

NO POST-EXPO BLUES FOR SUCCESSFUL MONTREAL CONTRACTOR

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Harvey Britton: "I made a point of always doing a little more than necessary."

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by C. M. SEIFERT

THERE'S NOTHING SPECTACULAR in the fact that an electrical contractor's one-man operation has mushroomed over the past 20 years into a 70-man business enterprise grossing some \$1,500,000 a year.

What *is* significant is that Montreal's Britton Electric Ltd. has been able to maintain its steady growth pattern despite a post-Expo building slump which is troubling most major contractors.

Harvey Britton comments that the present work load has nothing to do with 'luck.' He says it's the natural result of a carefully planned program that was established back in 1947.

In that year, he was an optimistic twenty-year-old determined to make

his own way in the electrical industry.

"All I had to offer was quality and service — so I made a point of always doing a little more than necessary."

This philosophy, which became a rigidly enforced policy as the fledgling company grew, worked so well that Britton Electric moved into its own 7,000 sq ft 2-story building in Montreal's north end in 1957.

With a carefully selected staff of twenty, an annual sales volume of \$250,000 and some hard-acquired knowledge of cost and management procedures, Harvey Britton decided he was ready to tackle the industrial field: installation, service, maintenance.

He admits the move was predicated on a calculated gamble which worked.

"As I saw it, the ability to main-

tain sufficient dollar volume to avoid the industry's traditional peak/valley pattern would enable us to attract and keep highly qualified staff.

"This in turn would provide the possibility of turning one-shot jobs into steady customers for further expansion."

Operating within this framework of quality and service the company literally grew *with* its customers. During the process it evolved into a business organization — complete with estimators, supervisors, foremen.

Progress continued at a steady 15% per year until 1965 when electrical engineer Ernie Shapiro joined the company and sparked a second breakthrough by sharing the executive load in his capacity as vice-president.

"Our growth pattern had always

been dynamic," says Britton, "now it became dramatic."

The size and dollar value of contracts increased in direct ratio to Britton's ability to handle them. The customer list climbed to 700 plus, and service became an important department in its own right.

The benefits of being able to handle a highly diversified workload simultaneously were pointed up by the company's award-winning tenders for 23 Expo-site contracts. All were concluded satisfactorily and on time, without neglect of regular customers.

Contracts included the parking lot revenue control systems, Victoria and Longueuil parking lots; ticket booths' alarm systems, all locations; fire alarm systems in all Theme Pavilions; Police and Fire Station at Ile Notre Dame and Cité du Havre; La Spirale Tower; Habitat stop transit station and numerous national pavilions.

However, the power distribution contract for the Minirail system offered the greatest challenge.

Expo visitors may remember there were three basic Minirail systems:

- At Ile Notre Dame, with one loop running over to Ile Ste. Helene, fed by five 12 KV substations;
- At Ile Ste. Helene fed by two 12 KV substations;
- At La Ronde fed by two low-voltage distribution systems.

Rail and cars for the Notre Dame system were one type; those for the other two systems were smaller.

Substations (fed from 12 KV Hydro lines) and distribution system were located underneath the Minirail stations. All cabling was run underground from the power distribution to a point outside the station area to maintain the aesthetics of the stations.

