

ISI

28th

twentyeighth



annual report

april 1974 -
~~march 1975~~

INDIAN STANDARDS INSTITUTION

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CONTENTS

INTRODUCTORY REMARKS

PART I GENERAL REVIEW

9

PART II DIVISIONAL REPORTS

58

0. Introduction	...	...	...	...	...	58
1. Agricultural and Food Products Division	...	...	...	...	...	62
2. Chemical Division	...	...	...	...	...	64
3. Civil Engineering Division	...	...	...	...	...	67
4. Consumer Products and Medical Instruments Division	...	...	...	...	...	68
5. Electrotechnical Division	...	...	...	...	...	69
6. Marine, Cargo Movement and Packaging Division	...	...	...	...	...	71
7. Mechanical Engineering Division	...	...	...	...	...	71
8. Structural and Metals Division	...	...	...	...	...	74
9. Textile Division	...	...	...	...	...	77
10. Sectional Committees Under the Executive Committee	...	...	...	...	...	78
11. Statistics Department	...	...	...	...	...	79
12. Research and Investigations	...	...	...	...	...	81

PART III INTERNATIONAL ACTIVITIES

83

1. International Organization for Standardization (ISO )	...	...	...	...	...	83
2. International Electrotechnical Commission (IEC )	...	...	...	...	...	92

APPENDICES

102

A. Audited Accounts for the Year 1974-75	...	...	...	...	...	102
B. Principal Officers of ISI	...	...	...	...	...	110

INDIAN STANDARDS INSTITUTION — General Information

114

APPRECIATION

On the completion of twenty-eight years of its service to the Nation, the Indian Standards Institution views with satisfaction the contribution it has made and is presently making in different spheres of industrial and economic life of the country.

The Institution expresses its deep appreciation for the specialized technical assistance and financial support received during the year under report from the ever-growing circle of its members and other organizations and individuals, interested in its work with whose active cooperation and help it has been able to accomplish its present achievements.

It is a measure of operational efficiency and popularity of the Institution that it has been able to bring together diverse interests like public and private sectors, official and the non-official, and the producer and the consumer and make them work in the common cause of achieving, through standardization and quality control, industrial progress and trade efficiency, ultimately leading to the economic advancement of the country.

The interest taken by various sectors of economy in the activities of the Institution bears ample testimony to the growing consciousness of the importance of standardization in the fast-developing economy of the country. The Institution looks forward with confidence to the continued support and active participation in its work from different economic interests representing industry, trade and commerce; research, technology and science; Government; consumers and purchasers.

INTRODUCTORY REMARKS

The end of 1974-75 marks the completion of twenty-eighth year of dedicated service of the Indian Standards Institution (ISI) to the cause of national development. During this period, the Institution has significantly contributed to the growth of industrial potential, promotion of internal and international trade, and strengthening of overall economy. Today, standardization and quality control are playing an important role in streamlining and simplifying production processes, increasing productivity, promoting import substitution, developing exports and making optimum use of scarce resources.

By 31 March 1975, the Institution had more than 8 100 Indian Standards in force covering a wide range of materials, industrial and agricultural products, test methods and codes for design and construction practices. This achievement reflects the cooperative efforts of some 29 000 technical experts constituting the membership of over 2 000 Councils and Committees of ISI drawn from Central and State Governments, industrial establishments, commercial organizations, universities and research and other technical institutions in the country. It is a measure of the Institution's operational efficiency and popularity that this vast community of members and the organizations they represent are rendering all support in a system of standardization which is primarily voluntary.

During the year under report, greater emphasis was laid on the implementation of standards. Coupled

with a drive for wider application, sustained efforts were made to improve the utility of standards by integrating the concept of quality control with standardization. As a result, about 75 percent of standards have been adopted by the various Departments of Central and State Governments and industrial undertakings in public and private sectors.

The ISI Certification Marks Scheme, which is an effective medium for implementation of Indian Standards, as also for protection of consumer interest, continued to grow in popularity. About 4 300 licences, covering goods with annual production value of Rs 8 500 million, were granted by 31 March 1975. Some new products of consumer interest, which were brought within the scope of the Scheme, included aluminium milk boilers, chewing gum, bubble gum, cotton yarn (grey), DDT (technical), ferro-alloys, food colour preparations, insecticidal space spray, rubber soles and heels (moulded solid), soda ash (fused and technical), spark ignition engines, sprayers (atomizer type) and steel sections for industrial buildings.

It is an indication of consumers' reliance on ISI certification that more and more organizations in the public and private sectors are giving preference to products bearing ISI Mark. The steel industry — both primary producers and re-rollers — has been certifying structural steel under the ISI Scheme for some years now. According to a Government Notification, it was proposed to extend the coverage to various types of alloy steels and cast billets produced by mini steel plants. The Union Ministry of Petroleum and Chemicals have advised formulators of pesticides that they would not be eligible for allocation of raw materials for such formulations as are not covered by ISI Mark. The State Governments of Assam, Bihar, Meghalaya, and West Bengal have agreed that only ISI-marked pesticides would be permitted to be used for plant protection work. Registrars of Cooperative Societies of all States and Union Territories were told that consumer cooperative stores should purchase ISI certified goods, wherever available. The Union Ministry of Agriculture advised the Directors of Agriculture/Industries of all the States and State Agro Industries Corporations to

encourage the units manufacturing agricultural machinery and implements to adopt ISI specifications and also to include the ISI Certification Mark wherever applicable as one of the requirements to be met for selection, purchase and popularization of implements.

Concerted efforts were made by the Institution to promote implementation of the National Building Code of India, which is a comprehensive guide dealing with the entire question of building construction from byelaws through design and construction to installation of all services. Assistance was rendered to various organizations to align their building byelaws with the provisions of the Code. The National Committee on Science and Technology recommended further extension work for which two science and technology projects were drawn up. One of them relates to production of a number of handbooks, charts and other aids for design engineers. The other concerns typification of industrial building under which ISI will prepare a series of typical designs for industrial structures of various types.

In order to carry the economic benefits of standardization to plant-level operations, the Institution continued its efforts to promote in-plant or company standardization activity. Special emphasis was laid on 'Extension Services' which were offered to the industry for promoting company standardization activities, metricization and quality control. A number of industrial units were benefited from these services during the year under report.

In its efforts to promote educational utilization of Indian Standards, the Institution organized a number of orientation courses aimed at acquainting technical teachers with the work of ISI. These were intended to prepare the ground for introducing the subject of standardization in technical education. As on 31 March 1975, 1 688 faculty members drawn from 305 educational institutions all over India have participated in these Orientation and Review Programmes organized by the Institution in different parts of the country.

In the international sphere, the Institution earned further goodwill through its active participation in

the work of International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). It participated in the meeting of ISO Council held in Geneva and Annual General Meeting of the IEC held in Bucharest. On a request from the Government of Socialist Republic of the Union of Burma, Shri S. K. Sen, Director General, ISI, visited Rangoon to advise Burmese Government on the question of adoption of metric system. He also visited Algeria on a request from the Government of Algeria which sought ISI's collaboration for organizing the standardization work of the Algerian Institute for Standards and Industrial Property (INAPI). Dr. A. K. Gupta, Deputy Director General, ISI, represented India at the fourth session of the Asian Standards Advisory Committee (ASAC) held at Kuala Lumpur from 16-19 December, 1974.

The Institution has been helping developing countries of Asia, Africa and Latin America in training their standards personnel. These training facilities are offered under the Technical Assistance Plans of the Government of India. A 15-week course is organized every year for the overseas trainees to study the principles of standardization and observe their application by ISI and the Indian industry. During the period under report, seven trainees from Panama, Ethiopia, Trinidad, Sudan and Egypt participated in the programme. So far, 71 technical personnel from 20 countries have received training at the Institution.

In pursuance of the Inter-governmental Agreement between USSR and India on Cooperation in the field of Science and Technology, a plan of bilateral cooperation between the two countries in the field of standardization and metrology was agreed upon in 1973 when a Working Group was set up to review the progress of the collaboration. The Second Meeting of the Working Group was held in New Delhi from 18-25 November 1974. A 5-member Russian Delegation, headed by Mr A. M. Nikiforenko, Vice-President of USSR State Committee of Standards participated. The decisions taken in this meeting covered working programme for the year 1975, reciprocal visits of Soviet and Indian specialists and new areas proposed for collaboration.

PART I

GENERAL REVIEW

The General Review provides a resumé of the various activities and achievements of the Institution during the period April 1974 to March 1975.

Standards Published — During the year under review (1974-75), 684 Indian Standards were printed as against 676 printed last year. The number of Indian Standards in force, including those under print but excluding those withdrawn, increased from 7 760 on 31 March 1974 to 8 105 till 31 March 1975. Further, reprints of 426 Indian Standards were printed against a corresponding figure of 641 for the last year.

