CORPORATE ENGINEERING
GENERAL ELECTRIC
1 RIVER ROAD, SCHENECTADY, N. Y. 12305
DIAL COMM
8*235-2048

SUBJECT

Corporate Engineering Review
New Businesses Development Operation
Appropriation Request 87-251
Lease of space and purchase of equipment for
Engineering, Manufacturing & Test Marketing of an
Electric Battery-powered garden tractor, during
the period 1969-1971
This Request $525,000; Total Project $772,000.

COPIES: D.E. Cain
C.B. Fontaine
C.C. Leader
G. Thornton
J.F. Young
(AR1635)

August 25, 1969

Mr. R. M. Fisher
Manager-Engineering
Advanced Products Operation
Corporations Park
SCOTIA, N. Y.

Dear Mr. Fisher:

It has always been clear that entry into the business area which the Electric Garden Tractor will penetrate would be dependent upon dealer structure, service, and adequate product quality, in almost that order: quite the reverse of the normal G.E. pattern where we take many things for granted. In spite of the adage about a "better mouse-trap" the first two steps named are all-important. It is not within my purview to evaluate the adequacy of the dealer approach, but from the standpoint of an owner and operator of a garden tractor you have made a good start, so I will restrict my comments to the aspects of service and general product design.

A garden tractor experiences rough handling and while the gasoline engine variety vibrates much more than your electric drive, it is the accessories which really take the beating, mower, sno-blower, etc. I have several times broken blades in my mower when hitting rocks - they have not been easy to fix. Your mower, on the other hand, would be much easier to repair or maintain than mine. I consider the front-mounting feature and the serviceability to be excellent, highly saleable features.

Dallas Cain and I might quibble about a few design points, but in general, the present design is equal to or superior to competitive products with the following summary reactions: (It is recognized that even the prototype which we saw is not exactly what you will be making later)

Appearance	- Good	-	it looks like a tractor, a distinctive shape can be developed later.
Riding Quality	- Excellent	-	it is so easy to mount that it could be very attractive to women operators.
Human Factors	- Excellent	-	controls are well-grouped and identified.
Safety Features	- Excellent	-	the features are well-disguised as operational factors.
Service Ability	- Very Good to Excellent	-	and good mechanic should be able to maintain.
Drive System	- Good	-	its simplicity should lead to good reliability. The belt-drive is an anachronism which should be shielded to minimize fouling.
Capacity	- Good	-	after thinking a bit about my own use, 2 hours should suffice for 90+% of the cases.
Tooling	- Simple	-	adequate use is made of existing sources to obtain good prices.

It was not immediately obvious, but upon reflection it is clear that the present plans for limited production of one model, plus the franchise plan, comprise a well-conceived "test-bed program" which minimizes the risk while assuring us the maximum benefit in terms of assessment of product quality, reliability and customer reaction. The service plan, with a "hot-line", parts storage, service-training program, limited distribution, etc. should be an above-average response to this need.

Might we suggest two precautionary actions:

1. During the ensuing winter and spring place machines with appropriate GE Schenectady people for operational test and evaluation.

2. Maintain close surveillance of field problems through adequate reviews. We would be happy to assist in any way.

In summary, then, this program appears to be well conceived, the product is well-designed but not sophisticated, the production will be limited, and the distribution controlled. Attitudes are good, and the facilities are good.

We recommend favorable consideration of this appropriation.

Charles L. Rouault
Consultant - Electromechanical Systems
Building #36 - 604

CLR:rm