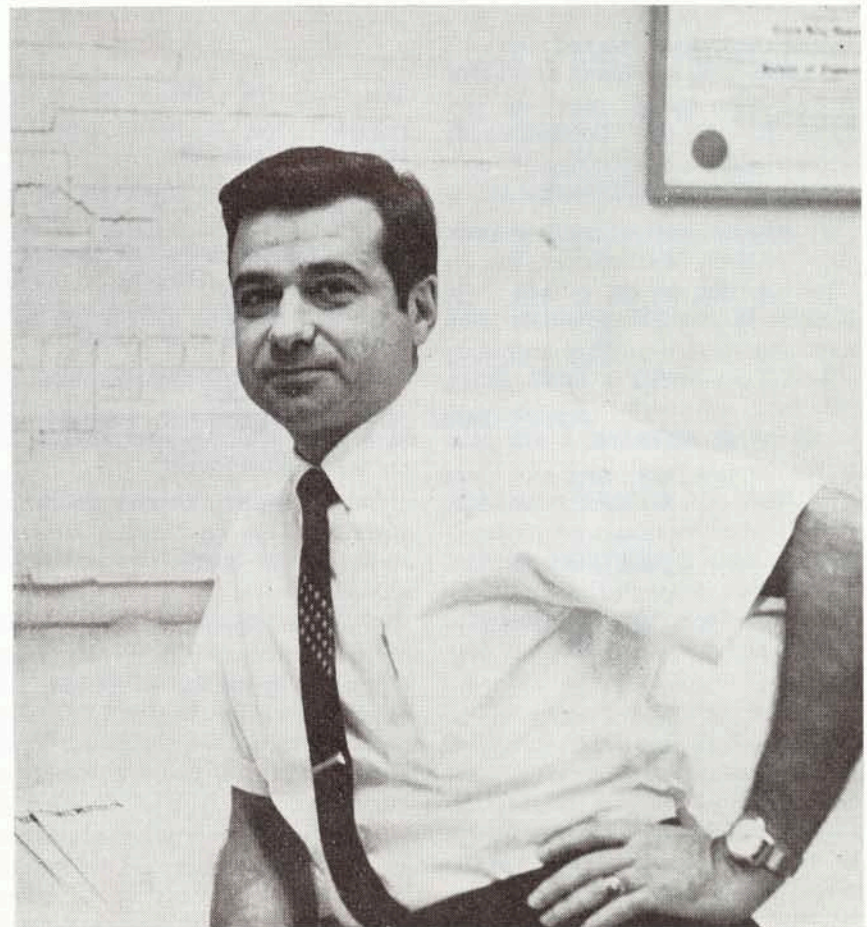
At these locations weather-proof junction boxes were installed on the Minirail supports and cabling run up the support and strung just beneath the Minirail track — at 40-ft height in many cases. Connections were then made to the live rail at 41 points throughout the site.

Substations contained double 12 KV incoming sections, a 750 KVA, 12 KV/480 V dry-type transformer and 480 V distribution comprising 300 amp. breakers for the live rail feeders.

12,000-ft of 3 con. #300 MCM Corflex cable was used for the underground runs and 35,000-ft of the same size teck cable for the overhead feeders.



The power distribution contract for the Minirail system offered the greatest challenge. Britton Electric Ltd. did an excellent job.



Electrical engineer Ernie Shapiro sparked firm's second breakthrough.

Teck cable terminated in forty-one 400 amp weather-proof disconnect switches. Then 5,000-ft of CLN flexible cable in conduit was used for the final connection to the live rails.

Time and space factors combined to make detailed preplanning a 'must' in all areas. The work was spread over the 1000-acre site since the seven miles of Minirail snaked through virtually every part of Expo. And although the contract was awarded in June for Oct. 31st completion, C.C.W.E. - supplied substations and cable were scheduled for August and September delivery. Thus 90% of the job had to be completed in a three-month period.

The installation had to be co-ordinated with the physical installation of the Minirail structure, keeping in mind that sections of the Minirail had to be left open to allow transporting of materials on the site.

As a result Britton worked very closely with the C.C.W.E. Electrical Branch and Hurter, Todd & Myer (Consulting Engineers) on the scheduling of each phase of the operation, using CPM.