Full information regarding total number of Indian Standards published, standards in force, standards revised, standards withdrawn and draft Indian Standards circulated as on 31 March 1975 is as given below:

a) New standards issued during the year	375
b) Indian Standards revised during the year	235
c) Total number of standards (new and revised) issued during the year	610
d) Standards withdrawn during the year	32
e) Cumulative total of standards issued up to 31 March 1975	8 416
f) Cumulative total of standards withdrawn up to 31 March 1975	311
g) Indian Standards in force as on 31 March 1975	8 105
h) Cumulative total of Indian Standards revised up to 31 March 1975	2 166
j) Cumulative total of Indian Standards (new and revised) published up to 31 March 1975	10 582
k) Draft Indian Standards circulated during the year	673
m) Cumulative total of draft Indian Standards circulated up to 31 March 1975	11 346

ISI Certification Marks Scheme — The ISI Certification Marks Scheme registered considerable progress during the year under report. Five hundred new licences were granted and the value of goods covered under the Scheme increased to Rs 8 500 million.

Progress of Work — The progress of the ISI Certification Marks Scheme during the past 10 years can be seen from the graphical representation in Fig. 1 (see P 12). Increase in the number of licences granted, applications received and income earned from Certification Marking during the past two years is as follows:

	During the Year Ended	
	31 March 1975	31 March 1974
a) New licences granted	500	408
b) Total number of licences granted since inception of the Scheme	4 284	3 784
c) Total number of licences in operation	2 697	2 416
d) Applications received for grant of licences	1 507	681
e) Total number of applications received since inception of the Scheme	8 708	7 201
f) Number of applications pending for grant of licences out of the applications received	1 248	470
g) Total number of applications pending for grant of licences	2 212	1 380
h) Number of applications closed for various reasons	2 212	2 037
j) Total income from Certification Marking	Rs 6.5 million	Rs 5.1 million
k) Annual value of goods covered under the Scheme	Rs 8 500 million	Rs 5 000 million (Approx)

The number of applications for grant of licences received during the year (1507) showed a significant increase over that of the previous year (681). This can be taken to be an indication of wider acceptance of the Scheme both by the manufacturers and users for the services it renders for building product quality during manufacture and for procurement of standard products by the users.

The increase in the value of certified goods by Rs 3 500 million (Rs 8 500 million — Rs 5 000 million) can be explained partly due to general rise in the cost of goods and partly by greater use of certification mark by ISI licensees.

The number of applications pending for grant of licences at the end of the year under review (2 212) also shows a significant increase over that of the previous year (1 380). This calls for providing additional input for effective administration of the Scheme for which action has already been initiated.

The new products brought under the Scheme during the year total 80; these include aluminium milk boilers, ammonium and potassium bromide, carbon-chromium steel for balls, rollers and bearing races, chewing gum and bubble gum, cotton yarn (grey), DDT (technical), dust applicator, ferro-alloys, food colour preparations, hand rotary duster, insecticidal space spray, rotary paddy weeders, rubber soles and heels (moulded solid), soda ash (fused and technical), spark ignition engines, sprayer (atomizer type), steel sections for industrial buildings.

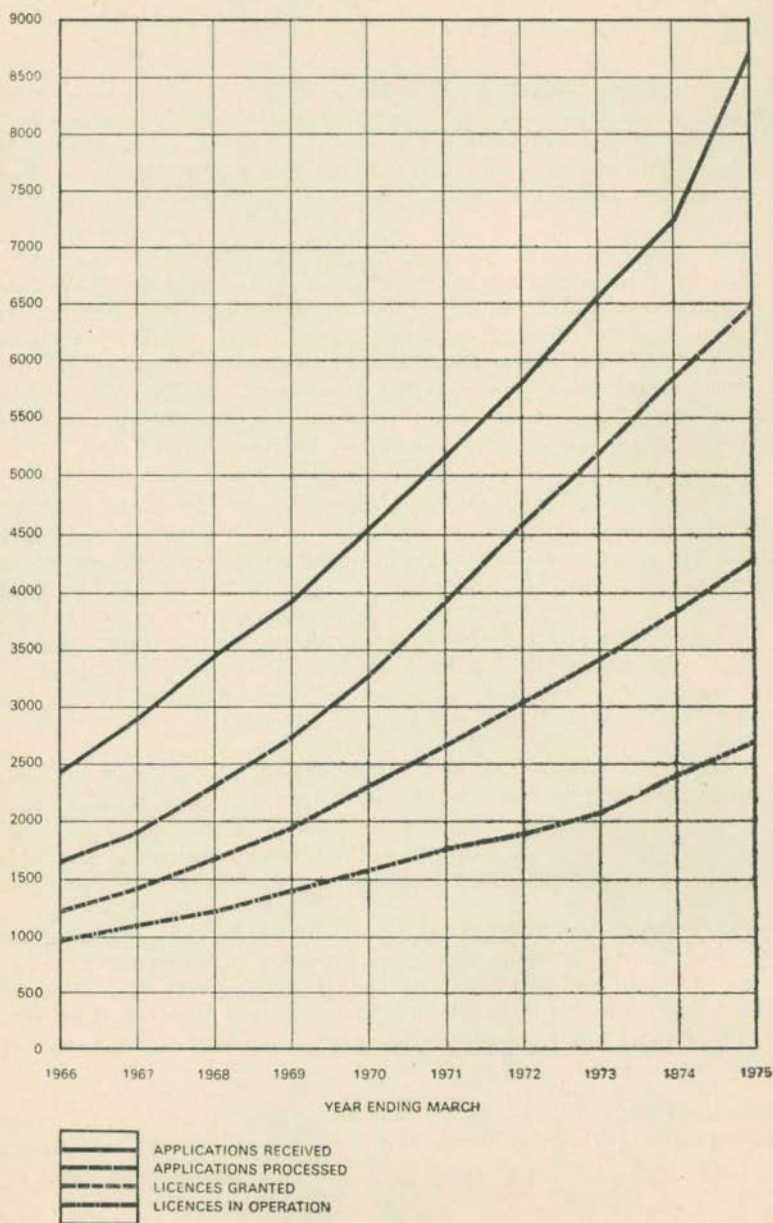
Applications Pending for Grant of Licences — Of the 2 212 applications pending for grant of licences as on 31 March 1975, action rested with the Institution in respect of 568 applications and with the applicants in respect of 1 644 applications. Action pending with ISI included preliminary inspections to be carried out, samples to be tested, schemes of testing and inspection to be prepared and fixation of rates of marking fees. The actions to be taken by applicants included testing facilities to be completed, marking fees to be accepted, samples of products to be offered to ISI for testing, etc.

Inoperative Licences — As on 31 March 1975, a total of 1 587 licences were inoperative. The licences become inoperative for reasons, such as lack of interest on the part of licensees, closure of the firm, change in the name and constitution of the firm, difficulties in operating the Scheme resulting in unsatisfactory performance, etc.

Developmental Activity Scheme — Efforts continued to be made to develop further the certification marking of new products of which specific mention may be made of agricultural implements, ferro-alloys and food colour preparations for which the Institution started issuing licences. Certification of paper and rubber products is under discussion with concerned authorities.

Recognition to ISI Mark/Specifications — In addition to the existing orders of the Central and a number of State Governments recommending to their purchase organizations to give preference to ISI-marked goods,

FIG. 1 PROGRESS OF ISI CERTIFICATION MARKS SCHEME



wherever available, the following organizations also gave recognition to ISI Mark/Specifications:

a) *Agricultural Machinery and Implements*

1) The Union Ministry of Agriculture vide their notification No. 4-7/74-My. (Imp) dated 3 September 1974, addressed to the Directors of Agriculture/Industries of all the States and also the State Agro Industries Corporations, advised them to encourage the units manufacturing agricultural machinery and implements to adopt ISI Specifications and also to include the ISI Certification Mark, wherever applicable, as one of the requirements to be met for selection/purchase and popularization of implements.

2) The Deputy Director, Agricultural Protection (Uttar Pradesh) has advised the manufacturers of agricultural protection implements that only such firms would be considered for rate contract and issued purchase orders as would obtain Certification Marks Licence from ISI.

