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**preface**  
**to the commentary on**  
**The Electricity Supply Act, 1948**

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The magnitude and importance of power development programme contemplated in the Third Five-Year Plan can well be gauged from the observations made in the Draft Outline of the Plan which refers to the huge capital outlay proposed to be invested in the generation and supply of electricity and from the impact such programme is bound to have on industrialisation of the country. The Planning Commission observes that:

“The Third Five-Year Plan envisages an outlay of Rs. 975 crores for power, of which Rs. 925 crores will be in the public sector and Rs. 50 crores in the private sector. Approximate break-up of the outlay in the public sector is Rs. 580 crores for hydro and thermal generating schemes, Rs. 51 crores for atomic power and Rs. 24 crores for uranium mining, fabrication and plutonium extraction plant, and Rs. 270 crores for transmission, distribution and rural electrification.”

The foreign exchange component of the Power programme in the Third Plan is estimated at Rs. 270 crores (approximately £ 200,000,000). The power generating capacity would be increased from 5.8 million kW at the end of the Second Plan to 11.8 million kW at the end of the Third Plan. The long-term target for the installed capacity by 1975-76 would be 30 million kW. In the matter of rural electrification, the Third Plan provides for the electrification of 15,000 villages and towns with an estimated outlay of Rs. 105 crores. What a Plan of power development of such magnitude can mean to the industrialisation of the country may well be gathered from the fact that 75 percent of the electricity consumed is used for industrial production and other associated uses.<sup>1</sup>

Against this background, the importance of the Electricity (Supply) Act, 1948, which aims at rationalisation of production and supply of electricity and provides for measures conducive to its development, has to be appreciated. The impact of the power development programme in the Third Plan with Rs. 925 crores and more of investment in the public sector is bound to be felt by licensees in the private sector and the consumers in the course of the next five years. The State Electricity Boards will have greater financial resources at their disposal for preparation and execution of schemes. This must result in an ever-increasing area of supply for the Boards and an increasing need of

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1. These figures of investment in Power development and of generating capacity have been revised upwards since the publication of the Draft Outline of the Third Plan.

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designating generating stations in the private sector as 'controlled stations'. The Boards now invested with the first option of purchase will acquire generating stations or undertakings on an ever-increasing scale either on revocation of licenses or their expiry with the efflux of time.

In addition, the impact of generation of power by nuclear power stations will also be felt, though at a much later date. The Third Plan tentatively provides for installation of 300,000 kW of nuclear power, while further proposals of the Atomic Energy Commission for expansion of nuclear energy are under consideration. When nuclear power forms a substantial portion of the total power generated in an area, the entire pattern of distribution of energy within such area is bound to undergo a radical transformation. Both the vastness of power development in the public sector and the emergence of nuclear power will ultimately make for nationalisation of electricity supply industry inevitable. That day, however, is yet far off.

In short, the electricity supply industry in the private sector will be profoundly influenced by the programme of power development in the Third Plan. The Author, therefore, need make no apology for writing a book on the Electricity (Supply) Act, 1948, which among other matters deals with the question of nationalisation of private sector in electricity supply, the position of public sector, that is mainly the powers of the State Electricity Boards *vis-a-vis* the private licensee; the method and manner of assuming control of private stations designated as 'controlled stations'; or permanently closing of such stations; purchase of undertakings and the basis of compensation for such compulsory acquisition; determination of the costs of generation and allocation of such costs between 'fixed costs' and 'running charges'; the financial principles for determination of 'reasonable return', 'clear profit', allocation to depreciation and formation of various Reserves; or the problems peculiar to the electricity supply industry such as 'deferred tax liability' or effect of changes in the pattern of Company taxation introduced by the Finance Acts of 1959 and 1960. Of interest to the consumer, that is the public at large is the treatment of financial principles relating to pricing policy, the obligations of the electricity supply companies towards the consumers and their liability to provide a reliable and efficient service at reasonable cost.

Without an intelligent appreciation of these matters no electricity supply undertaking can be well administered or be able to secure its interest, that is in most cases the interest of the share-holders, nor can there be any co-operation in the nation's gigantic effort to attain the proposed targets of power development in the Third Plan.

