

Stored Energy Technology Ltd.

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Our Ref: WEff/DB

23rd. December 2003

For the attention of Mr. Karl W. Guenther - CEO

Dear Karl.

Wheel-Motors' for Light Rail Drive System Applications

Thank you for your earlier interest in our product.

On behalf of another potential user of our 'Wheel-Motor' technology we have undertaken some calculations of comparative efficiencies between our 'Wheel-Motor' and a conventional, existing drive system. As a result we have established remarkable energy savings, which we are sure will be of interest to both yourselves and to your prospective clients.

Our calculations are based on a conventional, existing single metro car, with conventional 3 phase drive motors such as the Bombardier 4WXA1731C (scaled up to cover actual power requirements), compared with a vehicle using a drive system incorporating S.E.T. 'Wheel-Motors'.

The conventional vehicle weight is 22 tonnes, which is reduced to 20tonnes when driven by the S.E.T. system. Crush load is 22.5tonnes and energy consumption is based on a 1Km interstation trip with acceleration of 1.0m/sec/sec up to 80KPH.

Calculation 1.: With regeneration into a system with 70% receptivity and 10% volt drop from substation to vehicle, the calculations are as follows:-

Conventional:

S.E.T. 'Wheel-Motor' System:

Input: 2.38MJ Regen: 0.47MJ

Input: 1.822MJ

Nett. 1.91MJ per motor

Regen: 0.68MJ

KWhr/Km/vehicle = 4.2

Nett. 1.142MJ per motor KWhr/Km/vehicle = 2.5

This shows a saving of 1.7KWhr/Km/vehicle, or 40% energy saving.



BS/EN/ISO 9001:2000



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Page 2.

Calculation 2.: With S.E.T. 'Wheel-Motor' drive system and a S.E.T. regenerated energy reception system, including peak lopping, the energy calculation becomes

Input: 1.64MJ

Regenerated: 1.08MJ

Nett.: 0.56 MJ

KWhr/Km/vehicle = 1.245

Compared to Calculation 1, for a conventional vehicle this gives a **total saving of 2.96KWhr/Km/vehicle**. This represents a massive 70% energy saving.

In addition the Peak Power Consumption is reduced per vehicle from 1.266MW per vehicle to only 80KW per vehicle.

We are convinced that you will find this scenario to be of paramount importance to your clients and in the case of Calculation 2, present the great advantage of being able to reduce the infrastructure costs by reducing the substation requirements.

Stored Energy Technology Limited' feel that this is so important that a press release is being prepared, however before we undertake such a proposal, we would be pleased to hear your comments.

We look forward to your response and meanwhile assure you of our close co-operation at all times.

Yours sincerely

Stored Energy Technology Limited

Derek Butcher Sales Manager