(*b*) Whether the main dam is correct in its location, design, and construction, having regard to the nature of the country, the weight of water the dam is required to support under full head, the ultimate proposed power output, and the public safety?

The main dam is correct in its position in regard to the ultimate proposed power output.

In regard to the public safety, it may be generally said that the stability of the dam proper under full head complies with the main rules now universally conceded as governing the design and construction of a solid gravity dam.

There is evidence, however, that the dam is leaking at some places in the foundation, even at the present lowered water-level with the river at its original stage. In all probability the leakage will increase when the water-level in the lake is raised. It is essential that the origin of any appreciable leakage be located, and that the leaks be carefully grouted under pressure, so as to stop effectively the water passing under the dam or through the rock foundation.

Any leakage which takes place after the lake has been raised should be recorded, and analysis should be made to ascertain whether the escaping water dissolves minerals or carries away particles of fine material during its passage through the country. I have been informed that analyses for this purpose have been made with satisfactory results, but the observations and tests should be repeated when the dam is again filled.

(*c*) If, in any particular under (*b*) the answer is in the negative, how and at what cost do you consider such shortcoming(s) may be rectified?

The country between the headrace and the river-gorge next to the western abutment of the dam is comparatively narrow—indeed, narrower than the block at the power-station which moved on the 7th June, 1930. The appearance of the rock, and the fact that no disturbance of the ground has been noticed in the narrow ridge at the abutment, indicate that the rock at this point is of a more reliable quality than that at the penstock intake. In spite of this evidence, however, it is my firm opinion that this part of the plant should be strengthened, and that the opportunity should be taken now to execute this work.

Also, the cliff at the eastern abutment up-stream of the dam to a point well above the entrance of the diversion tunnel should be strengthened.

This work should principally consist of a thorough grouting of the country, a gunite cover on the surface, and a reinforcement of heavy steel bars set in drilled holes in the rock as described in my report in connection with the remedial measures for the penstock intake.

(2) Assuming the reply to No. (1) to be in the affirmative, do you consider that the best use was made of the topography existing?

I consider that the best possible use has been made of the topography existing on the site.

(3) Were the works sited in such a way as to ensure the development of the maximum power available consistent with reasonable expenditure, and have the works as executed been designed in accordance with the accepted principles of engineering?

The works are sited in such a way as to ensure maximum power available consistent with reasonable expenditure.

In my report and under certain clauses of this order of reference, I have put forward the need of some strengthening and repair works.

There may be other points in the design inviting discussion, but, as these are more or less a matter of opinion between different schools of engineering, they are of minor importance in this connection. In general, it may be said that the works as executed have been designed in accordance with sound principles of engineering.