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**to the commentary on**  
**The Electricity Supply Act, 1948 (contd.)**

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The Author has aimed at making this book something more than merely a commentary on legal aspects. Indeed, having regard to the scheme of the Electricity (Supply) Act, 1948, where virtually all matters in dispute have to be resolved by arbitration, comparatively little litigation on the interpretation of the provisions of the Act has taken place. However, a vast number of cases decided by the State Courts and the Supreme Court of the U.S.A. has been quoted (with references and cross-references) touching diverse aspects of the electricity supply industry. This case-law covers a wide range of subjects, such as principles of rate-making and the factors to be taken into consideration for that purpose; capital structure of utilities; valuations; intangible assets, goodwill and going concern values of utilities; current and operating expenditure; depreciation; amortisation; etc. The Author's aim has been to impart to the electricity supply industry and other connected undertakings a clear knowledge of the many facets of their administration and problems, whether stemming from matters of policy or from accountancy systems, such as ascertainment of 'net profits' determination of 'Capital base', question of remuneration of managing agents, or concepts of 'expenditure properly incurred' or of 'special appropriations', 'intangible assets' or function and purpose of depreciation accounting. Or to impart to them precise information on technical problems such as principles involved and factors to be taken into account in tariff making; pattern of grid tariff; determination of fixed kilowatt and running charges; or importance of load factor, power factor, diversity factor or to make a comparative study of how such problems have been dealt with in the U.K. The question of price to be paid to undertakings taken over by the Boards in dealt with at great length.

To add to the utility of this work, extracts from the U.K. Electricity (Supply) Act, 1926, on which our 1948 Act has been largely modelled, as also extracts from relevant sections of the Electricity Act, 1947, and the Electricity Act, 1957, have been quoted. For comparative study the author has drawn on the excellent Report of the Committee of Inquiry into the British Electricity Supply Industry (with Sir Edwin Herbert, LL.B., as Chairman) which crystallises the vast experience of the Industry in a handy volume and bears impressions of profound study of the problems confronting the British Electricity Supply Industry. The author has also benefited from a study of the monumental work entitled "The Economics of Public Utility Regulation", by Prof. Irston R. Barnes of the Yale University, whose unique insight into the problems affecting public utilities in U.S.A. is unrivalled.

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**The Electricity Supply Act, 1948 (contd.)**

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There are other works to which reference is made in this book, all of which disclose deep study of problems touching the Electricity Supply Industry and the Author would like his readers to peruse these works for more detailed study of specific problems so ably dealt with therein.

For easy reference, the bare text of the Electricity (Supply) Act, 1948, has been added at the end of the book.

The thanks of the Author in the preparation of this work, as also his next publication, entitled "The Indian Electricity Act, 1910, and the Indian Electricity Rules, 1956," are due to—

—*the Hon'ble, the Minister for Power, Her Majesty's Government, United Kingdom, and to the Electricity Council, for permission to quote from their various publications;*

—*the Minister of Law, Government of India, Shri A.K. Sen, and the Secretary, Shri G.R. Rajagopaul, for making available to the Author notes on Indian Case-law both on the Electricity (Supply) Act, 1948 and Indian Electricity Act, 1910;*

—*the Ministry of Irrigation and Power, Government of India, and to the Deputy Minister of Power, Shri Jaisukhlal Hathi, for making available material useful for these works and for writing a Foreword;*

—*the Editor and proprietors of the 'Mechanical World and Engineering Record' (31 King Street West, Manchester 3), for permission to quote from their publication, 'The Electrical Year Book, 1960', an extremely handy and instructive publication which within brief compass imparts technical information of great utility alike to the student and the Electrical Engineer;*

Shri R.P. Aiyer of the Federation of Electricity Undertakings of India for the benefit the Author had of numerous discussions on various problems and in particular, on the complicated provisions of the Sixth Schedule, and to the closer collaboration with whom the Author was looking forward in the preparation of these works, but which was unfortunately not available because of Shri Aiyer's pre-occupations with the affairs of the Federation and his other multifarious activities;

—*the Librarian and Staff of the Parliament Library and the United States Library, New Delhi, for making available reports of the United States Supreme Court and various other publications required for the Author's prupose;*

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**The Electricity Supply Act, 1948 (contd.)**

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*—the Author's stenographers (which expression includes the Author's wife, notwithstanding her repugnance to typing,) who alternating between threats of pendown strikes and warnings that no more books shall be written by this Author, managed to wade through the many kilograms of his none too decipherable manuscripts;*

*—and lastly to those friends who assisted the Author in diverse ways in the production of his works.*

A word of caution. The views and conclusions expressed in this publication are the Author's own, except where specifically stated to be otherwise, and should not be attributed as the views of any Government, authority or other body by reason of the courtesy they may have extended to the Author.

The Author will feel grateful for any suggestions for enhancing the utility of this book which may be addressed direct to him and which will be gratefully and promptly acknowledged.

In the fast changing panorama of the country's industrial development and the colossal capital investment proposed for power development in the Third Plan, the Author entertains a hope, this small work will be of some assistance to all those who are interested in this great venture of supplying energy to one-seventh of the world's population, that is India.