3) The Purchase Subcommittee of the Land Development Bank, Kanpur, in its meeting held on 14 January 1975 decided to finance the purchase of diesel engines with ISI Mark or marked with UP Government 'Q' Mark. It was also clarified that recognition to quality marked engines was only for a year during which period they should obtain ISI Mark, in the absence of which the recognition for 'Q' Mark would be withdrawn. It was also decided by the Committee to recognize all certified electric motors, and the pumps supplied should also be with such engines or electric motors.

b) *Animal and Poultry Feeds*

Agriculture (Veterinary) Department of the Government of Madhya Pradesh decided that purchases for poultry and animal feeds for the Veterinary Department be made from the products bearing ISI Certification Mark. Accordingly, the Director of Veterinary Services of the State allowed a period of one year with effect from 8 July 1974 to enable the units manufacturing such products to obtain ISI Mark.

c) *Baby Food and Malted Milk Food*

For the purpose of issuing release orders for imported skimmed milk powder by the actual users manufacturing baby food and malted milk food, the Chief Controller of Imports and Exports, Ministry of Commerce, vide his Public Notice No. 215-ITC (PN)/73 dated 11 December 1973, decided that as an *alternative* to the submission with their applications of a certificate from the State Health Authorities, certifying conformity of their products to the specifications laid down under the *Prevention of Food*

Adulteration Rules, 1955, they could also submit a certificate from the Indian Standards Institution that the product manufactured by them conforms *inter alia* to quality, packing and labelling, laid down by the Institution.

d) *Building Materials*

1) *Bricks* — The Department of Supply and Commerce, Government of Bihar, vide notification No. G. S. R. 74 dated 29 June 1974 issued the Bihar Bricks Control Order, 1974 which lays down that:

‘No licensee shall manufacture bricks of size and specification other than the metric size and specification of bricks specified in the Indian Standard Specification IS : 1077-1970 appended to this order or its current standard as modified from time to time:

Provided that for a transition period of two years from the commencement of this order, the licensee may continue to manufacture bricks of old size or non-standard size up to fifty percent of the total annual production.’

2) *Equipment/appliances in industrial risks* — The Tariff Advisory Committee, vide its circular No. Est/15/410-Insp dated 16 December 1974, advised the chambers of commerce in India and the manufacturers of equipment/appliances used in industrial risks that with effect from 1 May 1975, it would be necessary that such equipment/appliances bear the ISI Mark or carry a certificate by a Test House approved by ISI to the effect that such equipment/appliances conform to the relevant Indian Standard specification on the subject.

3) *Steel* — The Union Ministry of Industrial Development issued a Gazette Notification under S. O. No. 294 (E)/IDRA/29B/1/7417 in the Gazette of India, Extra-ordinary, Part II, Section 3, Sub-section (ii) dated 15/16 May 1974, directing the industrial undertakings manufacturing mild steel ingots from electric furnaces or rolled products from the ingots to take the ISI Certification Marks Licence and get their registration certificates endorsed by the Central Government not later than 31 December 1974 for producing the following quality of steels:

- i) Electrode quality carbon steels;
- ii) Forging quality carbon steels;
- iii) Cold heading quality carbon steels;
- iv) Hardening and tempering quality carbon steels;
- v) Carbon, carbon-manganese and, silicon steels;

- vi) Manganese quality of spring steels;
- vii) Carbon tool steels;
- viii) Case hardening quality carbon steels; and
- ix) Free cutting quality carbon sulphur steels.

4) *Water fittings* — The Water Bye-laws of the Bombay Municipal Corporation specify that 'provided further that whenever an Indian Standard is available, it shall supersede the specification prescribed in the Schedule'.

Specifying a time schedule for introduction of ISI certified water fittings, the Hydraulic Engineer, vide his circular No. HE/163/...WWC (city) dated 16 August 1973, informed all concerned as under:

- i) Up to 31 March 1974, all water fittings on the approved list of the Bombay Municipal Corporation for the current year shall be allowed to be used;
 - ii) From 1 April 1974 to 31 March 1975 — only those water fittings which conform to relevant Indian Standards in vogue, with or without the ISI Mark, shall be considered for inclusion in the Approved List; and
 - iii) From 1 April 1975 onwards the pre-requisite condition shall be that the fittings shall bear ISI Mark for inclusion in the Approved List.
- e) *Footwear* — The Directorate General of Mines Safety, vide its circular No. 21 of 1974 dated 21 June 1974 addressed to owners, agents and managers of all mines, fixed 31 December 1974 as the last date by which they had to provide all mine workers with approved footwear, manufactured in accordance with the following Indian Standards:
- 1) IS: 1989-1973 Safety leather boots and shoes,
 - 2) IS: 3976-1967 Safety rubber canvas boots, and
 - 3) IS: 5557-1969 Industrial and safety rubber knee boots (Type 3 — Gum boots)

f) *Pesticidal Formulations*

1) The Ministry of Petroleum and Chemicals by its letter No. A&I-33(17)/73 dated 19 January 1974, addressed to the Directorate General of Technical Development desired them to advise the formulators in the organized sector to obtain ISI Certification Mark licences for all their formulations within a period of six months failing which they would not be eligible for allocation of technical material. A similar advice was sent simultaneously to the Pesticides Association of India.

- 2) The Director of Agriculture, Government of Meghalaya vide his circular No. Agri/Dev-2/74-75 dated 29 April 1974, advised the District Agricultural Officer and Block Development Officers that to ensure purchase and distribution of quality pesticides, they might restrict their purchase to ISI-marked pesticides only, wherever available.
- 3) The Director of Agriculture, Government of West Bengal, vide his letter No. 119/SR dated 3 May 1974, informed that whenever they purchased pesticides, they insisted on having the product with ISI Mark.
- 4) The Director of Agriculture, Government of Assam in his letter No. Dev/Plan/Lab/3 dated 27 May 1974 addressed to the Managing Director of Assam Agro-Industries Development Corporation Ltd, desired him to advise the formulators and suppliers of pesticides to obtain ISI Mark for their products and also that the pesticides supplied to the Agricultural Department should bear the ISI Mark to ensure their quality.
- 5) The Directorate of Agriculture, Andhra Pradesh recently included the following clause in the tenders issued by them for purchase of pesticides:
 - '8) Payment will be made
 - i) In case the supply with ISI Mark; 90% immediately on receipt of stocks and balance 10% on receipt of analysis report.
 - ii) In case the supply without ISI Mark; 100% on receipt of stocks and analysis report.'
- 6) The plant Protection Officer, Department of Agriculture of the Government of Bihar vide his circular No. 530/2.1.75 advised all the formulators of pesticides in the State to obtain ISI Mark for all their products. Grant of licence for manufacture, selling, stocking or exhibiting for sale or distribution of insecticides shall be subject to their obtaining ISI Mark licence.
- g) *General* — The Coal Mines Authority Ltd informed, vide its letter No. CMA/ED/Pur/5563 dated 30 August 1974, that it would be giving preference to ISI certified products.

Tentative Modifications to Indian Standards — The Director General, ISI, in exercise of the powers conferred on him under sub-regulation (4) of regulation 3 of the *ISI (Certification Marks) Regulations, 1955*, tentatively modified some of the provisions of the following Indian Standards:

- a) IS : 21-1959 Specification for wrought aluminium alloy for utensils (*second revision*)

- b) IS : 560-1969 Specification for BHC, technical and refined (*second revision*)
- c) IS : 1312-1967 Specification for methyl bromide (*first revision*)
- d) IS : 1812-1973 Mild steel wire rods for the manufacture of wood screws (*first revision*)
- e) IS : 2255-1969 Mild steel wire rod for the manufacture of machine screws (by cold heading process) (*first revision*)
- f) IS : 2477-1970 Specification for hand rotary duster, shoulder mounted type (*first revision*)
- g) IS : 2589-1964 Hard-drawn steel wire for upholstery springs
- h) IS : 2879-1967 Mild steel for metal arc welding electrode core wire (*first revision*)
- j) IS : 3195-1965 Steel for the manufacture of volute and helical spring (for railway rolling stock)
- k) IS : 3431-1965 Steel for the manufacture of volute, helical and laminated springs for automotive suspensions
- m) IS : 3885 (Part I) - 1966 Steel for the manufacture of laminated springs (railway rolling stock): Part I Flat sections
- n) IS : 3885 (Part II) - 1969 Steel for the manufacture of laminated springs (railway rolling stock): Part II Rib and groove sections
- p) IS : 4072-1967 Steel for spring washers
- q) IS : 6747-1972 Chewing gum and bubble gum

Recognition of Testing Laboratories — The following outside laboratories were recognized for testing samples of products shown against each under the ISI Certification Marks Scheme:

<i>Sl No.</i>	<i>Name of Laboratory</i>	<i>Product(s)/Test(s) Undertaken</i>
1.	Quality Marking Centre for Diesel Engines, Directorate of Industries, Kolhapur (Maharashtra)	Performance testing of diesel engines
2.	Jagatram Government Polytechnic, Hoshiarpur (Punjab)	Tensile and compression testing up to 20 tonnes, Rockwell hardness testing and impact testing, both Charpy and Izod

<i>Sl No.</i>	<i>Name of Laboratory</i>	<i>Product(s)/Test(s) Undertaken</i>
3.	J. B. Boda Marine and General Survey Agencies Pvt Ltd, Madras	Acids, alkalis, inks (excluding ultra violet exposure test), fertilizers, inorganic chemicals, animal feeds, pesticides like dusting powders, water dispersible powder concentrates and emulsifiable concentrates (excluding zineb and ziram)
4.	B. V. Bhoomraddi College of Engineering and Technology, Vidyanagar, Hubli (Karnataka)	Mechanical testing of structural steel as per IS : 226, IS : 1977 and IS : 1786
5.	Textile Testing Laboratory (The South India Yarn Trade Federation), Madras	Cotton yarn: a) for all tests, <i>except</i> rewinding test (Cl 4.4) and evenness test (Cl 4.3) as per IS : 171-1973 b) for all tests as per IS : 834-1970
6.	Gujarat Steel Tubes Ltd, Sabarmati, Ahmedabad	Testing of samples of steel products as per IS : 226, IS : 1977 and IS : 1786 and checking of pressure gauges

NOTE — M/s Gujarat Steel Tubes have been recognized subject to the condition that recognition would be withdrawn in case they decide to cover their products under the ISI Certification Marks Scheme.

