metals, determination of pH and its application, general electro-chemistry, etc.

6. *Refractories Division* including study of moulding sands, binders and auxiliary materials, thermal and other physical characteristics, physical properties at various temperatures, petrographical study of minerals and refractories, etc.

7. *Survey and Intelligence Division* including survey of raw materials, library, research and technical information service, translation service, scientific liaison, museum, publication and publicity.

Summarily, the Laboratory is meant to function as an up-to-date research centre where knowledge of the fundamental science of physics, physical and inorganic chemistry, metallography, engineering, etc., will be utilized to solve the problems which confront the ferrous and non-ferrous masters and metal fabricators to-day and are expected to confront them even more in the future when competition from foreign countries will have to be met. The Laboratory is also meant to function as a clearing house for information. The Laboratory will give facilities to a number of scholars to an advanced course and will train them in the application of scientific methods to metals industries, so as to enable them to take charge of technological duties in the works. To help and encourage industrialists in the solution of their problems, facilities will be provided at the Laboratory by establishing Fellowship System, first inaugurated at the Mellon Research Institute, Pittsburgh.

The Laboratory will consist of a Main Building housing administrative offices, research laboratories, library, lecture theatre, museum, etc., and a Technological Block comprising large workshop-type laboratories or bays associated with control rooms for semi-commercial scale operation. The Main Building will have three floors. The administrative section is centrally located on the second floor. The actual working floor area on the first floor is approximately 26,000 sq. ft., with an equivalent space on the ground floor and about 8,600 sq. ft. on the second floor. The Technological Block providing a working floor area of about 28,000 sq. ft., has been situated to the south of the Main Building and connected to it by covered ways. The individual laboaratories and the administrative section in the Main Building will be air-conditioned by refrigeration system.

The total cost of construction and equipment of the Laboratory is estimated to be Rs. 42,80,000. *Buildings, services,* air-conditioning, heavy electrics, etc., are estimated to cost Rs. 25,00,000 and for equipment a provision of Rs. 17,80,000 has been made. The recurring expenses in the initial stages are approximately estimated at Rs. 6,00,000.

HYDERABAD ENGINEERING STANDARDS COMMITTEE

IN order to bring the P.W.D. Officers together for the purpose of discussion of their problems and programmes and to benefit by personal contacts, a Conference of the P.W.D. Officers was held for three days in Hyderabad. It was presided over by the Hon'ble Nawab Zain Yar Jung Bahadur, the P.W.D. Member, and was attended by the Chief Engineers, Superintending Engineers and all the Executive Engineers and Divisional Engineers. They visited the Engineering Research Laboratories on the 14th of December 1946 when the various experiments regarding irrigation, building and road researches were shown to them. The next day Dr. S. P. Raju, Director of Engineering Research, moved the following resolution at the Conference :—

> "*Resolved* that in view of the importance of accurate determination of strength of materials and their economical use in construction, an Engineering Staandards Committee be formed to work in collaboration with the Engineering Research Department, with the programme of collection of the different engineering materials of the State, their systematic testing and the drawing up of the standards of specifications."

In explaining the need of such a Committee Dr. Raju stated that the fact of American engineers constructing some of the biggest buildings, dams and other engineering structures in the world was due to their confidence in their knowledge of materials and methods of construction derived by extensive testing and standardising of specifications. He referred to the work of the American Society for Testing Materials (A.S.T.M.), American Society of Highway Officials (A.S.H.O.) for Road Standards, Bureau of Reclamation for Irrigation Standards and then to the British Standards Institution.

He was glad that the Government of India had decided to set up an Indian Standards Institution with the object of evolving national standards in respect of structures, materials, operations, practices, etc. He referred to the speech of the Hon'ble Member in which he had said : "In order to get the greatest good out of engineering research there must be a close co-ordination between engineering practice and engineering research" and stressed the need of a body like the Conference of P.W.D. Officers to be associated with researches on materials and their standardisation.

The Hon'ble Member strongly supporting the resolution mentioned some of the big things he has in view for engineering progress in Hyderabad which would be needing the help of such a Standards Committee and stated that the Research Laboratories and the P.W.D Officers may thus co-operate in a work of great importance and be linked with the National Body of the Indian Standards Institution.

The Proposals were unanimously accepted.

Hyderabad has the good fortune of carrying an Engineer-P.W.D. Member who can, not only administer the Department but also enter fully into its technical details.
