GILBERT GILKES & GORDON LTD.
Water Turbines & Governors,
KENDAL,
12th September 1935.

The Secretary,
Leeds & Liverpool Canal Co.
Pall Mall,
LIVERPOOL.

Dear Sir:-

We happen to be looking into the question of developing water power for electrical purposes at the locks on a neighbouring canal, and it occurs to the Writer to wonder whether your Company have ever further considered this aspect of developing water power on the Leeds and Liverpool Canal system.

The writer, whose father you will recollect was the late Alfred Harris of Lunefield, a former Chairman of yours, recollects looking into this question a good many years ago from the point of view of electric haulage, but the subject seems to arise again in these days of the "grid" distribution of electricity, in that we know that the Electricity Commissioners are not at all averse to current supplied by water being fed into the grid at various points.

If the writer's recollection serves him right, there is a very considerable amount of water passing down your system both east and west from the highest points about Skipton, Foulridge and Blackburn, which if properly developed should produce into millions of units a year of electricity.

It is true the supply would be a very intermittent, but this is not a serious draw back in the case where one is feeding electricity into such a hugh system as the grid.

As the writer's firm is mainly engaged in hydro-electric schemes of all sorts about the British Isles, we are in a favourable position to advise on such a subject as this, and the writer would be pleased to discuss it, without any question of charge in the preliminary stage, with your Board and your Engineers.

Yours faithfully,
W. M. Harris.

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NION, BENTLEY'S,
L TELEGRAPH.

TELEGRAMS: GILKES, KENDAL.
TELEPHONE Nº 28.

# GILBERT GILKES & GORDON LTD.

INCORPORATING THE WATER POWER BUSINESS OF
GILBERT GILKES & CO. LTD. JAMES GORDON & CO. LTD.
W. GUNTHER & SONS. HAY MARYON & CO. LTD.

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REF. EC/EF.

**KENDAL,**
ENGLAND.

25422

24th September 1935.

REPORT OF INTERVIEW WITH Mr. F.W. Bateman of the Leeds and Liverpool Canal, whose office is in Skipton. Telephone No. 16 Skipton ( House 16 Skipton.)

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PRESENT : E. Crewdson and W.M. Harris.

Mr. Bateman brought a map of the Leeds and Liverpool Canal and sundry particulars in regard to the various levels, and left with us a diagram showing the levels of the different pools, attached to this report.

The idea of the discussion was to see whether any useful power could be developed either on the falls at the locks or on the falls between the various storage reservoirs and the canal itself.

From the records which Mr. Bateman showed us ~~it~~ seemed to be very doubtful whether any dependable power could be obtained on the locks. The best site would be that at the Bingley Locks, but there would be serious difficulties in developing any reliable power there., mainly because ~~that~~ for several months in the year they would have no water at all to spare, and in the winter time they are anxious not to send any more water down the canal than is strictly necessary for its working.

There did seem, however, to be a possibility of developing the fall from the Winterburn Reservoir, the top ~~deep~~ water surface of which is at 659 o/d; the lowest water surface is 634 o/d. The area of this reservoir is 36½ acres and it has a gathering ground of 5,750 acres. The constant compensation water has to be allowed from this reservoir amounting to 2¾" deep over a sill 10 ft wide ( about 220 cubic

feet per minute ).

The cheapest scheme undoubtedly would be to connect from the 24" pipe which exists through the dam by a pipe probably of similar diameter to a turbine at the gauging basin.

Mr. Bateman had not precise particulars of the level of the gauging basin but from what he told us it seems probable that the gross fall with the reservoir full would be 77 feet. From this of course would have to be deducted pipe friction and probably an allowance for drawing down the level of the reservoir.

For months in the year this reservoir is overflowing at the by-wash, and from the drainage area and probable rainfall it seems likely that it would be possible to install here a turbine using about 600 or 700 or perhaps more cubic feet per minute.

The nearest point where a connection could be made to the Public Electric Supply would be at Gargrave about five miles away.

Mr. Bateman is going to send us 3 charts showing the variation in the level of the Winterburn Reservoir for three different years, one a dry year, one a wet year, and one an average year.

The next time we have any of our representatives in the Skipton district we will arrange with Mr. Bateman to call at his office and discuss further the whole scheme, and probably visit the site at Winterburn Reservoir.