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Basic Technical Electricity

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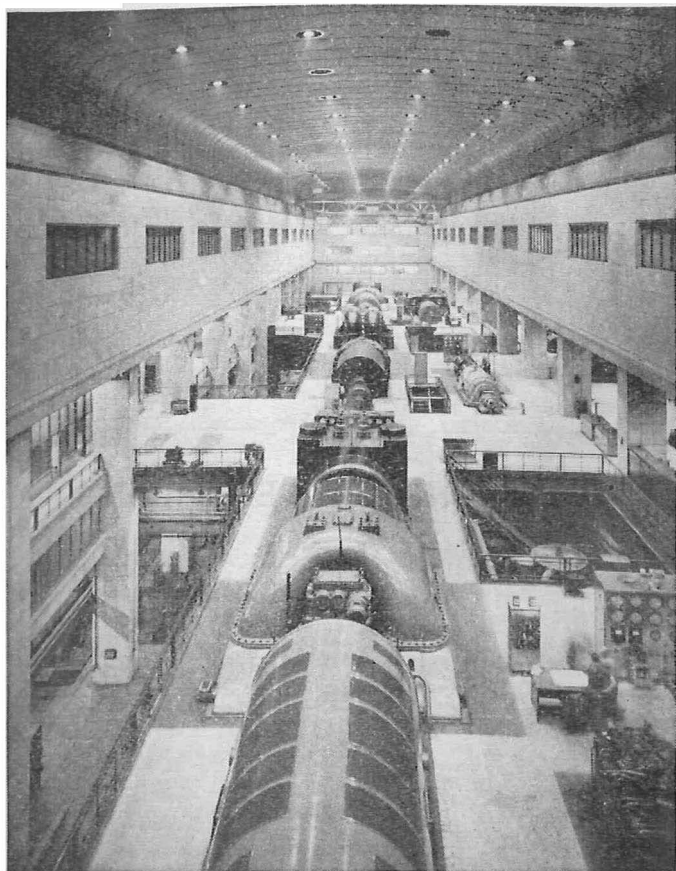


PLATE I. A MODERN GENERATING STATION

Two Metropolitan-Vickers cross-compound 100 MW turbine generators and a 60 MW set, in Battersea 'B' Station of the C.E.G.B.: in the foreground the low-pressure 84 MW machine; in the background another 84 MW turbine with the high-pressure 16 MW set on the right; in the centre a 60 MW turbine with a hydrogen-cooled generator. On the right the control and information panels.



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PREFACE

THE very large and continuous demand for this book over a number of years seems to indicate that it fills a real need for those who wish to study electricity, not only to get their living, but also to assure for themselves a reliable groundwork of fundamental knowledge. In this way they can graduate to more advanced levels if they so desire.

It has now been thought essential to revise the book, in particular from one important aspect, that of units. The metre-kilogramme-second system has already become generally accepted among electrical engineers, and it is the system advocated by their professional institution. The important chapter on units has therefore been completely rewritten, while certain other related aspects, formerly dealt with at the end of the book, have been brought forward to the same chapter. The result, the the author hopes, is a thoroughly logical and up-to-date introduction which gives the necessary minimum of theory in a manner which the ordinary reader can grasp. The special feature of the book, the approach to the study of electricity from the structure of the atom, has been retained.

Since electricity is essentially a practical science, which has been built up by making experiments and deducing laws from the results obtained, it has been thought desirable to describe certain experiments which demonstrate important theories. The reader need not perform them himself, though if he has access to simple apparatus he will find it interesting and profitable to do so.

The continuous improvement of successive editions has owed much to the helpful criticisms of readers and reviewers, and further co-operations of this kind will be welcome.

H. COTTON

Colwyn Bay, October 1959