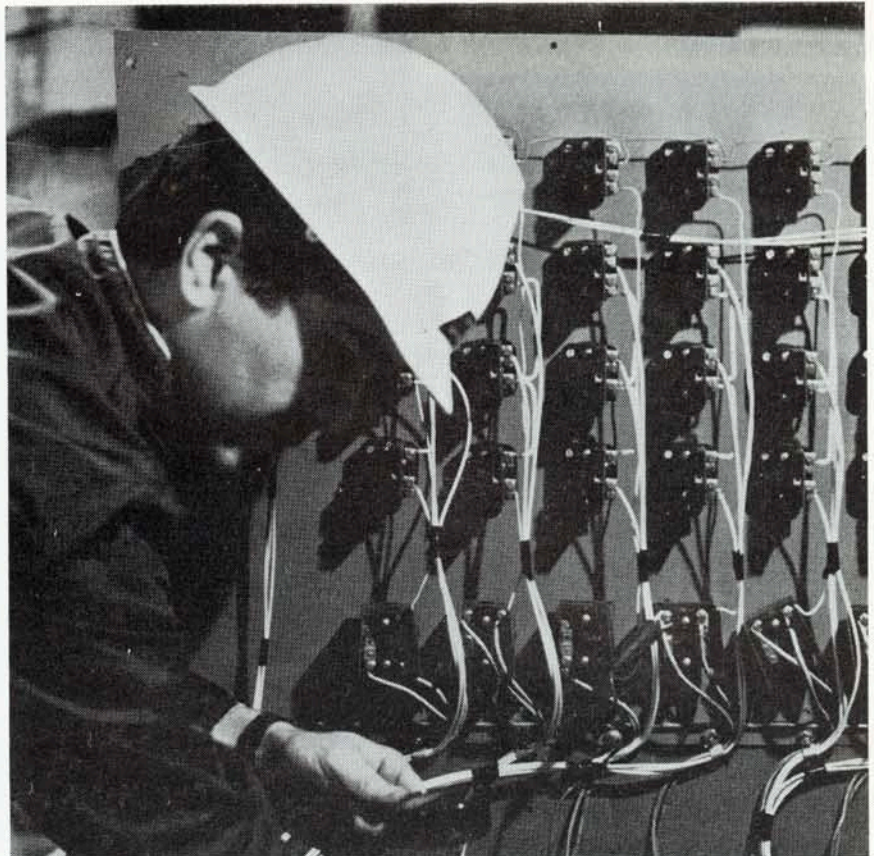
The problem of working in such a scattered area was solved by using mobile truck units that left the main job office and warehouse at Ile Ste. Helene with enough men and materials for the day. Communication was maintained between mobile units and job office by walkie-talkie sets.

To eliminate any possibility of error, daily progress was charted on the CPM schedule on site as well as in Britton's Montreal headquarters. With more than 50 men working seven days a week from sunrise to sunset during the final six weeks, co-ordination wasn't merely important, it was vital.

The project was completed nine days ahead of a revised CP schedule, which slashed two weeks off the original time table. Britton points out that the contract amounted to \$300,000 but the total job value, including substations and cable, was about \$1,000,000.

One of the unique features of the Minirail was the control of the power system. This was of prime importance since the small Minirail loops at La Ronde and Ile Ste. Helene were fed by two power sources, and the Ile Notre Dame loop by five separate sources.

First, the phasing of the 480 V AC



Foreman R. Laplante checks door control console.

lines had to be synchronized at each substation and at each connection point to the live rails.

Then the power supply had to be controlled in such a manner that a local problem at each Minirail station could be handled promptly, or, in case of a major problem, that the complete Minirail could be de-energized.

The local arrangement was by means of tripping buttons on the booths of each Minirail station platform and at the substation itself.

The emergency tripping could be operated by key type buttons installed at all control booths and substation locations.

The interconnections between stations for the control tripping lines were made by the Bell Telephone Co., which had cables running from each station back to the main Bell Telephone station at Belmont Street in Montreal.

There was also a separate control set-up for the running of the system that could start and stop the trains automatically at the stations, control speed (8-10 mph) and the distance

between trains, and could stop the train itself in case of a fault within the train. During the Expo period, trains were automatically stopped at the stations but C.C.W.E. attendants at the control booths on the stations sent the trains off by manual control.

Britton Electric was also awarded the contract for Minirail maintenance in conjunction with Habbegger Ltd., the Swiss manufacturers. The Minirail operated 18 hours a day carrying over 16 million passengers, with very few breakdowns. "Downtime was virtually non-existent," says Britton.

Now that Expo's over? "With the exception of our maintenance contract it was over for us when it opened," says Britton. "Our customers are holding the line, we have work in hand and some interesting prospects coming up."

One of the current contracts calls for the electrical installations in three commercial buildings for Treitel Frankel Enterprises. The largest, some 250,000 sq ft of rentable area, has already resulted in some \$150,000 worth of installations for both owners and tenants. ◀