ISI Laboratories — ISI Laboratory at the Headquarters is equipped to test a large number of samples for different characteristics under the ISI Certification Marks Scheme. Laboratories on a smaller scale are functioning at Regional Offices in Bombay, Calcutta and Madras.

At present, the bulk of the samples drawn are being tested in ISI Laboratories but still some percentage of samples is being tested by other recognized laboratories. It is hoped that with the expansion of laboratory facilities in the years to come and with the establishment of ISI Central Laboratory at Ghaziabad, it would be possible to progressively reduce dependence on outside laboratories.

Additional Equipment Provided in ISI Laboratory at Headquarters — During the period under review, following new equipment were installed in the Laboratory:

- a) Humidity chamber — temperature from 0 to 100°C with adjustable settings of relative humidity;
- b) Ageing oven for testing of PVC insulation of cables;
- c) Timer and power supply for testing of horn relays;
- d) Colony counter for colony count;
- e) Chromatographic chamber for food colours;
- f) Strohlein apparatus for determination of carbon and sulphur;
- g) Pentometer for testing of bituminous felts; and
- h) Pressure intensifier for testing of LPG cylinder valves.

Laboratories in Regional Offices

Bombay — Bombay laboratory is engaged in the testing of chemicals, pesticides, electrical cables, etc. As the activities of the laboratory have been expanding over the years, plans are afoot to set up a laboratory complex for which a plot of land has already been purchased from the Maharashtra Industrial Development Corporation, Bombay.

Calcutta — The work of the Calcutta laboratory in respect of testing of steel, tea chest plywood, tea chest battens, jute, chemicals, light engineering items and cables is increasing rapidly. As such, the laboratory needs more space. A plot of land for office-cum-laboratory building has already been purchased and construction work will be taken up in due course.

Madras — Seventy percent construction work in respect of laboratory-cum-office building at Madras has already been completed. Work on services like electrical installations, sanitary installations and other specialized laboratory services will be taken up shortly.

Progress of Work — The testing work carried at the Headquarters and Regional Offices laboratories during the year under review, together with comparative figures of the preceding year and the cumulative figures since setting up of laboratories is given below:

	<i>During 1974-75</i>	<i>During 1973-74</i>	<i>Since Setting up of Laboratories</i>
a) Samples received	12 729	12 726	81 232
b) Samples tested	12 257	12 628	77 896
c) Samples withdrawn	226	87	1 951
d) New specifications covered	47	38	636
e) Value of testing work done	Rs 918 557·85	Rs 876 847·58	Rs 6 341 448·77

Graphical representation of the work carried out at the ISI Laboratories since 1966 is given in Fig. 2 (see P 21).

Investigational Work — During the period under review, investigations were completed in respect of comparative study of different methods of analysis of various formulations of malathion and assessment of vapour loss in dichlorvos technical, packed in HDPE bottles.

Training of Personnel — During the period under report, 15 persons were trained in different disciplines of testing.

ISI Central Laboratory at Ghaziabad — The designs of overhead tank, open well and compound wall of ISI Central Laboratory at Ghaziabad have been approved and their construction is in progress. The work is likely to be completed in the next few months.

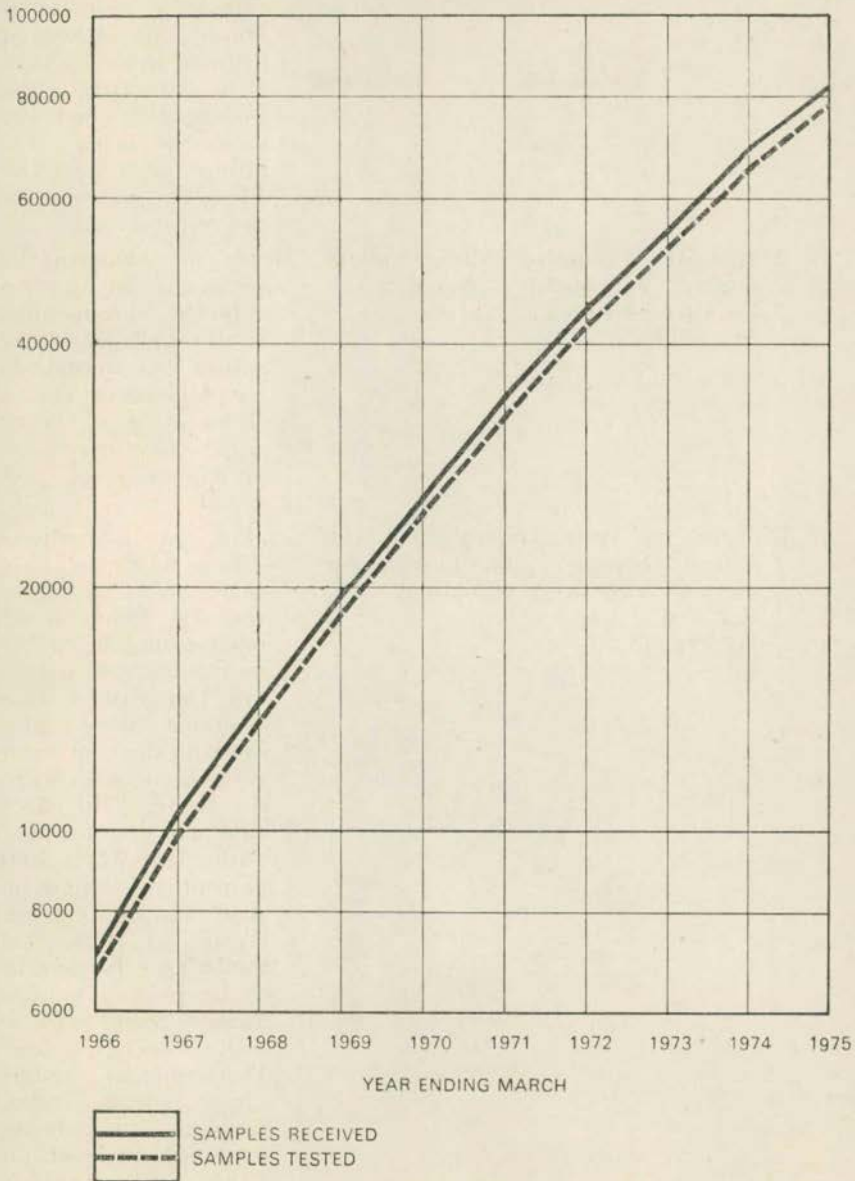
Implementation of Indian Standards

Adoption of Indian Standards — Efforts were made by the Implementation Department and Branch Offices to ensure that the decisions regarding Implementation of Indian Standards taken by Central Government, various State Governments and public sector undertakings were carried out. As a result, 74 percent of Indian Standards were adopted by various government departments and industries.

