

A McGraw-Hill Publication

Electrical World

February 23, 1970



Used once a week, it
consumes 500 kwhr per year



Tug-of-war is easily won by Elec-Trak. Additional weight of two extra men for better traction did not help gasoline-engine powered tractor of comparable size on left



Utility rep has chance to test chain saw. Note saw plugs into tractor

All outdoors now open to load-building

Electric tractor makes new image possible by relating concept of outdoors, fun, and action to electricity. Potential outdoors market is as big as existing indoor market

A new electric-energy-consuming device that can take the convenience and versatility of electricity outside the four walls of a building is now on the doorstep of the electric utility industry. If this mobile energy package, shown on the cover, is used but once a week, it is expected to consume about 500 kwhr per year.

As a new concept in electric living and utility load development, General Electric Co's new electric tractor, the Elec-Trak, is expected to be the first step toward many new and exciting outdoor uses of power—including, eventually, the electric car.

From a utility standpoint, the best feature of the electric tractor is that it supplies energy requirements that the consumer wants by replacing gasoline-can energy with purchased-power energy. The battery-powered vehicle has a built-in recharger that works off any 120-v ac outlet.

The electric tractor holds the potential for increased kwhr use for residential load building at least as large as the existing indoor market. With the coming of the electric tractor, loads that once were thought to be "nice to have but not practical at this time" can now be more realistically

considered by the utility. The electric tractor holds the promise of cutting the electric utility's "extension-cord syndrome."

The mobile energy source of the electric tractor gears the homeowner to thinking electric for his outdoor needs. Up to now, if he wanted power outdoors he bought one of the 9-million or so gasoline engines made each year for lawn mowers, snow-blowers, rototillers, or tractors.

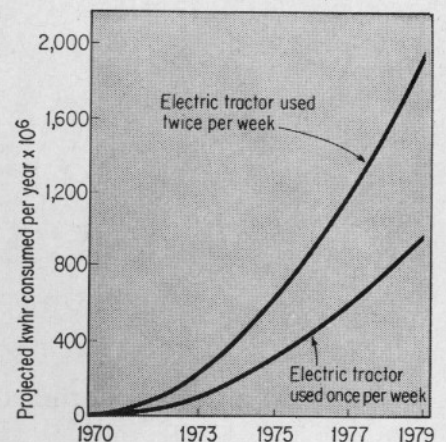
In short, the utility is not replacing its own energy or increasing the number of kwhr used by an appliance; it is supplying energy in a market it has, up to this point, been locked out of by the inconvenience, bulkiness, and length of an extension cord and the need for a convenient outlet.

Vern Rydbeck, GE's manager of electric utility market development, discussing the opening up of the outdoor market to the utilities, said this development makes it possible for the first time for retail distributors to carry a full line of electric outdoor equipment—including power tools, garden lighting equipment, infrared comfort-heating equipment, electric cooking and barbecuing lines, soil-heating cables, and other electrical

devices such as snow-melting cables. The latter can be used in tight areas where tractors can't go such as on and around stairs. All this, he said, means added load and profit for the utilities.

Utility response to initial mailings of promotional literature on and private showings of the Elec-Trak has been very enthusiastic. An *Electrical World* survey of about a dozen utilities (see box on next page) that have seen the Elec-Trak turned up only one even slightly negative response—a fear that enough electric tractors might not be manufactured to meet the demand.

Utility marketing executives around the country seem to agree with Bryce W. Wyman, GE's vice president and general manager of the Transporta-



tion Systems Division, who says, "With features anticipating solutions to many of man's current and future environmental problems, the Elec-Trak tractor is expected to become a significant force in the market before the end of the decade."

A new image is possible with the electric tractor. It is a load-building appliance which begs to be used and is fun to handle. In this respect, it differs from electric heating, a refrigerator, or a dishwasher, which are passive in the response they generate.

As a result, the electric tractor holds the promise of untold tie-in possibilities with other utility promotions. Several utilities already are planning to display electric tractors at county fairs, farm shows, and exhibitions throughout their service area. Other utilities are planning to use the electric tractor as a drawing card in the promotion of other load-building appliances, or for tractor pulling contests. Still another utility plans on using the electric tractor appropriately identified for maintaining its grounds for visitors and employees. When exhibitions are staged in the utility's service area, the tractor will be used as part of the display—an active part.

"At last I found some fun in the utility business," was the wry comment of one utility executive after putting the Elec-Trak through its paces one recent morning.

