grades and coming back," Joseph said. "Three weeks, at least he could come back for the last game. There's some incentive there."

Med board backlog of cases at 7 years

AUSTIN (AP) — Texas physicians accused of malpractice can continue to treat patients for up to seven years before anything is done, two members of the State Board of Medical Examiners told senators Tuesday.

"We've got that big a backlog," said Cindy Jenkins of Winnie, a public member of the board.

Jenkins and seven other appointees to the board face Senate confirmation during the current special session.

Jenkins and Dr. John C. Bagwell, a Dallas physician, answered questions Tuesday from the Senate Committee on Nominations.

The other six appointees will testify later in the session.

Committee Chairman Chet Edwards, D-Duncanville, the lengthy backlog means that Texans could be exposed to bad doctors.

"In this backlog of cases, that I am aware of, are physicians accused of needlessly killing patients and still they are able to practice," he said.

"This is a very serious problem," he said.

"We want to look into it before we confirm any of these appointments."

"We don't allow people to pollute streams for five years while investigating, why should we allow people to engage in malpractice and threaten lives for five years?"

Jenkins has been appointed by Gov. Mark White to a second term on the board.

"I don't think the agency is doing the job it should in disciplining the doctors of this state," she said.

Bagwell, who has served 11 months on the board, said, "I think we need more of a sense of urgency on the board, a feeling that we have problems we should do something about."

Jenkins said another problem was that the board's investigators are all former law enforcement officers with little or no training in medicine.

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