

Aggies' efforts face setback in national Sunrayce competition

□ Lack of funding jeopardizes students' project.

By Brad Dressler
THE BATTALION

Texas A&M students and faculty are completing construction of a solar-powered car for the national Sunrayce '95 competition.

The June competition covers a race route of approximately 1,100 miles stretching from Indianapolis to Denver.

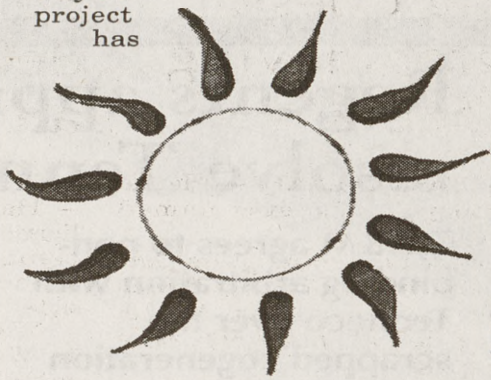
About 30 students from the Departments of Electrical Engineering, Mechanical Engineering and Management have been working on the car this semester.

Dr. Tim Coppinger, professor in the Department of Engineering Technology, is helping oversee the Sunrayce '95 project.

Coppinger said the project gives students a realistic, hands-on approach comparable to the real world.

"The Sunrayce project allows students the opportunity to go from a design concept to a finished product with all the frustrations involved," he said. "This allows them to learn to work together as a team, similar to experiences in the world

of industry." Ray Jungmann, senior electrical engineering major and coordinator of the project's electrical engineering efforts, said the Sunrayce project has



giving him valuable experience.

"Through the project I have been learning to work and cooperate with people," he said. "As coordinator I am learning the best ways to keep everyone happy and build the best car possible."

However, Dr. Tom Talley, adjunct associate professor in electrical engineering and project faculty adviser, said the project is in serious trouble because of funding problems.

"We have not had much funding from the beginning in comparison to other universities," he said. "Hopefully our costs will be about \$100,000, while schools such as the University of Michigan are supposedly allotting an almost one million dollar budget."

Although the budget for the Texas A&M team has been diminished, the solar cells still need to be purchased.

John Lott, senior in mechanical engineering technology, said the solar panel array is one of the more costly parts of the project.

"We will need about 750 total solar cells," he said. "The cost of which will be around \$6,000."

Joe Koronowski, senior in mechanical engineering technology, said the project members have been careful with the budget.

"We have learned to use all our resources and stretch everything to its limit," he said. "For instance, through connections, we were able to get fiberglass to construct the shell of the car for only \$300, when it would normally cost between \$9,000 to \$12,000."

Even with the students' efforts, Talley said, the budget has reached its limit and they have to search for more funding.

More uses found for ground-penetrating radar at A&M

□ Technology once used only for research now helps to detect underground objects, like dead bodies and lost fortunes.

By Brad Dressler
THE BATTALION

Texas A&M students and faculty are using ground-penetrating radar to detect hidden graves and research other underground objects.

Dr. Robert Unterberger, professor emeritus of geophysics, said that originally the ground-penetrating radar technology at Texas A&M was used strictly for research purposes.

"When I arrived at Texas A&M in 1968," he said, "ground penetrating radar was used to explore for underground rocks and minerals."

Then the Houston Police Department asked him to use the technology to search for hidden bodies.

"I had never considered such a use for the radar," Unterberger said. "After consideration, I decided it might be worthwhile and helped the Houston police with their search."

While the ground-penetrating

radar is still used for geological research and grave searches, it also has many other uses.

There are two types of ground-penetrating radar: ground coupled and air launch. Each type of radar penetrates the ground and sends up data each time it encounters a different substance.

The ground-coupled technology, which typically penetrates up to 40 feet deep, uses antennas

Tom Scullion, program manager of Texas Transportation Institute, said that since air-launch radar can only penetrate a short distance, it must be used for collecting data on objects near the surface.

"The air-launch radar can be used for many subsurface projects," he said. "It can be used to study bridge foundations, pipeline problems, determine

"When I arrived at Texas A&M in 1968, ground penetrating radar was used to explore for underground rocks and minerals."

— Dr. Robert Unterberger, geophysics professor

that must contact the ground.

While the air-launch type does not have to contact the ground, it will generally only give a reading up to two feet.

Robert Lytton, professor in civil engineering, said many factors are involved in the data sent back by reflected radar.

"The radar is reflected whenever it enters a significantly different soil type or hits a foreign object," he said. "It can also be influenced by how wet the soil is at one point or another."

The different radar types are used for different purposes.

pavement thicknesses and local sinkholes, among other things."

The ground-coupled technology is used to locate lost graves or bodies, deep underground openings or disturbances and any foreign objects more than a few feet deep.

Unterberger was also involved in a few uncommon uses of the ground-penetrating radar technology.

He helped use the technology to try to locate two million dollars buried in a desert and helped the Toronto police locate the dismembered remains of a murder victim.

