

**The New 60-Cycle Power System.**—Ontario Hydro's tremendous post-war power program being carried out at a cost of approximately \$605,000,000 is being closely fitted to the frequency-standardization program. As part of the post-war construction program a 75,000 h.p. addition to the DeCew Falls station near St. Catharines was brought into service at 25 cycles in the autumn of 1947; but as soon as it was decided to proceed with the frequency change-over, preparations were made to supply all generating stations in process of construction with 60-cycle equipment. This decision was made applicable to power projects in northern as well as in southern Ontario.

The Thunder Bay district, containing the lakehead cities of Fort William and Port Arthur, many richly mineralized areas and an impressive concentration of pulp and paper mills, have always enjoyed a uniform 60-cycle system, and no frequency question had to be considered there in the carrying out of the Commission's post-war program. On the other hand, northeastern Ontario, like southern Ontario and for much the same reasons had developed as a dual-frequency territory. There were good grounds however for the decision to bring in new power under the present development program at 60 cycles.

While in northeastern Ontario there had been a post-war increase in the demand for power at both 25 cycles and 60 cycles, such rapidly growing 60-cycle urban centres as Sudbury and North Bay, with their surrounding rural areas, had to be considered, while the electrical requirements of Timmins and other 25-cycle municipalities were being adequately looked after by power supplied by the 248,000 h.p. Abitibi development and other 25-cycle generating stations. Above all, as an influencing factor, there was the over-all picture, with an interchange of power between northeastern and southern Ontario in contemplation.

**Potential Tie-Ins.**—Facilities will soon be provided for this interchange of power. During 1950 the Commission was engaged on a 192,000 h.p. project at La Cave on the Ottawa River about five miles upstream from the town of Mattawa. This development is scheduled for initial service late in 1951. Already the site is connected with the great Des Joachims development some 65 miles to the southeast by a 230,000-volt transmission line, while communication with Sudbury via Crystal Falls and North Bay was afforded by another 115,000-volt line completed for service in the late autumn of 1950. These connections with the 230,000-volt line from Des Joachims to La Cave, operating temporarily at 115,000 volts, provide for the interchange of limited power loads between northern and southern Ontario pending the bringing into service of La Cave.

In June, 1950, the Commission's 56,500 h.p. Tunnel station on the Mississagi River was brought into service to supplement 60-cycle power supply in northern Ontario. There are three other potential power sites on the Mississagi River, from which an estimated additional 107,000 h.p. can be obtained. Electrical consumers in northern Ontario, however, will not have to wait for more power until development at these sites can be carried out. La Cave will further reinforce the power from Tunnel, and at the same time help to meet increased demands in the south through the transmission via Des Joachims. Through a recently constructed frequency-changer station at Sudbury, it will be possible to utilize some of this 60-cycle power, wherever the need arises, in the northern 25-cycle areas.

The Thunder Bay district is at present isolated from the power districts of northeastern Ontario as well as from southern Ontario. As the natural resources of the "Empire of the North" are further developed, it is expected that 60-cycle