Recommendations on Specific Items

<i>Organization</i>	<i>Indian Standard</i>	<i>Directives/Decision</i>
a) Municipal Corporation of Greater Bombay, Bombay	Indian Standards on water fittings	...Hence, it is incumbent that all water fittings used within the jurisdiction of Bombay Municipal Corporation for which Indian Standards have been published, shall conform to relevant Indian Standard and shall bear the ISI Mark. For a smooth changeover, from 1 April 1974 to 31 March 1975 — only those water fittings conforming to relevant Indian Standard in vogue, with or without ISI Mark shall be

FIG. 2 PROGRESS OF TESTING IN ISI LABORATORY



<i>Organization</i>	<i>Indian Standard</i>	<i>Directives/Decision</i>
b) Municipal Commissioner, Municipal Corporation, Ahmedabad	All Indian Standards	considered for inclusion on the Approved List and from 1 April 1975 onwards, the pre-requisite condition shall be that the fittings shall bear ISI Mark for inclusion in the Approved List Heads of Departments are requested to prescribe ISI Specifications in all municipal tender notices and quotations for purchase of goods. Other things being equal they may give preference to ISI certified goods
c) Director of Agriculture, Government of Andhra Pradesh, Hyderabad	Indian Standards on pesticidal formulations	...The manufacturers/formulators are being insisted to adopt the ISI Mark while making supplies of formulated chemicals to this Department. Instructions were also issued to the concerned subordinate officers in the State to the effect that in case of supply with ISI Mark 90 percent cost should be paid immediately on receipt of stock and the balance 10 percent to be paid only after analysis report is received. Through the Departmental publicity media also, farmers are being educated to insist on ISI-marked chemicals

<i>Organization</i>	<i>Indian Standard</i>	<i>Directives/Decision</i>
d) Deputy Controller of Purchase, Coal Mines Authority Ltd, Dishergarh, Dist Burdwan	All Indian Standards	...We shall give preference towards ISI certified products. We shall also give price preference to items bearing ISI Mark
e) Director, Central Drugs Laboratory, Calcutta	Indian Standards on cosmetics and toilet goods	...The specifications and methods for analysis incorporated in the Indian Standards for cosmetics and toilet goods will be used as reference literature for analysis of cosmetic under the <i>Indian Drugs and Cosmetic Act</i>
f) Cochin Shipyard Ltd, Cochin	Indian Standards on tar and bitumen	...We will make it a point to mention the numbers of the Indian Standards wherever it is required in all our future Tender Schedules
g) Directorate of Handicrafts, Government of Jammu and Kashmir, Srinagar	Hand-made <i>NAMDHAS</i> (IS:4392-1967)	...Adopted under <i>J & K Namdha Quality Control Act</i>
h) Directorate of Veterinary Services, Madhya Pradesh, Bhopal	Indian Standards on poultry and animal feeds	...Purchases for poultry and animal feeds for Veterinary Department be made from the product bearing the Certification Mark of ISI
j) Ministry of Agriculture, New Delhi	Indian Standards on pesticides	...It will have to be ensured that rigorous quality control measures are observed by the formulators and that wherever ISI Standards have been laid down these are adopted

<i>Organization</i>	<i>Indian Standard</i>	<i>Directives/Decision</i>
k) Department of Agriculture, Government of Bihar, Patna	Indian Standards on pesticidal formulation	...Requested the formulators to obtain ISI Mark over all products immediately, otherwise licence will not be granted to sell, stock or exhibit for sale or distribution of insecticides
m) Tariff Advisory Committee, Bombay	Electrical and fire fighting installation equipment	...In respect of all equipment / appliances supplied or installed in Industrial Risks on or after 1 May 1975, it will be necessary that such equipment/appliances bear the ISI Certification Mark
n) Public Works Department, Government of Karnataka	National Building Code of India	...Approval of Government is accorded for adopting the National Building Code of India in future for all buildings to be taken in the State by Public Works Department

Adoption by Manufacturers/Consumers — To enable the Institution to provide information about manufacturers/consumers operating to Indian Standards, 45 enquiries were made covering 937 Indian Standards, codes of practice and methods of test on a wide range of items and the information received from the manufacturers/consumers is kept in the ISI Directorate General for dissemination as and when the enquiries are received.

Identifying Sources of Supply of Products According to Indian Standards — A sizable number of industries and consuming organizations approach ISI quite frequently, for information on manufacturers who can supply products conforming to relevant Indian Standards. Such information pertaining to products covered under ISI Certification Marking Scheme is available in "Buyers' Guide" being published by ISI annually; for products not yet covered under ISI Marking Scheme, the available information on manufacturers claiming for conformity to Indian Standards is being furnished on request. During the period under report, such information was furnished to about 50 parties relating to products covering 110 Indian Standards.

Extension Services for Promoting Company Standardization, Metricization and Quality Control — The Extension Services, recently instituted by ISI for promoting Company Standardization activities, metricization and quality control have been offered to the following:

<i>Organization</i>	<i>Subject for Promotion</i>
a) M/s Mahindra Sintered Products Ltd, Poona	Metricization
b) M/s Bharat Bijlee Ltd, Bombay	Company standardization
c) M/s Bhilai Steel Plant, Bhilai	do
d) M/s Paharpur Cooling Towers Pvt Ltd, Calcutta	do
e) M/s Triveni Structural Ltd, Allahabad	do
f) M/s Indian Cable Co Ltd, Jamshedpur	Company standardization and quality control

The work has been successfully completed in the first two cases and is progressing as per schedule in the rest of the cases. In addition, four-day training programme on company standardization was conducted for Hindustan Cables Limited, Rupnarainpur (District Burdwan), which was attended by 19 participants drawn from different departments of the company.

Training of Standards Engineers for Developing Countries — The Seventh International Training Programme of fifteen weeks' duration commenced on 18 November 1974 and concluded on 26 February 1975. It was attended by the following:

<i>Name of Participant</i>	<i>Country Represented</i>
1. Mr Leon Varela	Panama
2. Mr Alemu Taddesse	Ethiopia
3. Mr Simeon Louis Sandiford	Trinidad
4. Mr Salah Khalil	Sudan
5. Mr Dessouky Abd-El-Ghani Dessouky	Egypt
6. Mr Samir Taher El-Mogy	Egypt
7. Mr Mahmoud Khayry Ahmad Abdel-Whab	Egypt

The Programme is aimed at helping the developing countries of Asia and Africa in overcoming the shortage of experienced standards engineers.

Certificates for successful completion of the Training Programme were given away by Shri B. P. Maurya, Union Minister of State for Industry and Civil Supplies.

Started in 1964, training has so far been imparted to 71 technical personnel from 20 countries, namely, Philippines, Singapore, Thailand, Sri Lanka, UAR, Burma, South Yemen, Kenya, Malaysia, Zambia, Ghana, Afghanistan, Nigeria, Cyprus, Jordan, Sudan, Ethiopia, Panama, Trinidad and Kuwait.

ISI Library — During the year under review the Library at Headquarters received and processed 17 232 standard specifications and other technical publications. Likewise the libraries at the branch offices were also suitably strengthened to give service to the members in their respective regions. During 1974-75, 48 bibliographies were undertaken on the request of technical staff and committee members. A request was received from the ISO Central Secretariat at Geneva to send them copies of all the bibliographies compiled by the ISI Library. About 30-40 reference questions were received in the Library daily; Library also received 107 technical enquiries from manufacturers, public enterprises and government departments and suitable information was provided to them.

The Library also continued to prepare and calculate the following monthly information lists for the benefit of its users:

- a) List of overseas standards received in ISI Library;
- b) List of books and pamphlets received in ISI Library; and
- c) List of current published information on standardization.

The following table would show working of the Library during the year under report:

a) Standard specifications, technical publications etc, available in the Library as on 31 March 1975	293 665
b) New publications accessioned and processed	17 232
c) Technical journals received	515
d) Bibliographies prepared	48
e) Publications loaned out to Subscribing Members and Committee Members	55 000 approx
f) Technical enquiries received and answered	107

Technical Information Service — A Technical Information Service was started at the ISI Headquarters with the object of disseminating information about the technical work of the Institution. The Service was also entrusted with the work of organizing educational programmes known as 'Orientation and Review Programmes' in engineering colleges and polytechnics.

During the period under report, the following 'Orientation and Review Programmes' were organized:

<i>Venue and Date(s)</i>	<i>Participants</i>	<i>Institutions Covered</i>
a) Poona 9-10 Aug 1974	Faculty members representing different disciplines of engineering	Engineering colleges and polytechnics in and around Poona
b) Jabalpur 25-26 Nov 1974	Faculty members from different engineering colleges	Government Engineering College, Jabalpur and other engineering colleges in and around Jabalpur

Membership — As a result of concerted efforts, a substantial increase in net membership was achieved during the year under report, the total being 3 709 as against 3 337 last year.

A new category of membership known as 'Ordinary Members' was created last year particularly to bring small-scale units in the fold of ISI membership. This step paid dividends leading to enrolment of 283 units as 'Ordinary Members', making a total of 415 as on 31 March 1975.

Bharat Heavy Electricals Ltd, New Delhi who were Donor Members, joined the higher category of membership, namely, Patron during the period under report.

Detailed information on the classes of membership is given in Table 1.

