

with a view to determining the facilities available in these institutions, to ascertain their needs and bring the systems of training to a certain standard. These Committees have submitted their reports and these will be considered at this meeting of the Council, whereupon adequate grants will be recommended by the Council to the Government for distribution among these institutes.

On the question of making a detailed survey with a view to determining the needs of industries, there can, of course, be little controversy. If schemes of extending technical facilities are undertaken without regard to actual needs, facilities may be far in excess of needs and, it is contended, the recruits annually turned out may fail to be absorbed in gainful occupations for lack of commensurate expansion of industries. All this is no doubt true; but when the detailed and comprehensive survey of a vast country must necessarily take some time to be completed, this should not be allowed to prevent a beginning to be made in the direction of providing such facilities. Taking, for example, the case of India it can be pointed out that facilities for technical education in this country are so meagre and insufficient to meet even the existing demands that the establishment of a few technical institutions before the survey is completed can never be regarded as leading to a surfeit of such facilities. The plans of hydroelectric development, road-building projects, irrigation and agricultural improvements and various other plans lying ready in the archives of the Governments, both Central and Provincial, would require a large body of technicians. It has been estimated by a British Engineering Journal that the schemes of water-power development alone would need 20,000 technicians. These are only the needs of Governments in some of their departments. There is also the growing volume of requirements of private industries to be satisfied. All these would clearly show that the establishment of a few technical institutions immediately, as recommended by the Council, can by no means be regarded as creating a condition in which the annual number of recruits trained by these institutes exceeds the annual intake of indus-

tries, even as we can visualise the latter's needs in a rough and ready manner. Further, in a matter which concerns the education and training of individual human beings, adjustments of supply and demand should be made within wide tolerances. While it may be feared that the creation of new technical facilities may lead to unemployment if they are in excess of existing needs, it is equally plausible to argue that in the case of a growing and newly-developing country the presence of these technicians may act as a spur to development, thereby creating their own conditions of work and employment. In the present condition of India, of course, there can be no question of the supply of technicians outrunning demand. In the future scheme of things also the status of technical and managerial personnel will arise, as finance loses some of its dominating role.

I may here refer to a prevailing notion about the import of foreign technical skill and industrial "Know-how" from abroad to meet India's demands. We shall, no doubt, have to depend on foreign assistance in many spheres at the initial stage, since we have at present very little technical force of our own. But the possibility of any large-scale import of foreign technical experts must be ruled out at present, and this for two reasons. In the first place, there are the calls of reconstruction in Europe and elsewhere, and the enormous industrial and governmental undertakings contemplated in Europe and America to provide full employment. Already a shortage is being felt in these countries of high-grade technical personnel and efforts are being made to meet these shortages. It would be difficult, if not impossible, in these conditions, to secure the services of technical personnel from abroad to the extent required by India. Further, whatever services may be available, a tendency has been recently at work for foreign technical experts to demand, apart from extortionate prices, a controlling influence in the concerns for which their services are required. This is all the more reason why India should build up her own higher technical force with the greatest possible expedition.

THE EDITOR, CURRENT SCIENCE

MR. M. SREENIVASAYA, Editor, *Current Science*, left India on the 26th June for an extensive tour of Europe and America. In the course of his tour he will attend the Science Conferences in Sweden, visit important research laboratories, industrial plants and academic in-

stitutions. He also proposes to renew and make fresh contacts with the editors and sponsors of scientific journals in the countries of his visit. During his absence from India Mr. K. S. Rangappa, Assistant Secretary, will look after the duties of *Current Science*.

PRINCIPLES FOR THE CONTROL OF PUBLIC UTILITY ELECTRICITY SUPPLY FINANCE*

THE Advisory Board was constituted by the Government of India to examine the principles for the control of Public Utility Electricity Supply Finance, formulated by the Electrical Commissioner with the Government as to which of them should be adopted and to what extent and in what manner they should be enforced. The principles are to constitute the sixth schedule of the Electricity (Supply) Bill, 1946, and are to be incorporated as an amendment to the Indian Electricity Act, 1910.