A similar (but paraphrased) comment could be elicited from the ardent golfer, fisherman, or weekend TV sports fan who dislike chores around the house. Bruce R. Laumeister, manager of the Outdoor Power Equipment operation and the one man at GE who did the most to make the electric tractor a reality, foresees similar comments from these men as they race their wives and kids to the tractor to see who gets to do "the fun job."

"I think women will be the largest group of promoters of the electric tractor," Laumeister said. "Up to now they couldn't, they didn't want to, their husbands wouldn't let them—come near those gasoline tractors."

About 45 utility marketing executives have seen the Elec-Trak demonstrated by GE. For the most part, these utilities are in the "tractor belt", where most of the garden and riding tractors are sold. This section of the country includes the Northeast, Middle-Atlantic, and Midwest.

The electric tractor is expected to spur tractor sales in other areas of the country, too. Up to this point, there isn't too much interest in riding a hot, dirty gasoline-engine-driven tractor during the day—and complaints from neighbors preclude its use at night. The Elec-Trak has no hot,

dirty gasoline engine, and it is quiet enough to use at night.

As a matter of fact, during the Elec-Trak's three-year test and development program, it was run at night in residential areas without complaints.

The Elec-Trak is not limited to residential applications. It can be used in commercial, industrial, and institutional areas, both outside and inside the building. The electric tractor is particularly suited for use at airports for baggage handling, for materials handling in plants and warehouses, and for lawn and garden care at hospitals, schools, universities, plants, and cemeteries, and on farms and in feed lots and barns.

A promotional package for utilities has been put together by GE. This package includes: the tractor and its accessories (hand-powered tools as well); promotional material—a promotion plan, brochures, product information sheets, TV film clip, slide presentation, and 16-mm film suitable for local showing. Additional sales aids are also available.

Safety-feature questions about the Elec-Trak elicited a very strong response from Laumeister. "No other tractor on the market," he said, "has the same combination of safety factors and safety interlock switches that General Electric engineers have designed into the Elec-Trak units. These safety features would not be possible without the versatility of electricity."

Enumerating the many safety features, Laumeister pointed to the driver-seat safety interlock, which stops the tractor if the driver, for any reason, leaves the seat of the tractor. In addition, the low-inertia mower blades stop within three seconds.

Accidental restart is eliminated by a unique control development, which requires that the operator be back on the seat, turn the switch off and then on again, and reset the control before the tractor will move.

Other safety features include a unitized frame, balanced weight, low center-of-gravity, rear discharge for grass clippings, mower blades moved out and away from the path of people climbing on or off the tractor, and a low voltage (36-v) power-pack battery energy source.

Another major safety innovation is the programmed starting system. While the operator can start the tractor at as slow a speed as he wishes, he cannot apply too much speed too soon. This feature substantially reduces the risk of causing rollovers on uphill grades. A built-in safety circuit automatically accelerates the vehicle

Fine points on plowing snow is given Northeast Utilities President Lee Sillin

Elec-Trak draws raves from utility marketing execs

"A breakthrough bringing total electric living beyond the threshold." (Shown in driver's seat, cover)

J. G. Eilering, vice president marketing, Commonwealth Edison Co

"We're enthusiastic. The Elec-Trak is a real breakthrough in home use of portable electric equipment."

A. H. Hines, executive vice president, Florida Power Corp

"We see this vehicle opening up a whole new avenue of outdoor load building equipment."

V. R. Evans, vice president, marketing, Baltimore Electric & Gas

"It's free of air and noise pollution, satisfies the needs of our customers, and builds electric load."

R. S. Bromage, vice president sales, Connecticut Light & Power Co

"I like it because it takes electricity to the outdoors."

R. G. Graham, manager electric sales department, Cincinnati Gas & Electric Co

"Tremendous. It moves electricity into an area where it doesn't have to play second fiddle to a gasoline engine for mobile power."

C. W. Shoup, Sales manager, Dayton Power & Light Co

"As the Elec-Trak's saturation grows, it should make a meaningful contribution to our average kwhr use per residential customer."

J. F. O'Malley, sales manager, Public Service Co of New Hampshire

"This new load-building product sounds like it will have real potential in mostly off-peak hours."

W. M. Brewer, vice president engineering services, Middle South Services, Inc



smoothly up to the selected speed if the control lever is pushed to full forward from a dead stop.

"In addition," Laumeister continued, "there is a 36-v convenience outlet in the tractor body, which can be used to power a complete line of 36-v outdoor tools GE is making available." The tools will include earth augers, hedge shears, lawn edgers, grass trimmers, drills, and chain saws. A 120-v inverter will also be available as optional equipment for those who want to use existing electric hand tools.