TABLE 1 MEMBERSHIP ANALYSIS

(As on 31 March 1975)

CLASS OF MEMBERSHIP	NUMBER OF MEMBERS ON		LOSSES DUE TO				ADDITIONS BY			NET GAIN/LOSS
	1 April 1974	1 April 1975	Resig-nations	Laps-ing	Con- vers-ions	To- tal	Admis- sion	Rein- state- ment	Total	
Patrons	3	4	—	—	—	—	1	—	1	+1
Donor Members	41	37	—	5	2	7	1	2	3	-4
Sustaining Members	1 705	1 697	33	60	10	103	84	11	95	-8
Associate Members	1 200	1 299	37	100	11	148	238	9	247	+99
Ordinary Members	132	415	6	—	1	7	290	—	290	+283
Individual Members	256	257	2	50	—	52	53	—	53	+1
Total	3 337	3 709	78	215	24	317	667	22	689	+372

The position of Subscribing Membership since 1966 is graphically represented in Fig. 3 (see P 29).

Sales Service — Over the years, there has been a growing consciousness of the significance of standards and standardization in industrial and economic life of the country. This is clearly reflected in the sale of Indian and overseas standards which has been substantially increasing year after year. A comparative statement of the sale of Indian and overseas standards, as also the commission earned by ISI on sale of overseas standards for the last three years is given below:

	1972-73	1973-74	1974-75
	Rs	Rs	Rs
a) Indian Standards	1 531 824	1 624 170	1 765 102
b) Overseas standards	738 952	955 591	1 134 801
c) Commission earned on sale of overseas standards	227 341	320 706	416 088

Graphical representation of sale of Indian and overseas standards is given in Fig. 4 (see P 30).

During the year under report, Indian Standard specifications were sold to a number of overseas standards organizations including the following:

- a) British Standards Institution, London
- b) Singapore Institute of Standards and Industrial Research, Singapore
- c) Deutscher Normenausschuss, DNA, Berlin
- d) Iraqi Organization of Standards, Baghdad,
- e) Japanese Standards Association, Tokyo
- f) Bureau of Ceylon Standards, Colombo
- g) Sudan Industrial Research Institute, Khartoum
- h) Nigerian Standards Organization, Lagos

New ISI Conversion Slide in SI Units — To facilitate the introduction of SI system of units of measurement in industry, the Institution desired to bring out a new ISI Conversion Slide in SI units based on IS : 786-1967 and SI Supplement to IS : 786-1967, for which an order was placed with a manufacturer. The significant changes made in the new conversion slide are the introduction of pascal for pressure and stress units as also the deletion of some of the indigenous units like seer and maund.

Binders — Binders provided with round clips which were put on sale both in A-4 and A-5 sizes elicited keen interest from the users of Indian Standards.

FIG. 3 ISI SUBSCRIBING MEMBERSHIP THROUGH THE YEAR

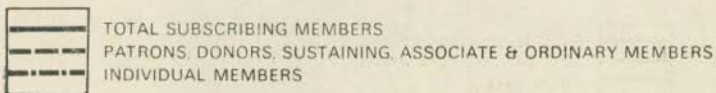
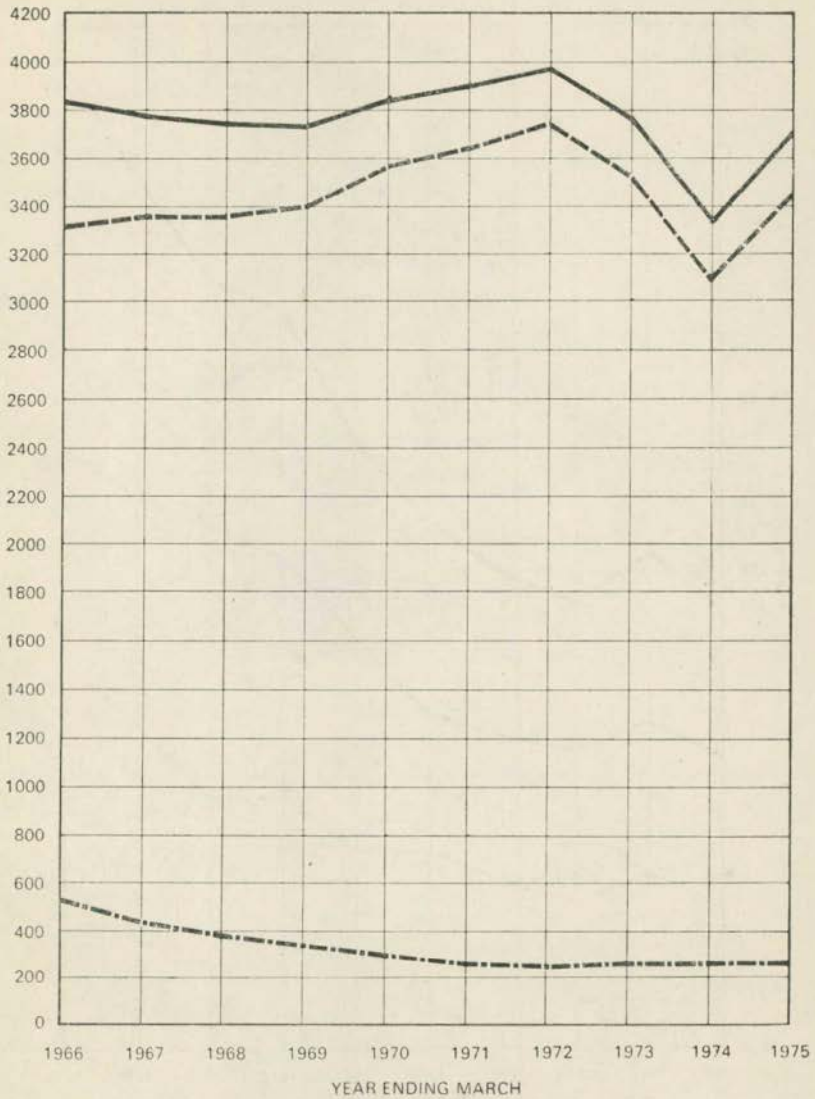
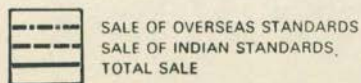
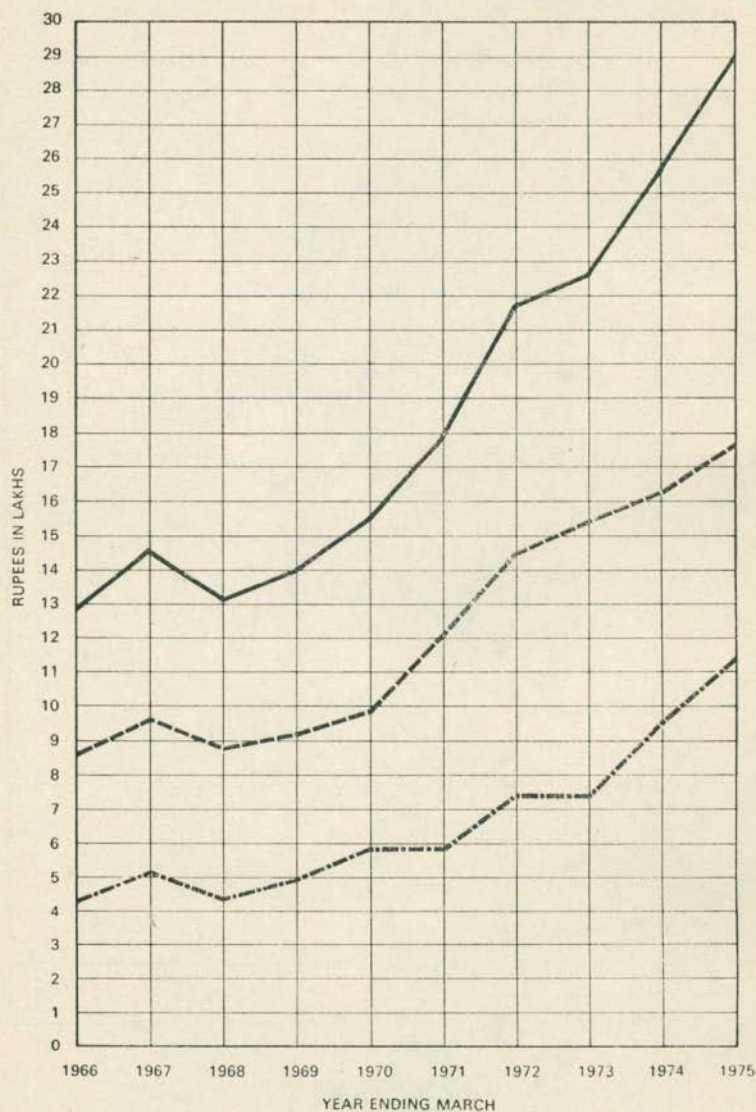


FIG. 4 SALE OF INDIAN AND OVERSEAS STANDARDS



Distribution Service — The Institution continued to render useful distribution service for supply of ISI publications to its Subscribing and Committee Members and others.