The Advisory Board consisted of Mr. H. M. Mathews, Electrical Commissioner with the Government of India (Chairman); Mr. D. L. Mazumdar, Joint Secretary to the Government of India, Department of Works, Mines and Power; Mr. P. B. Advani, Special Officer (Electric Grid), Bombay; Mr. K. V. Karantha, Chief Electrical Inspector to the Government of Madras, and Mr. I. A. Macpherson, nominated by the Federation of Electricity Undertakings in India. The report of the Advisory Board was unanimous in every respect except for a note of dissent by Mr. Macpherson regarding "Standard Rate", mention of which is made in the relevant place.

2. The need for an effective and uniform method of control of Public Utility Electric Supply finance has been keenly felt, owing to the fact that under the existing conditions there are a number of factors which retard the development of the electric supply industry in India. The chief of them are: (i) A large number of small undertakings, the issued Capital of which is under Rs. 5 lakhs, exist, and their development has undoubtedly been impeded by difficulties experienced in raising capital and the high rate of interest demanded for its provision. (ii) The monopolistic character of such undertakings has led to many abuses in the absence of an adequate control. (iii) The amount of financial control which a Provincial Government can exercise under the Indian Electricity Act (1910) is inadequate. (iv) The interests of the consumer often take a second place to those of the shareholder.

The principles were, therefore, devised so as to fulfil the following objects:

- (a) To safeguard the interests of the consumer by limiting interest and dividends payable to shareholders to the minimum necessary to ensure an adequate flow of development capital, and thus effect a reduction in the selling price of electricity.
- (b) To safeguard the interests of investors (and, in the long run, of the consumers as well) by insistence on a properly devised system of compulsory depreciation and at the same time permit the earning of a "reasonable" or "fair" return on the investment.
- (c) To regulate the commission and expenses of Managing Agents within reasonable limits having regard to the special circumstances of the industry.

* A Note on the Report of the Advisory Board on the Principles for the Control of Public Utility Electricity Supply Finance.

The salient features of the principles are as follows:—

CAPITAL BASE

Under these principles the amount allowable as divisible profits will mainly depend on the size of the undertakings' "Capital Base" which is defined as "the depreciated cost of fixed and intangible assets plus working capital but exclusive of goodwill and non-compulsory investments, Debenture and Preference Capital". The Capital Base recommended will permit the various undertakings, who have indulged in the past in the capitalisation of revenue partly at the consumer's expense, to retain the assets thus acquired in the Capital Base. Once the Principles are enforced, however, this practice will automatically cease and when new development capital is required, instead of employing surplus profits, etc., it will be necessary for the undertakings to raise fresh capital from the Public or borrow from other sources.

The relation which the "Capital Base" will bear to the paid-up ordinary share capital will depend on several factors. The "Capital Base" may be greater than the paid-up ordinary share capital in the case of undertakings which have not been prevented from earning an unduly high profit and have been able to capitalize part of this; and conversely may be less for the reason, e.g., the profit and development of the undertaking may have been restricted. The amount in the "Capital Base" represented by the "ploughing back" of undistributed profits prior to the introduction of the principles will signify less and less, and as time goes on, because the tendency will be for the "Capital Base" to approximate more and more to the paid-up ordinary share capital, any excess in the long run being represented by the effects of efficient management.

STANDARD RATE

3. The "yard-stick" which is used to measure what is considered to be a "Reasonable Return" on the "Capital Base" is the "Standard Rate" and the "Standard Rate" is taken to be—in respect of any accounting year the redemption yield of the longest dated terminable loan of the Central Government last issued prior to the last accounting year of the licensee, adjusted to the nearest one-quarter of one per cent., as declared for this purpose at the end of the Government financial year by the Reserve Bank of India to the Central and Provincial Governments, plus

- (i) 3.5 per cent. for the first Rs. 10 lakhs of the Capital Base;
- (ii) 3.0 per cent. for the next Rs. 40 lakhs of the Capital Base; and
- (iii) 2.5 per cent. for the balance of the Capital Base.

4. [Mr. Macpherson recommended in his note of dissent that (i), (ii) and (iii) should be 5.5 per cent., 5 per cent. and 4.5 per cent. respectively.]

"REASONABLE RETURN"

is taken to be—

- In respect of any accounting year, the sum of:
- (a) The amount arrived at by applying the standard rate to the Capital Base at the end of that year;