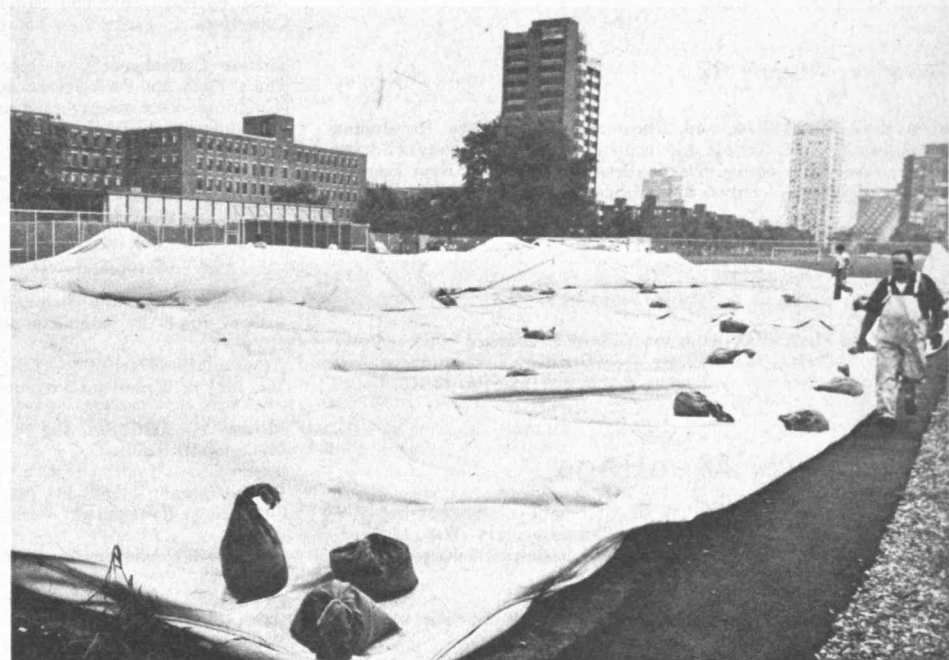


Hurricane preparations at MIT Monday (Aug. 9) proved to be a deflating experience for the J.B. Carr Indoor Tennis Center, which was taken down to protect it from expected high winds. The air-inflated "bubble" sagged to the ground about 90 minutes after the air-supply fans were shut off and the vents were opened; sandbags and rainwater held it down. The indoor courts aren't used in the summer and crews will wait for a calm day to reinflate the structure to avoid ripping the fabric. The Physical Plant prepared for the storm by having sandbags, pumps and



emergency generators ready and supervisors on duty throughout the night, but damage was pretty much limited to two uprooted willow trees on Briggs Field. Dr. Hurd C. Willett, professor of meteorology emeritus, helped plot the course of the storm for the Physical Plant during the day Monday; the highest wind gust recorded by the anemometer on top of the Green Building was 47 knots (about 55mph) about 8am Tuesday (Aug. 10).

## Telephone Tolls Reverse Mies van der Rohe Dictum

"Less is more," proclaimed the famed architect Mies van der Rohe.

"It's the other way around—more is less—on the MIT telephone bill," according to Morton Berlan, superintendent of telecommunications.

"There were 2,661 more long distance telephone calls during the most recent billing period than were made during the same period in 1975, yet the telephone tolls were \$11,575.99 less," he said.

He credited the saving to wide acceptance and use of the Flexible Route Selection system (FRS) which went into effect in May.

"Clearly a large part of the community is making use of the FRS—or 'dial 6' system," Mr. Berlan said, "because more calls were made via FRS than regular Long Distance (LD)."

"However," he noted, "a day-by-day comparison cannot be made because FRS and LD use different billing cycles. Also we don't have figures as yet on how many calls are being transferred automatically from FRS to LD."

Figures for the most recent billing cycles and a comparison with the same period in 1975 are shown in the accompanying tables.