Details of the distribution service rendered during the year under report are as given below:

	<i>No. of Copies Circulated</i>
Indian Standards and Amendment Slips	711 000
ISI Bulletin	105 300
Standards : Monthly Additions	62 800
Miscellaneous Publications, such as Annual Report, Handbook, etc	8 400
Sectional Lists	24 260

In addition, publications were also supplied to ISO Member Bodies.

Publicity and Conferences — With a view to publicising ISI activities, promoting widespread implementation of Indian Standards, propagation of ISI Certification Marks Scheme and creation of standards and quality consciousness, the Institution continued to make concerted efforts for furthering standards movement among different sectors of economy throughout the country through different media of publicity.

Press Notes — A total of 533 press notes on Indian Standards published and draft Indian Standards put into wide circulation as well as on other important activities of ISI, were issued both to technical and daily press.

Advertising Campaign — An advertising campaign highlighting the utility of ISI Certification Marks Scheme was launched through radio spot and film strip.

Exhibitions — During the year, the Institution participated in the following exhibitions:

<i>Sl No.</i>	<i>Name of Exhibition</i>	<i>Organized by</i>	<i>Place</i>	<i>Period</i>
1.	Trichur Pooram Exhibition, 1974	Government of Kerala	Trichur	2 April-27 May 1974
2.	Industrial Exhi- bition	Southern States Electrical Con- tractors Confe- rence, Madras	Teynampet, Madras	26-29 1974 July

ANNUAL REPORT 1974-75

<i>Sl No.</i>	<i>Name of Exhibition</i>	<i>Organized by</i>	<i>Place</i>	<i>Period</i>
3.	Exhibition on the occasion of the IXth Summer Conference of the Association of Plastic Surgeons of India	Association of Plastic Surgeons of India, New Delhi	New Delhi	22-24 September 1974
4.	Exhibition on the occasion of All-India Consumers Conference	Karnataka Consumer Service Society, Bangalore	Bangalore	15-18 December 1974
5.	Exhibition on the occasion of World Consultation on Wood Based Panels	Food and Agriculture Organization of UN in Collaboration with the Government of India	Vigyan Bhawan, New Delhi	6-16 February 1975
6.	Industries Fair	Vidarbha Industries Association, Nagpur	Nagpur	February-March 1975
7.	Exhibition on Domestic Electrical Appliances	Small Industries Service Institute and Electrical Manufacturers' Association	Bal Sahyog Extension Centre, New Delhi	6-16 March 1975

Seminars — A Seminar on Classification and Coding of Covered Electrodes for Metal Arc Welding of Structural Steels was held in the Auditorium of Institution of Engineers (India), New Delhi on 27 February 1975. About 60 delegates representing manufacturers, Engineers, technologists and State and Central Governments participated in the Seminar.

Documentary Film — A documentary film entitled 'Third Party Guarantee' highlighting the activities of ISI and prepared by the Films Division, Government of India was released for exhibition in various cinema halls throughout the country, during April-May 1974. The film was also telecast from the Delhi TV Centre of All-India Radio.

Radio Interview — An interview with Shri S. K. Sen, Director General, ISI by Shri G. V. K. Murthy, News and Feature Editor, Deccan Chronicle, Hyderabad, on the subject of 'Consumer Protection and ISI' was broadcast from Hyderabad, Cuddapah and Visakhapatnam Stations of All-India Radio on 24 September 1974.

Indian Standards to Cyprus — A complete set of Indian Standards was sent to Cyprus through the Union Ministry of External Affairs for presentation to the Ministry of Industry and Commerce, Government of Cyprus.

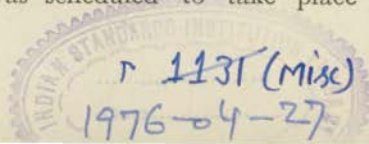
Visitors to ISI — During the year, a number of students from technical institutions of different universities visited ISI Headquarters. In addition, a number of dignitaries from India and abroad visited the Institution, including the following:

- a) Shri T. A. Pai, Union Minister of Industry and Civil Supplies, and President, ISI
- b) Shri B. P. Maurya, Union Minister of State for Industry and Civil Supplies
- c) Shri B. Ramlallah, Parliamentary Secretary (Junior Minister), Ministry of Commerce and Industry, Government of Mauritius
- d) Mr Karasfesman, Adviser to the Prime Minister of Turkey, Ankara
- e) Civ-Ing Suwarna Suardjo, State Electricity Department, Jakarta (Indonesia)
- f) M. Deroche Bernard, Ingenieur au Service, Normalisation et Brevets Electricite De France, CLAMART (Hants de-Seine) (France)
- g) Mrs R. R. de Leon, Senior Industry/Utilities Specialist A., MEDA, Sampaloo, Manila
- h) Shri V. J. Rajadhyaksha, Chief Consultant, Planning Commission

A number of foreign delegates who came to India took opportunity to visit the ISI Headquarters, New Delhi. In this connection, the visit of the following delegates merits mention:

- a) Soviet delegation headed by Mr A. M. Nikiforenko visited ISI to attend the Second Meeting of Indo-Soviet Working Group for Collaboration in the field of Standardization and Metrology.
- b) Technical delegation from Japan Marine Standards Association (JMSA).
- c) Delegates to the XIX International Dairy Congress, New Delhi.
- d) Delegation of Soviet Experts on Metrology.

Sixteenth Indian Standards Convention — The Sixteenth Indian Standards Convention was scheduled to take place at Bhopal from



1977-07-13³³

3-9 November 1974. However, owing to prevailing economic difficulties in the country and the need to exercise all-round austerity, the Convention was postponed to 1975.

It has now been decided to hold the Sixteenth Indian Standards Convention at Bhopal from 19-25 October 1975.

K. L. Moudgill Prize — The K. L. Moudgill Prize Awards Committee decided to award two prizes for the year 1974 each of the value of Rs 1 000.00 to: (1) Shri V. A. Krishnamurthy, Chief Engineer (Electrical), CPWD, New Delhi; and (2) Shri B. K. Murthy, Head (Sales), Indian Aluminium Company Ltd, Calcutta, in view of their valuable contribution in the field of standardization. The award will be formally presented to the recipients at the Sixteenth Indian Standards Convention to be held at Bhopal from 19 to 25 October 1975.

Use of Hindi in ISI Work — Adequate steps were taken for implementing various provisions of *Official Languages Act* in day-to-day working of ISI.

During the period under report, ISI Official Languages Implementation Committee held two meetings and considered various circulars and orders received from the Union Ministry of Home Affairs in respect of progressive use of Hindi in official work. In the case of certain proformas it was decided to have them printed both in English and Hindi.

Hindi versions of 147 Gazette Notifications pertaining to Certification Marks Scheme of ISI were prepared and sent for publication to Gazette of India. A number of press notes in Hindi on items of consumer interest were prepared and issued to Hindi journals and newspapers.

Hindi version of IS : 7160 (Part II)-1975 Guide for Print Area, Margins and Type Sizes for Textbooks : Part II Textbooks in Hindi, was finalized and sent to press.

Hindi classes for employees who did not know Hindi were organized both at the Headquarters and various Branch Offices.

Finances — The total income of the Institution from various sources, such as Government of India grant, membership subscription, sale of Indian Standards and certification marking fees, during the year 1974-75 amounted to Rs 19 485 650 as against an expenditure of Rs 19 770 649. A statement of accounts for the year 1974-75 is given in Appendix A. The audit report from the Accountant General will be tabled at the meeting of General Council.

Invisible Contribution — Besides the income and expenditure during the year under review mentioned above, the Institution also received some invisible contributions. Expenses were incurred by committee

members of ISI Committees, within the country and abroad. In addition, many organizations, both in public and private sectors, undertook testing work and supplied samples, free of cost. The total value of such invisible contributions during the year under report is estimated at Rs 1.78 million.

Meetings of General Council and Executive and Finance Committees — The thirtieth meeting of the General Council of the Institution was held on 15 November 1974 under the Chairmanship of Shri T. A. Pai, Union Minister of Industry and Civil Supplies, and President, ISI. Shri D. C. Kothari and Shri R. H. Mody were elected Vice-Presidents of ISI for a period of one year ending 31 December 1975. The Executive and Finance Committees held five and four meetings, respectively, during the year.

