

*Fire at Horahora.*

On Saturday, the 1st September, 1928, at 7.55 p.m., fire broke out in the workshop and old oil-boiling-plant building. The exact cause of the fire is not known. When first noticed it was confined to the woodwork enclosing an induction-regulator which had been drying out, but had been cut off about noon. The usual inspections of the transformer-house and apparatus had been made, and it is difficult to see how any smouldering action could have been caused in the first place, or could have continued unnoticed for eight hours. The chemical fire-extinguishers were brought into use almost at once, and almost succeeded in getting the fire under, but they gave out in probably less than ten minutes, and the fire spread to some oil that was stored in drums near by, and very soon involved most of that portion of the building. The wooden floor of this building had been replaced with concrete some time before as a safety measure, but the wooden lining of the walls had not been removed. The fire travelled along this wood lining to the wood lining of the roof of the new transformer-bay, and thence to the roof of the main transformer and switch-gear building. The Hamilton Fire Brigade were communicated with, and arrived at about 10.30 p.m., and soon got the fire under control, though it took them several hours playing water on the transformer-tanks to put it out completely. This work was done at considerable risk to members of the Brigade.

The damage done was as follows :—

*To Buildings.*—Workshop and oil store : completely destroyed. New 50 kv. transformer bay : Roof completely destroyed. Main building : Roof destroyed on two and a half bays out of four.

*To Apparatus.*—Transformers : Two main transformers (single-phase 5/50 kv.) out of ten total were destroyed ; the others all sustained slight damage to bushings, joints, &c. The new 50 kv. bank of three single-phase transformers without conservators, owing to the air-space above the oil, was practically undamaged. The three 5/11 kv. three-phase transformers in service were practically undamaged.

50 kv. switch-gear : Practically undamaged.

5 kv. switch-gear : The O.C.B.s in the new 5/50 kv. transformer-bay were little damaged. Those in the original building, where they were exposed to fire from oil from the transformers and reactances, were destroyed. Those in the 11 kv. bay were badly damaged, but capable of repair.

All overhead wiring and practically all control wiring in the building was completely destroyed.

The damage done amounted approximately to £12,500.

The following statement covers the work of giving emergency supply and restoring the main supply :—

1st September—8.10 p.m. : All power-supply from Horahora cut off, leaving McLaren's Falls supplying about 2,000 kw. to Waikino Substation. 9 p.m. : Diesel plant supplying Henderson, Takapuna, Bombay, and Hamilton (partial supply). 10.40 p.m. : Auckland Power Board supply came on, and supply was given to Te Awamutu and Hāngatiki. 11.28 p.m. : Grand Junction plant on. 11.45 p.m. : The Penrose and Waikino supplies were paralleled, and partial supply was given at all points except Arapuni, Ngongotaha, and the Bay of Plenty Substations.

2nd September.—On Sunday morning a connection was made, avoiding the damaged part of Horahora, to give supply over the Horahora – Arapuni – Ngongotaha – Bay of Plenty line. Thereafter, except for occasional interruptions due to overload in the emergency conditions, consumers were not subjected to any great inconvenience, except for low voltage at the more remote points. 6.45 a.m. : Load supplied was 7,600 kw.

3rd September—6 a.m. : Load supplied was 8,500 kw. 6.35 p.m. : Temporary connections at Horahora enabled it to take over the Cambridge load of 500 kw.

4th September—3.4 p.m. : Horahora supplied an additional 1,000 kw. to Thames Valley – Matamata area. 5.30 p.m. : Total load supplied was 11,370 kw., and apart from the fact that the Waihi Company were cut off, and the Auckland Power Board were supplying 5,000 instead of taking 2,000 kw., supply conditions were almost normal.

9th September—3.44 p.m. : No. 3 transformer-bank put into service, increased load on Horahora by 4,000 kw.

30th September—1.8 p.m. : No. 1 transformer-bank, which had been reconditioned and dried out, was placed in service. This has enabled Horahora to carry up to 10,000 kw. total load, the maximum that hydraulic conditions have allowed since.

New transformers have been ordered to replace the two destroyed by the fire, but they have not yet arrived.

The work of getting the station into service again in stages, and at the same time giving supply from such portions of it as could be used, would have been difficult under any conditions, and was made more so by the very bad weather in September.

The Arapuni office took charge of the new building-work, and carried it out very expeditiously under these adverse conditions, combined with the risk of proximity to live wires and bus-bars. Some of the best of our men from other districts were sent to assist, and an offer from the Auckland Power Board to send six of their men was accepted, and under the Station Superintendent and First Operator, Horahora, and the Assistant Distribution Engineer, Hamilton, the work of restoration was carried out practically without a hitch.

*Transmission-lines.—50 kv.*

With the exception of the Horahora–Waikino line and two cases of breakdown due to lightning on the Horahora–Arapuni–Ngongotaha–Edgumbe–Waiotahi line, there have been few line troubles during the year.