Bombay  
21st March, 1961

NAUSHIR BHARUCHA

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preface  
to the commentary on  
**The Indian Electricity Rules, 1956**

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Our late Prime Minister, Pandit Jawaharlal Nehru in February 1961, speaking in the Lok Sabha observed, "You may remember, some of you, what Lenin said once in the early days of Soviet Revolution. He said Communism in Soviets plus Electricity. I am prepared to accept that for India saying, not Communism, but progress in Panchayets plus electric power, a slight variation of the theme. Electricity is the main thing."

The Fourth Five Year Plan with its emphasis on electrical development has underlined India's earnestness in this field. The massive outlay on the development of power projects, in the neighbourhood of Rs. 2,000 crores clearly indicates our statesmen have realised that "Electricity is the main thing."

And yet while there are many books available in this country on the principles of electrical machines there is not a single available comprehensive commentary on a most important aspect of electrical development, namely the Rules, Regulations, Standards and Codes of Practice, a knowledge of which is indispensable and which must be obeyed and conformed as much in the modest electrical equipment of domestic buildings as in the day-to-day operation and maintenance of the giant complexes of electrical projects that are fast changing the face of our country.

While our rising generation of technicians, electrical engineers and electricians may well be depended on for fulfilling our technical wants, the knowledge of what the legal requirements are and the limitations within which they should day after day function, is often lacking. Breaches of Rules, Regulations and Codes of Practice occur more from ignorance than from negligence or inadvertence.

The project administrator often a capable man, but with a bare nodding acquaintance with the technical knowledge and less with the legal requirements to be observed, shoulders a grave responsibility of making important decisions without adequate legal and technical guidance to aid him in his assigned task.

This commentary on the Indian Electricity Rules, 1956, is definitely designed to stimulate an interest in project administrators, licensees electrical engineers, works managers, licensed contractors, electricians, wiremen, and indeed all those who have to deal with generation, transmission, conversion, distribution, supply and use of electrical energy, in understanding the different aspects of electricity supply industry, including legal requirements and matters of accountancy.

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preface  
to the commentary on  
**The Indian Electricity Rules, 1956 (contd.)**

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The Author has intended to provide a self-contained text with a minimum of mathematical formulae and yet with explanations of basic theories and practices. To make it a work of reference extracts from the relevant Indian and British Standards and Codes of practice as also extracts from the Regulations of the Institution of Electrical Engineers for the Electrical Equipment of Buildings have been reproduced. Constant reference is made to the corresponding provisions in the U.K. Electricity Supply Regulations, 1937, and sound practices prevailing in that country have been indicated from authoritative sources and Government publications.

Throughout the work a practical approach has been maintained and little previous knowledge of the subject is assumed. Essentials of the subject and analysis of the Rules have been set out in considerable detail, together with case-law on the subject, decisions being both of our Indian Courts and frequently of the Supreme Court of the U.S.A. The case-law covers a wide range of subjects.

To enhance the utility of the work and by way of comparative study, extracts from the U.K., Electricity (Factories Act) Special Regulations, 1908 and 1944 and from the Electricity Orders, 1956, under the U.K. Mines and Quarries Act, 1954 have been quoted, often in extenso.

In the preparation of this work the Author has received generous co-operation from many and far-flung sources.

The Author's thanks are due to—

- The Hon'ble Minister for Power, Her Majesty's Government, United Kingdom, and to the Electricity Council, for permission to quote from their various publications;*
- The Ministry of Labour, Her Majesty's Government, United Kingdom, for permission to reproduce extracts from Memorandum on Electricity Regulations applicable to Factories;*
- The Hon'ble Minister of Law, Shri A.K. Sen, Government of India, and Mr. R.G. Rajagopaul, for making available to the Author notes on Indian case-law;*
- The Ministry of Irrigation and Power, Government of India, and to the former Dy. Minister for Power, Shri Jaisukhlal Hathi for making available material useful for this work;*

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to the commentary on  
**The Indian Electricity Rules, 1956 (contd.)**

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—*The British Standards Institution, the Institution of Electrical Engineers, London, and the Indian Standards Institution, New Delhi, for permission to quote from their publications which the Author has found of great practical value;*

—*The Editor and proprietors of the 'Mechanical World and Engineering Record' (31, King Street West, Manchester 3), for permission to reproduce extracts from their 'Electrical Year Book,' and extremely handy and instructive publication;*

