

The Crown in the present case is not an untrammelled buyer free to search the world for the latest in transmitting equipment. It has, on the contrary, agreed to buy the very plant that the company is using in its business. This plant to-day is worth the market price of such an equipment if purchased new to-day in competition with later, better designed, and more efficient plants, but subject to the additional deduction due to the fact that the company's plant is not new, but is second-hand.

Although the company's plant has been in use for four years or so, it is to-day just as efficient as when it was new. And given reasonable maintenance and renewals for certain wearing-parts such as valves, generator bearings, commutators, and the like, the plant has a more or less indefinite life because the majority of its parts are stationary, and are not subject to any wear. Certain of the recording-instruments are delicately calibrated, and after many years of use become less accurate and may need recalibration or possibly in a few instances replacement with new ones, but, in the main, it is true to say of this plant that with ordinary care, and with the periodical renewal of valves and occasional attention to the few moving parts of the equipment, it will last indefinitely, and give as good service as when new. It may be said that having been in constant use for three or four years, any hidden defects in manufacture have now had time to disclose themselves and be corrected. An instance of this was mentioned in respect of the original condensers supplied with the Wellington equipment. These after use disclosed manufacturers' defects, and have been displaced by better condensers of another make, and the original makers have themselves also provided a new set free of cost.

But although it is true that the company's equipment will with proper treatment last an indefinite number of years, and give as good service as it has given in the past, the position is that when compared with the very latest equipment, the company's equipment is in some respects, or at some of its stations, not so efficient as the very latest equipment. It is not necessary for me fully to detail the whole of these technical differences, but it will be sufficient if I generally indicate them. The newest plants have—

- (a) One hundred per cent. modulation ;
- (b) They introduce modulation at a lower stage of amplification than is the case at the company's stations ;
- (c) They have a wider band of frequency ; and
- (d) They have an improved wave-length control.

These differences are highly technical, and from the point of view of the ordinary listener, it is highly improbable if, assuming the very latest plant of a like power were substituted for any of the company's present plants he could detect any difference. I think the weight of evidence satisfies me that in the case of 95 per cent. of the listeners no difference would be discernible. It is possible that if the latest 500-watt equipment were substituted for the Dunedin plant, perhaps a few more listeners in such places as Gore and Invercargill might get results a little more clearly than they now receive them. I am not by any means certain on this point, but it is possible. And I think it extremely likely that if the very latest equipment of 500-watt power could effect this suggested improvement at Invercargill or Gore, it would be possible by appropriate alterations to the present plant to attain virtually the same result. I am confident on the evidence before me that no one would advise the "scrapping" of the present 500-watt equipment at Dunedin, and substituting another latest-design 500-watt plant in the hope that any improvement justifying such expense would be noticeable by any of the listeners in the Gore or Invercargill districts. And from a practical point of view the matter of going to the expense of adding refinements to the present lower-power equipment, designed to effect improvements has to be considered from a purely business aspect.

The Government regulations as to broadcasting place a maximum of 500 watts on the power of any stations, unless specially authorized by the authorities. It was deemed wise at the time to set this maximum so as to eliminate interference with other stations. The company at Auckland, Christchurch, and Dunedin took full advantage of this maximum, and in Wellington, with the consent and assistance of the authorities, erected a station of 5 kilowatts—that is, ten times the power of the other stations. I am satisfied on the evidence that if the authorities then knew as much as they now know, they would have provided a greater maximum. The real trouble with Auckland, Christchurch, and Dunedin is that the stations are too low-powered. But this is not the fault of the company, but is the fault of the regulations, which are still in force, and it cannot lie in the mouth of the authorities to complain of low power when the law of the land in existence at the time these stations were erected and taken over demanded it.

The Crown properly has not complained of the low power, but before me it did complain that if these small stations had been of the latest type, their extra efficiency in output would have been such as to make up for the want of power. This is another way of complaining of want of power in the stations as equipped. I am, however, not satisfied that this extra output would result from the substitution of a modern 500-watt-power station. The remedy if more power is required to supply the southern portion of the South Island, would be to erect a higher-powered plant. This is true also as to the other small stations. I am confirmed in my doubts as to whether such increased output can be obtained from modern-designed plants, by the fact that in evidence before me the Crown witnesses proved that manufacturers are not now designing stations of less than 1 kilowatt capacity. If, as is suggested, the 500-watt stations of modern design would have doubled the output of those at Auckland, Christchurch, and Dunedin, then one may wonder why manufacturers design nothing less than 1 kilowatt plants, which, on the same basis, would have four times the output of the present small stations in New Zealand.