

in winds of 60 miles per hour. Also, high winds can cause structural damage and local failures — cracking of walls, plaster, and outside cladding.

Up to now special tunnels have had to be constructed to measure wind effects on the structural frame of buildings and to provide data on wind loads on individual cladding elements, windows, or wall panels. Low-speed wind tunnels have been of little use since their designs are such as to generate an unwanted low turbulence, constant velocity flow across the tunnel working section.

NRC'S NEW DESIGN

To overcome this problem, engineers with NRC's National Aeronautical Establishment designed a grid of "spires" shaped and spaced so as to modify the average speed of wind with height, giving the correct scale of turbulence.

A mile-square section of Montreal containing a 33-storey building was chosen as a scale model. The purpose of the projects was to obtain data for comparison of pressure measurements on actual buildings in a typical urban environment with results of model tests in wind tunnels.

"Our spires seem to produce the same kind of wind conditions to the scale model as the real wind," said R.J. Templin, head of the Low-Speed Aerodynamics Section, NRC. "We are getting close to the same magnitude pressure fluctuation on the model as the full scale building for the same wind direction."

"So far, the few measurements we have obtained are promising but our study is not yet completed. Further tests will be carried out this year in the NRC 30-foot wind tunnel, the nation's largest low-speed tunnel. These will be done on a larger scale as a cross-check to prove the first results valid."

CONSUMER PRICE INDEX

The consumer price index for Canada (1961-100) rose by 0.5 per cent to 130.5 in July from 129.9 in June. The latest increase was marginally lower than the average June-to-July rise recorded in the past five years, and left the index 3.2 percent above its level of the previous twelve-month. This slower rate of increase, compared to twelve-month periods ending in the earlier part of the year, is largely attributable to a deceleration in the advance of the food and clothing indexes, though other major components also registered slower rates of increase in recent months. From June to July the major contributor to the rise was the housing and food components which rose by 0.6 per cent and 0.5 per cent respectively. The less important recreation and reading index advanced by 1.6 per cent, largely as a result of higher newspaper prices. The transportation index edged up by 0.1 per

cent, while the remaining major components were unchanged from the preceding month.

FOOD

The food index rose by 0.5 per cent to 131.6 in July from 130.9 in June. The movement in the latest month marked the fifth consecutive month in which the level of food prices registered smaller increases than in the corresponding month a year earlier. From January to July 1970, the food index moved up by only 1.2 per cent, whereas in the same six-month period last year it advanced by 3.0 per cent. Since July 1969, the food index increased 2.2 per cent, which compares to an average rise of 3.8 per cent in the previous five July-to-July periods. In the last 12 months the price level of food for home consumption moved up by 1.7 per cent, while restaurant meal prices, reflecting a higher service content, advanced by 5.7 per cent. Between June and July, about two-fifths of the rise in the food index was attributable to a 1.4 percent advance in the price of restaurant meals. Food at home, by contrast, recorded an average price increase of 0.4 per cent with mixed movements of component items. Among staples, which registered price increases, bread rose 1.4 per cent, mainly reflecting higher prices in Toronto, while butter and margarine increased 0.3 and 0.7 per cent, respectively. Fresh milk prices were unchanged, while sugar prices declined by 0.6 per cent, to register the first decrease in several months.

HOUSING

The housing index rose 0.6 per cent to 131.5 in July from 130.7 in June, exceeding somewhat the rate of increase in this component between these two months in recent years. Higher mortgage interest rates were the major cause of a 0.7 percent rise in the shelter index, with rents and the cost of new houses increasing fractionally. Among household-operation items, a rise in electricity rates in a number of Ontario cities advanced this component by 1.3 per cent from the preceding month to a level over 11 percent higher than that of a year earlier. Some increases were also recorded in the prices of household textiles, dishes, light-bulbs and a number of cleaning supplies since the preceding month. On the other hand, price declines occurred for floor coverings, garbage cans and lawnmowers.

CLOTHING

The clothing index, at 126.9 in July, was unchanged from its June level. While prices of women's wear and footwear rose fractionally since the preceding month, these advances were offset by a decline in men's wear prices, particularly for men's shirts, slacks and windbreakers, as well as for children's wear, and for piece goods. The latest clothing index was 1.7 percent above its July 1969 level.