Dr. Luigi Parmeggiani, Chief, Occupational Safety and Health Division of the International Labour Office, Geneva, and Dr. R. Ch. Francois, Electricite de France, Gaz de France, Comite Medical and one of the organisers of the I.L.O. Meeting of Experts at Geneva on Electrical Accidents and Related Matters, for furnishing the Author material dealing with resuscitation methods, etc;

The Central Water & Power Commission, (Power Wing) Government of India, for permission to quote from the Code of Practice as regards the factor of safety for overhead lines; and Shri V. Venugopalan, for furnishing information useful to the Author;

The Director-General of Observatories, New Delhi, for permission to reproduce Wind Pressure Maps;

Shri R. P. Aiyer of the Federation of Electricity Undertakings in India, whose vast experience of the Electricity Supply Industry was always at the Author's disposal and to whom the Author is grateful for supply of useful information for incorporation in this work;

Miss Ruby Kharas, for translations from French into English; and Mrs. Sheroo Wadia, my secretary, not only for typing the entire manuscripts but for intelligent check up and revision.

A word of caution. The views and conclusions expressed in this publication are the Author's own, except where specifically stated to be otherwise, and should not be regarded as views of any Government, authority or other persons by reason of any courtesy they may have extended to him.

Also the Author desires to make it clear that the several extracts from the publications of the British Standards Institution, the Institution of

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**preface**  
**to the commentary on**  
**The Indian Electricity Rules, 1956 (*contd.*)**

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Electrical Engineers, and the Indian Standards Institution under the relevant Rules, do not, and within the limited compass of this work, cannot give an adequate idea of the contents of a particular Standard or Code of Practice and that original sources must be referred for full appreciation of the subject matter reproduced. These extracts unless specifically indicated to be verbatim should be taken to be the expression in the Author's own words of the over-all effect of their particular requirements.

The Author will feel grateful for suggestions for enhancing the utility of this work which may be addressed to him direct and which will be gratefully acknowledged.

In the context of a modern developing India in a world so full of promise and dangers, the creation of a vast industrial base is indispensable, and emphasis must be on electrical development which to-day is synonymous with civilisation. And to that end, if this work makes ever so small a contribution, the Author feels his labours will have been amply rewarded.

Bombay  
1st January, 1966

**NAUSHIR BHARUCHA**

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**preface**  
**to the commentary on**  
**The Indian Electricity Act, 1910**

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The magnitude of power development programme contemplated in the Fourth Five-year Plan serves to indicate the extent of achievements by our country in this field and the vast scope of development which still lies ahead of it. It is now being gradually realised that without a sound base of power development programme no modern country can hope to make headway in its industrial programme and without an industrial base a country would find it difficult to survive in international markets. The Indian Electricity Act, 1910, is one of our earliest legislation on electricity supply and served its purpose for well-nigh half a century when it was considerably amended by the Indian Electricity (Amendment) Act, 1959, to bring it in a line with the growing requirements of the country. Even with these amendments the Indian Electricity Act, 1910, mainly deals with the grant of licenses and licensees' powers for opening and breaking up streets, railways, etc.; laying overhead lines; charges of energy to consumers; the supply and use of energy by non-licensees; Protective clauses and usual provisions for criminal offences and the procedure to be adopted in the institution of prosecutions. Basically the Act regulates relations between the licensee or the supplier of energy and the consumer and in this respect it has stood well the test of time.

However, with the changing pattern of industrial revolution in this country and the tendency to hand over power development schemes to the public sector undertakings, the need for new legislation was felt and the Electricity (Supply) Act, 1948, came to be enacted for the purpose of rationalisation of production and supply of electricity. A new factor which is gradually emerging in this field is nuclear generation of electrical energy and will further necessitate over-hauling of our laws relating to electrical energy in India.

One of the subjects of importance of particular interest to the licensees which the Indian Electricity Act, 1910, deals with is the purchase of undertakings and determination of purchase price payable therefor. The Author has dealt with this subject in considerable detail under the relevant sections in the Act. Also in considerable detail the subject of consumers' rights against the licensees as also the liability of the licensees in this respect have been set out.

To add to the utility of this work extracts from corresponding provisions of the U.K. Acts have been re-produced for comparative study. The Author has sought to make this book more than a mere legal commentary and has dealt with many practical aspects of the day-to-day working in

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**The Indian Electricity Act, 1910 (contd.)**

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the electricity supply industry. Thus under Section 23 information is given about the factors to be considered in formulation of tariffs, the variety of tariffs prevalent in U.K. and matters such as validity of standing charges, classification of consumers, etc. In the course of a commentary such as this the reader always encounters technical terms such as 'maximum demand', 'load factor', 'power factor', 'impedance', etc. and the author has taken care to explain these terms in considerable detail under the relevant sections before dealing with the subject matter of those sections.