Knowledge about benefits, dangers of estrogen important

□ While estrogen increases a woman's risk of cancer, anti-estrogen can reduce that risk, studies show.

By Brad Dressler
THE BATTALION

Recent studies show that both estrogens and anti-estrogens can influence a woman's risk of getting cancer.

Estrogens, female hormones, can increase a woman's risk of getting breast cancer and endometrial (uterine) cancer.

Dr. Stephen Safe, distinguished professor of veterinary

medicine, said that anti-estrogens, which are found in some cooked meats and vegetables, may balance estrogens' risks.

According to M.D. Anderson officials, using estrogen to relieve menopause conditions may increase a woman's risk of cancer.

Studies conducted in 1992 by the National Cancer Institute linked estrogen to uterine cancer.

The studies show that replacing estrogen in a woman's body can increase the cancer risk by two to eight times.

A similar study by the National Cancer Institute indicates that combining estrogens with progestin hormones may decrease estrogen's risk.

In breast cancer cases, the

studies show that estrogen can increase cancer risks by 50 percent.

Safe said people should know about both estrogens and anti-estrogens.

"There is a controversy about anti-estrogens and relations to estrogens and cancer," he said. "Many people are not even aware about the occurrence of anti-estrogens in nature or otherwise."

He said the amount and potency of both estrogens and anti-estrogens are important.

"If you look at all the figures about the risk of estrogens, it just does not add up," he said. "But perhaps it is the anti-estrogens that are being overlooked and would help to balance the risk of estrogens."

Addition: ETSU may join A&M

Continued from Page 1

approval for merging into the A&M System.

The Board accepted Baylor College of Dentistry in January. Both ETSU's and Baylor College of Dentistry's mergers must be approved by the legislature.

Billy Clayton, a Board of Regents member, said that university systems besides Texas A&M and the University of Texas are disappearing.

"By the year 2010," Clayton said, "there are only going to be two systems in the state of Texas."

Mary Nan West, chairman of the Board of Regents, said she agreed.

"So we better get the schools we want," West said.

Project: A&M to enter talks with Tenneco

Continued from Page 1

A&M agreed in September 1993 to allow Tenneco to finance, design, construct, operate and maintain the power plant.

The plant was intended to produce electricity, steam and hot and cold water for West Campus through 2012.

Phase I of the project, which was to provide hot and cold water, was completed, but Phase II, which covered all other areas and construction of the plant, was not.

In February 1994, Dick Lindsay, the System's vice chancellor for Finance and Operations, requested that an outside firm review the project in response to questions raised by members of the Board of Regents.

The firm recommended that

the Board discontinue any negotiations with Tenneco.

President Ray Bowen terminated the agreement in June 1994.

A management audit released in January by the Office of the State Auditor faulted former Board Chairman Ross Margraves and former Vice President of Finance and Administration Robert Smith for much of the project's controversy.

"Major project activities were handled by Margraves and Smith," the audit stated. "Their alliance effectively circumvented established lines of authority, control processes and the System's legal, financial and technical functions."

The audit said management's override of System policies increased the risks that the project would fail.

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Parking News:

March 6 thru March 8 - The University Center Garage will be reserved for the Texas Water Utilities Association conference. PTTS encourages all permit holders to park in their designated parking lots.

PTTS recently renewed staff permits for twelve months beginning March 1, 1995, through February 29, 1996 and is offering the deferred payment plan option. A late fee of \$5.00 will be added to payments received after the tenth day of March, April, May and June.

If an individual does not want to renew their parking, they need to return their permit on or before 3:00 p.m. March 10, 1995, to be refunded for the twelve month billing. The billing statement indicates a deadline of February 28, 1995, however the date has been extended to 3:00 p.m. March 10, 1995. Refunds on permits received at PTTS after March 10, 1995, will be pro-rated.

If you have any questions regarding your billing cycle, please contact a parking counselor at 862-PARK. PTTS hours are Monday - Thursday 7:30 a.m. - 3:00 p.m.

Bus Operations Spring Break Schedule:

Bus Operations will stop its regular bus service at 6:00 p.m. March 10, 1995. Bus service will be provided during Spring Break, March 13 through March 15, 1995, from 7:00 a.m. to 6:00 p.m. The schedule is as follows:

For on campus transportation there will be 2 Rudder buses in service. To arrange rides to and from campus passengers will need to Dial-a-Ride at 847-RIDE or 847-7433.

Passengers requesting paratransit transportation need to contact Bus Operations at 845-1971 before March 10, 1995 to schedule rides.

Bus operations will be accepting new driver applications March 27 - March 31. Applications are available at the bus operation facility on Agronomy Rd.

Watch for PTTS updates in the Battalion, each Monday and Thursday!
We're doing our best to keep you informed of activities and events that could impact your parking and transportation needs. For more information, call our parking counselors at 862-PARK or Shuttle Bus Operations at 845-1971.

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