

LETTER TO THE EDITOR.

The Fetish of Overhead Power Transmission.

Sir,—Why is it that with the constant recurrence of interruptions to their systems, almost mainly due to the adoption of overhead wires, underground cables have not come in for their share of consideration?

With every puff of wind that springs up, heavy surging sets in on the system and very often dislocates one or other of the sub-stations, be it important or otherwise. During the gale which blew on or about the 12th of last month in Toronto and district the writer was informed there were no less than 18 interruptions in 24 hours upon the hydro-electric system of this city, some of quite a lengthy period from a business point of view.

Such a state of things would not be tolerated by any well-managed large industrial concern, where there were a number of employees at work, as these interruptions would upset factory routine and discipline. Now the overhead system has been fairly tried out, and it certainly seems to be found wanting.

There are obviously only two ways to secure continuity of supply—one by having a standby plant at the termination of the main trunk cables. I believe such has been or is being contemplated by the hydro-electric commission, whilst the Toronto Electric Light Co. already have such a plant. It is, however, very questionable whether a scheme of this nature be profitable, for when one considers the enormous capital sunk, and the large standby losses entailed, it would seem to be doomed to failure.

The second method, and one which, I think, merits serious consideration, is by the adoption of underground cables. It may be asked, "Are these any more reliable than overhead wires?" For answer one has only to refer to European practice, where there are thousands of miles of paper insulated cables laid, some working under the most adverse conditions, yet in the large cities, where the laying of the cables has received proper attention, a failure is almost unheard of, and where they have arisen, it has been due to faulty connections, of which a great number naturally must exist in city distribution. There should be none of these on trunk feeder mains, and when once properly laid they should form the strongest link in the chain between the water-wheels and the consumer. It is true that the voltages in use in Europe on these underground cables certainly have not reached the pressures in vogue in this country on overhead systems, but owing to the distances of transmission being much shorter, no demand has arisen for cables to withstand these very high potentials.

The writer, therefore, believes it is now time the cablemakers got busy and showed what they are capable of doing in this direction. This is essentially a country of paper, and as this when suitably impregnated has been found one of the cheapest and at the same time best dielectrics for cables, there is no reason why they could not be constructed to withstand the high voltages now in daily use. The principal factor, therefore, from the cablemakers' point of view, would appear to be one of "cost of cable, plus cost of laying."

Now, if the cost of concrete foundations, steel structure, porcelain insulators, etc., of the present system of overhead constructions be added to that of equipping a modern, up-to-date power station at terminal point, and if the cost of maintenance, together with the running expenses of the power station, be capitalized and also added, I believe it would be found to give a figure

so high as to enable the underground cable to compete. Most of the cablemakers' work would be done in factories and by automatic machinery, so that there would only be the necessary trenching and filling to be done on site, and with modern trench excavators this could be done both quickly and cheaply. I trust that the cablemakers will go fully into the matter, and see what they can do.

HARRY F. CLAYTON.

Toronto, June 9th, 1916.

ORDINANCES TO CONTROL THE USE OF SEWERS.*

SECTION 1240 General Code of Ohio requires that plans for proposed sewerage systems shall be submitted to and receive the approval of the State Board of Health prior to their installation. In passing upon such plans it has been the practice of the State Board of Health to attach a condition of approval requiring the council of the municipality to pass a suitable ordinance defining the proper use of sewers for the purpose of preventing the installation of improper connections and misuse of the sewers.

In many communities storm water sewers are installed in advance of sanitary sewers and quite frequently the storm sewers are misused to receive sewage. This results in nuisances caused by odors emanating from the sewers and by objectionable conditions at the outlets. Storm water sewers are not designed to serve for sanitary purposes and municipal councils should adopt a suitable ordinance to prevent such misuse.

Sanitary sewers are frequently misused to receive rain water from the surface or from cistern overflows and downspouts. Such sewers are designed for conveying sewage only and the addition of surface water results disastrously in overtaxing the sewers. The excessive flow is also detrimental to sewage treatment works as it exceeds the capacity for which such works have been designed. To secure the greatest benefits from sanitary sewers, care should be exercised by those officials in charge of the maintenance of such improvements to require the proper use of the same.

The appended ordinances properly control the use of sewers and the establishment of connections thereto. In any individual case the ordinance to be adopted may require some modification to meet local conditions, but in the principal features relating to the classes of wastes which may be discharged into sanitary and storm water sewers, the ordinances should not be modified. The State Department of Health will upon request furnish advice in individual cases.

An Ordinance. No.

Mr.

TO REGULATE THE USE OF STORM WATER SEWERS.

Be it ordained by the council of the village of, State of Ohio.

Section 1. That before any connection can be made to any storm water sewer constructed in whole or in part by the village of a permit shall be secured by the person or persons by whom the connection is to be made. Application for permits shall be filed with and permits shall be issued by the village clerk.

*Ohio Public Health Journal.