Similarly, under Section 34 not merely the prohibitory aspect of earthing is dealt with but the reasons for earthing, basic requirements of earthing, general rules applicable to all systems of earthing, nature and efficiency of earthing and electrolytic damage have been considered in detail. Corresponding rules from the Indian Electricity Rules, 1956, relating to earthing have been re-produced with copious explanatory notes and corresponding provisions in U.K. both with regard to earthing of low voltage installations as also earthing of high voltage systems have been discussed. To add to the practical utility of the book, relevant extracts from the various Indian Standards Codes of practice as also British Standards Codes of practice have been re-produced in considerable detail. The Author feels that as a result of this treatment the book has finally emerged as a work of reference useful not only to lawyers and law courts but also to administrators of our power projects, electrical engineers and electricians, while it provides a fund of information both to the licensees and the consumers.

A work of this character obviously could not have been undertaken by the Author but for the help which numerous institutions and individuals extended to the Author in a generous measure.

The Author's thanks are due to—

- The Honourable Minister for Power of Her Majesty's Government, United Kingdom, and the Electricity Council, London, for permission to quote from their various publications;*
- The Ministry of Labour, Her Majesty's Government, United Kingdom, for permission to reproduce extracts from Memorandum on Electricity Regulations applicable to Factories;*

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to the commentary on  
**The Indian Electricity Act, 1910 (contd.)**

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- Shri A.K. Sen, former Law Minister, Government of India, and Mr. R.C. Rajagopaul for making available to the Author, notes on Indian case-law;*
- Shri Jaisukhlal Hathi, former Minister of Irrigation & Power, Government of India, now Union Minister for Labour, for making available material useful for this work;*
- The British Standards Institution, the Institution of Electrical Engineers, London, and the Indian Standards Institution, New Delhi, for permission to quote from their publications which the Author has found of great practical value;*
- The Editor & Proprietors of the 'Mechanical World and Engineering Record' (31, King Street West, Manchester 3), for permission to reproduce extracts from the 'Electrical Year Book', an extremely handy and instructive publication;*
- Shri R.P. Aiyar, of the Federation of Electricity Undertakings in India, whose vast practical experience of the electricity supply industry was always at the Author's disposal and to whom the Author is grateful for supply of useful information for incorporation in his works.*

A word of caution. The views and conclusions expressed in this publication are the Author's own, except where specifically stated to be otherwise, and should not be regarded as views of any Government, authority or other persons by reason of any courtesy they may have extended to him. Also the Author desires to make it clear that the several extracts from the publications of the British Standards Institution, or the Indian Standards Institution under the relevant sections, do not, and within the limited compass of this work, cannot give an adequate idea of the contents of a particular Standard or the Code of Practice and that original sources must be consulted for the full appreciation of the subject matter reproduced. These extracts unless specifically indicated to be verbatim, should be taken to be the expression in the Author's own words of the overall effect of their particular requirements.

The Author will feel grateful for suggestions for enhancing the utility of this work which may be addressed to him direct and which will be gratefully acknowledged.

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**preface**

**to the commentary on**  
**The Indian Electricity Act, 1910 (*contd.*)**

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With the issue of this volume the Author has covered in main the law relating to electrical energy in India. His first work was a commentary on the Electricity (Supply) Act, 1948, which covered the duties, powers and functions of State Electricity Boards and their relations with the licensees. His second book was a commentary on the Indian Electricity Rules 1956, which regulate the day-to-day practical working of the electricity supply industry. The present volume completes the law relating to electrical energy by dealing with the subjects referred to earlier in this preface.

In modern India which is moving fast to claim its rightful place amongst the nations of the world, the creation of a vast industrial base is indispensable and the power projects without which such a base cannot be created are bound to assume foremost importance. And if in the development of the power projects of our country, this work makes ever so small a contribution, the Author will feel his efforts have not been in vain.

Bombay

**NAUSHIR BHARUCHA**

NOTE

I am much grieved to record the sad and untimely death of my husband, the Author of this Book Mr. Naushir C. Bharucha on 9th July, 1967.

It is an irony of fate that when the Author of this Book was about to breathe life into this Book and it was in the process of final printing, that he breathed his last. I therefore decided to bring out this Book so that his memory may ever remain fresh in the minds of those who may benefit through this humble effort.

I sincerely thank all persons who took personal interest and have helped me, particularly my secretary Mrs. Sheroo K. Wadia, in bringing out this posthumous publication.

Bombay  
30th August, 1967

**KATIE NAUSHIR BHARUCHA**

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