A "defined-mission vehicle" is the term that best describes the Elec-Trak. According to Laumeister, it takes advantage of all the features thought to be disadvantages in an electric car.

- Fuel availability—the electric tractor is used near electrified structures:

- Battery weight—while a problem in other vehicles, for tractors it means more applied traction;

- Energy losses—travelling at low speeds there are no aerodynamic or road losses to consider;

- Trends—market favors automatic transmission and a power take-off.

The reaction of tractor dealers to the Elec-Trak has been as enthusiastic as that of the utilities. This is important, since the dealer is a key link in the promotion of the electric tractor. Tractor dealers expect the electric tractor to take a significant portion of the garden and riding tractor market in four to five years.

Elec-Trak performance characteristics

Mowing:

42 in. rotary 2.4 to 3.5 acres
52 in. reels 4.2 to 7.5 acres

Snow Blowing:

36-42 in. single
or 2-stage 4 to 12 clearings
150 x 10-ft
driveway

Hauling:

300 lb. in 2-
wheel cart 20 miles

Tilling:

unbroken ground-
2 passes 4,000 to 8,000 sq ft

Portable power tools:

from power pack 15 to 20 hours

Lighting:

from power pack 8 kwhr

Battery recharge:

100% of capacity—under 5 hours
75% capacity 3½ hours
20-25% of capacity 1 hour

Energy input 10½ to 12 kwhr

The girls are forgotten part of sales team

Utility firms too often fail to take advantage of the skills and knowhow of their home economists in the field. Result: The company, the girls themselves, and the customers all get short-changed, delegates attending the 14th annual Edison Electric Institute Women's Conference were told early this month.

"I call it the 'game of gaps,'" said J.D. Aldridge, manager of residential sales for Duquesne Light Co., Pittsburgh. "Many times a marketing program is created and the sales people simply go on from there. The home service girl is then thrown into the breach to fill all the gaps between the customer and the company."

As a result, Aldridge said, home economists "are not being used to their best advantage." And too often, he added, the home economist isn't even adequately informed of the new sales or marketing thrust, at least not well enough informed to be able to follow up that program with a pitch of her own to the most important party involved—the customer himself.

"The girls often just aren't kept aware of what's happening in the sales field," Aldridge said.

He also warned that the home economist herself must keep pace with the constant change that is part of the industry, maintain what he called a "humanitarian" approach to the customer, guard against a "rigid professionalism," and above all, keep the communications line open between herself and the upper echelons in the utility.

"You must give consistent service to all customers, not just the affluent," Aldridge said. "They're all paying the same rates and they're all entitled to the same service. The natural tendency is to think this guy is buying more than that guy, and react accordingly. But they're all still customers, so help them grow. Help the less affluent make more prudent decisions."

Warning against excessive professionalism, Aldridge said the home economist should not restrict herself to activities or efforts that lie only within her described duties. If she's called on to help with sales or some other aspect of consumer relations, she should do so, he said.

For her part, Aldridge said, the home economist should:

- "Get tough about learning com-

pany policy, direction, and marketing programs."

- Develop positive programs that are sound and meaningful—not on whims.

- Be concerned with the environment "where you work, live, and play."

The value of two-way communications was also stressed by Patricia Huff, manager of home economics services for Sears, Roebuck & Co. But she was talking about customer communications with the retailer and the manufacturer.

"The home economist is a pretty important person when it comes to retailing. My company sure thinks so," Miss Huff said.

Describing Sears' consumer testing lab and its reliance on the home economist, Miss Huff told the delegates that "you with your customer contacts, and we who want to build the product" are an important aspect in the development of new home appliances and products.

"We value the feedback we get," she said. "We're constantly reminded of the importance of customer satisfaction."

Sears is going more and more to the customer directly in developing and appraising new products, she said.

More new products are being placed in the home on a test basis "to check product performance and customer acceptance." Sears home economists make constant checks and rechecks, "and the homeowner is interviewed at length."

Consumer panels have been established, she added, to discuss new products and models "from major appliances to sewing notions" with Sears personnel and the manufacturer.

The Sears home economist, Miss Huff concluded, is keeping in closer touch with the consumer for his reaction and suggestions than ever before.

Marketing briefs

MULTI-AMP Institute to offer new course on electrical system protection in plant facilities. One aim is to illustrate the advantages of a planned program of preventive electrical maintenance. It is being tailored especially for power sales engineers, safety engineers, and building inspectors.

Wabash, Ind., claims to be first city in world to be lighted by electricity and would like recognition by the Smithsonian Institution. The city puts March 1, 1890 as its date of electrification. A replica of the carbon arc light used in the original system is being made for the Smithsonian.