Comparison of Long Distance Calls  
July 1976

	LD	FRS
No. Calls	16,664	18,131
No. Minutes	102,431	91,886
Cost	\$44,116.76	\$17,460.44
cost/Call	\$ 2.65	\$ 0.97
Cost/Minute	\$ 0.43	\$ 0.19

Comparison of Long Distance Calls  
July 1975/1976

No. Calls	July 1975	July 1976	Differences
LD	32,134	16,664	
FRS	--	18,131	
Totals	32,134	34,795	+2,661
Cost LD	\$73,153.19	\$44,116.76	
FRS	--	17,460.44	
Totals	\$73,153.19	\$61,577.20	-\$11,575.99 (15.8%)

All Class A, or unrestricted, telephones have access to FRS, Mr. Berlan said, and plans are underway to extend the service to Class B, or semi restricted, telephones later this year.

To use FRS, dial 6 plus 1 plus area code plus seven-digit number. Most calls will be routed via Wide Area Telephone Service (WATS) lines. If a WATS line is not available, the call will automatically transfer to the regular LD route and be billed ac-

cordingly. It is estimated that only three to seven percent of FRS calls will be transferred.

Dialing 6 also works within our own area code, 617, by dialing 6 plus 1 plus seven-digit number.

The annual saving by using "dial 6" is estimated at \$130,000 on toll charges of approximately \$825,000, Mr. Berlan said.

Telecommunications costs for the year ending June 30 were \$125,000 less than what had been projected.

"This shows that MIT people are concerned with keeping costs in balance," Mr. Berlan said. "Wider use of FRS will help continue this trend."

## \$5 Fee Set For Parking

A \$5 fee for parking stickers has been instituted to offset administrative costs of the parking program, effective with 1976-77 stickers, Professor Paul O. Roberts, chairman of the Parking Committee has announced.

Applications for 1976-77 parking stickers are being distributed to department heads this week. When completed they should be returned to the department head with a \$5 check or money order—payable to MIT—for each sticker desired. In addition, those seeking more than one sticker are asked to show registration for the second vehicle to the department head.

As an incentive to those interested in forming car pools, sticker fees will be waived for those in registered car pools. To be recognized as a car pool, two or more drivers, each of whom drives periodically, must band together. (MIT's car pool matching program will be available again in the fall for those who do not now have matching information and wish to participate.)

In compliance with one of the requirements of the revised Boston Transportation Plan promulgated by the Environmental Protection Agency, MIT this year will close the Munroe Lot near Kendall Square. The 48 Lot on Vassar Street also will be closed for planned construction. This represents a loss of 339 spaces, according to Patricia Paula, recently appointed parking coordinator at Campus Patrol.

## Bulletin Out

The *Courses and Degree Programs* issue of the MIT Bulletin for 1976-77 has been published and is available at the Information Center, Rm 7-111.

The 530-page book, primarily a registration guide for MIT students, includes detailed descriptions of subjects and departmental requirements.

The *Courses and Degree Programs* issue is one in a series of five issues of the MIT Bulletin published yearly. Other issues include the *General Catalogue* due out in September, the *Report of the Treasurer* due out in October, the *Report of the President and Chancellor* due out in November and the *Summer Session Catalogue* due out in February.

The *General Catalogue* issue of the MIT Bulletin will be available at the Information Center early in September.

## Stever Assumes White House Post

Dr. H. Guyford Stever, director of the National Science Foundation, was confirmed Monday by the U.S. Senate as director of the recently established Office of Science and Technology Policy in the White House.

Dr. Stever was formerly professor of aeronautical engineering, associate dean of the School of Engineering and head of the Departments of Mechanical Engineering and Naval Architecture and Marine Engineering (now Ocean Engineering) at MIT before becoming president of Carnegie-Mellon University in 1965. At the White House he will occupy a post similar to that held by Dr. James R. Killian Jr., honorary chairman of the MIT Corporation, in the Eisenhower Administration and by President Jerome B. Wiesner in the Kennedy and Johnson Administrations. The post was abolished during the Nixon Administration and was recreated by Congress in May.

## Bathe is Co-author

Professor Klaus-Jürgen Bathe of the Department of Mechanical Engineering is co-author of *Numerical Methods in Finite Element Analysis*, published in June by Prentice-Hall, Inc.

## Viking Biology Data Control Test Planned

Results from the third Viking biology experiment indicate the possibility of biological activity in a sample of Martian soil, scientists announced Saturday, Aug. 7. A control test, in which the soil will be sterilized to kill possible organisms, is scheduled for Aug. 23.

But puzzling results from the two earlier biology experiments could be explained by an inorganic process having to do with Martian weather, an MIT researcher told Viking scientists last week.

Dr. Robert L. Huguenin, a staff researcher in the MIT Department of Earth and Planetary Sciences, was invited to the Jet Propulsion Laboratory in Pasadena, California, last Monday, Aug. 2, to present his theory to Viking scientists.

Two results had been puzzling Viking scientists, who were not sure whether to attribute them to organic or inorganic processes.

One was the large amount of oxygen produced in the gas-exchange experiment. The other was the large amount of radioactively labeled carbon dioxide produced in the labeled-release experiment.

Dr. Huguenin said that his theory of Martian weathering provides an inorganic explanation for those results—assuming that the soil samples contained at least a tenth of a percent of "unweathered" soil.

Some parts of Mars act as dust traps and may contain deposits of bright dust more than a mile deep, he said. But dust is continuously swept from other regions by the wind, exposing dark unweathered rocks and sand.

Viking I landed near the edge of a bright area in Western Chryse Planitia, where some dark unweathered soil and rocks should be exposed, he said.

Dr. Huguenin suggests that as water vapor condensed on the unweathered parts, it was "ripped apart" into hydroxyl ions (OH) and hydrogen ions (H). The hydrogen ions were incorporated into crystals, he said.

What was left, he said, was a layer of frost with the remaining hydroxyl ions. As the water in the frost evaporated, the exposed hydroxyl ions combined to form hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>).

Dr. Huguenin said that if this

theory is correct—and if the soil samples contained a small amount of unweathered soil—the Viking results are not surprising.

In the gas-exchange experiment, in which samples are heated to nine degrees Centigrade, and are exposed to water, the hydrogen peroxide would go into solution and release oxygen.

In the labeled-release experiment, the soil sample is exposed to radioactively labeled formic acid (HCOOH). "The formic acid vapor can react with hydrogen peroxide to produce water and radioactively labeled carbon dioxide," Dr. Huguenin said.

He said that the results of the third biology experiment support his theory. In the third, pyrolytic release experiment, the samples were ex-

(Continued on page 2)

## Soil Analyzer To Try Again

Viking's miniature soil analyzer—temporarily stymied in its search for organic compounds on Mars because of a malfunctioning collection arm—was turned on Friday in hopes that it might contain soil collected July 28.

"We don't know whether we have a sample in the instrument," said Professor Klaus Biemann of MIT, leader of the Viking molecular analysis team. "We're just taking a chance."

He said that scientists won't know the results until Thursday, Aug. 12, when they will repeat the experiment at 500 degrees Centigrade.

In any case, he said, the collection arm appears to be working again and it is scheduled to deliver a new soil sample to the gas chromatograph-mass spectrometer on Friday, Aug. 20.

Professor Biemann said that the collection arm "may have been too cold, although it was tested at much lower temperatures. We're going to try to avoid using it during very cold periods."

He said that the mass spectrometer "works like a charm."

Working with Dr. Biemann on Viking have been staff researchers Dr. James E. Biller and Dr. Arthur L. Lafleur, programmer-analyst Edward M. Ruiz, and graduate student John M. Lavoie.