ISI Staff — The following important developments took place during the period under review:

- a) Shri S. K. Sen, Director General — Reverted to ISI service with effect from 13 March 1975 on expiry of the period of deputation from 8 February to 12 March 1975 as an Expert in Standardization to the Government of Brazil, under United Nations Industrial Development Organization (UNIDO).
- b) Shri B. S. Krishnamachar, Deputy Director General — Was deputed as an Expert in Industrial Standardization to the Government of Ecuador under United Nations Industrial Development Organization (UNIDO) from 1 March 1974 for a period of one year. He worked in Brazil as Expert in Standardization of Structural Steel Sections and Profiles for one month from 19 August to 18 September 1974 and again for three weeks from 1 November 1974. Accordingly, his assignment as an Expert in Industrial Standardization to the Government of Ecuador under UNIDO has been extended by one month and three weeks from 1 March 1975.
- c) Dr A. K. Gupta, Deputy Director General — Reverted to ISI service with effect from 17 May 1974 on expiry of the period of deputation as an Expert in Industrial Standardization and Quality Control to the Government of Venezuela, under UNIDO and the period of leave.
- d) Shri A. B. Rao, Deputy Director General — Reverted to ISI service with effect from 10 March 1975 on expiry of the period of deputation as Expert in Industrial Standardization to the Government of Philippines, under UNIDO.

- e) Shri A. S. Cheema, Director — Reverted to ISI service with effect from 28 April 1975 after working as an Expert in Quality Control and Inspection to the Government of Kuwait under UNIDO from 2 February to 20 April 1975 and the period of leave.
- f) Dr B. N. Singh, Director — Relieved with effect from 8 October 1974 to enable him to take up his assignment as UNIDO Expert in Quality Control and Inspection of Industrial Products to the Government of Barbados for a period of eight months.
- g) Dr Hari Bhagwan, Director — Relieved with effect from 8 February 1975 to enable him to take up his assignment as UNIDO Expert on Industrial Standardization and Quality Control to the Government of Saudi Arabia for a period of one year.
- h) Shri T. Rajaraman, Deputy Director — Relieved with effect from 14 March 1975 for attending UNIDO In-Plant Group Training Programme for Engineers in the field of Organization of Standardization Systems in Manufacturing Industries in USSR from 12 March to 11 July 1975.
- j) Shri M. K. Kumar, Assistant Director — Relieved with effect from 14 March 1975 for attending UNIDO In-Plant Group Training Programme for Engineers in the field of Organization of Standardization Systems in Manufacturing Industries in USSR from 12 March to 11 July 1975.
- k) Shri M. A. U. Khan, Assistant Director — Relieved with effect from 7 January 1975 for attending the Course for Industrial Quality Control under the Netherlands Government Fellowship for 1974-75 in the Netherlands for five months.
- m) Shri G. L. Gulati, Director — Retired from ISI service with effect from 4 April 1974.
- n) Shri P. Chatterjee, Director — Died on 28 February 1975.

The total strength of the Institution, as on 31 March 1975, was 1 309, comprising 312 officers and 997 staff members.

Regional and Branch Offices — In view of the ever-increasing demands on Institution's services and the inherent difficulty in meeting these demands from the Headquarters, it was decided to establish Regional Offices for East, West and South India at Calcutta, Bombay and Madras respectively.

The Eastern Regional Office at Calcutta has under its jurisdiction Branch Office at Patna and Inspection Offices at Durgapur, Asansol, Jamshedpur, Bhilai, Rourkela and Tinsukia. The Western Regional

Office at Bombay controls the Branch Office at Ahmedabad and Inspection Office at Poona. The Southern Regional Office at Madras covers the Branch Offices at Hyderabad and Bangalore.

These Regional Offices aim at coordinating and intensifying on a regional basis the various functions performed by the Branch Offices, namely, contacts with the State Governments and their Departments, various institutions in the area, industrial establishments, consumer organizations, etc; membership, sale of publications; certification marking activities; implementation of Indian Standards; and training and technical information service.

A brief resumé of the important activities of the Regional and Branch Offices is given in the following paragraphs.

Ahmedabad — The Branch Office continued to promote wider implementation of Indian Standards and ISI Certification Marks Scheme in the State of Gujarat through seminars, conferences, talks and meetings at different levels.

During the year under report, 115 applications for grant of ISI work were received. Thirty-six licences were granted covering a variety of products, such as sodium bromide, potassium bromide, ammonium bromide, soda ash, copper oxychloride, edible common salts, bromide technical, pesticides, compressed gas cylinder valves, domestic gas stoves, 18-litre square tins, sterilizers, window sections, aluminium conductors, etc. Of these, licences were granted for 10 chemical items for the first time.

In response to the efforts made by the branch office, the Kodinar Rural Electricity Co-operative Society Ltd, Kodinar, District Amreli, intimated that they would implement the Indian Standards prescribed from time to time. Initially about 22 Indian Standards were selected by them for this purpose.

At a meeting called by Small Industries Service Institute (SISI) and Government of Gujarat to discuss matters relating to modernization of foundry industry, it was decided to assist some selected foundry units to replace pit furnace by cupolas. It was suggested on behalf of ISI that in designing the cupolas, the recommended sizes as given in IS: 5032-1969 should be kept in view.

A number of laboratories approached the Branch Office for being recognized under ISI Certification Marks Scheme for testing of samples. On the basis of inspection and recommendations made by the Branch Office, the laboratory of the Gujarat Steel Tubes was recognized for calibrating pressure gauges and also testing steel products for tensile strength.

The second meeting of the Action Committee for guiding implementation work of National Building Code for the State of Gujarat was held in Ahmedabad on 28 February 1975 under the Chairmanship of Shri K. M. Kantawala.

In order to promote the educational utilization of Indian Standards among teachers, discussions were held with Director of Technical Education for organizing Orientation and Review Programmes in the State.

The Branch Office participated in a number of seminars/conferences sponsored by various institutions and associations. Mention may be made of the Seminar on Building Materials organized by All India Manufacturers Organization (AIMO) in collaboration with Gujarat Housing Board in Ahmedabad from 1-2 March 1975 and the first Pesticides Seminar in Gujarat convened by Gujarat Pesticides Association on 30 June 1974.

During the year under report, talks were delivered by the Head of the branch offices on different aspects of standardization at different forums.

A Press Conference was addressed by Shri S. Srinivasan, Deputy Director General, ISI at Ahmedabad on 15 March 1975 to apprise the press about the activities of the Institution with particular reference to the role of ISI in prompting standardization and quality control among industrial units in Gujarat through ISI Certification Marks Scheme.

An Advisory Committee for the Branch Office was set up during the year with Secretary, Industries, Mines and Power Department, Government of Gujarat as Chairman.

The Subscribing Membership collection registered a total of Rs 166 501'00 as on 31 March 1975.

The sale of Indian Standards amounted to Rs 76 307'93 as on 31 March 1975.

Bangalore — The Branch Office participated in a number of technical seminars and conferences organized by various institutions in collaboration with ISI, details of some of which are given below:

- a) National Seminar on Electrical Insulation jointly organized in Bangalore by Indian Electrical Manufacturers' Association, Institution of Engineers and ISI.
- b) Seminar on Adulteration in Foods, Bangalore.
- c) Second All India Consumers Conference, Bangalore.
- d) Seminar on Modernization of Small Scale Industries and Foundry Technology organized by Small Industries Services Institute, Bangalore.

Realizing the importance and usefulness of the National Building Code, the Government of Karnataka issued an order for the adoption of National Building Code for all works undertaken by the State Public Works Department. The Karnataka PWD have set up a Cell for the revision of the State PWD Specifications in order to bring them in line with the National Building Code. The Branch Office provided necessary help with regard to the various Indian Standards to be referred on the subject.

In view of the keen interest shown by the Municipal Administration Department of the Karnataka State, the Branch Office rendered technical service and guidance for the revision of the Corporation Building By-laws of Bangalore.

As a result of the follow-up action taken by the Branch Office with the Karnataka PWD for the implementation of the Indian Standards on Modular bricks, a PWD Notification was issued for the entire State to use modular bricks from April 1975 for all Government building works.

During the period under report, 35 new licences were granted. The products for which licences were granted for the first time during the year were:

- a) Mysore Sandal soap (IS : 2888-1964), and
- b) Chewing gum and bubble gum (IS : 6747-1972).

The Branch Office carried out inspection and quality certification for 940 tonnes of steel exported to Bangla Desh by one of the licensees at Bangalore.

The subscribing membership collection registered a total of Rs 142 000·00 as on 31 March 1975.

The sale of Indian Standards amounted to Rs 77 597·00 as on 31 March 1975.

Bombay—The second meeting of the Action Committee for Implementation of the National Building Code in the State of Maharashtra was held on 5 April 1974. The Committee considered the various reports by the Study Groups which had unanimously recommended the adoption of the Code for the State except for a few minor modifications. It was agreed that the concerned departments of the State Government and the municipal corporations be persuaded to suitably modify their rules to fall in line with the recommendations in the Code.

As a result of a series of consultations with the Bombay Office, the Municipal Corporation of Greater Bombay decided that from 1 July 1975 all water fittings used within the municipal limits should bear ISI Mark. To enable smooth changeover, it was further decided during the

year under review that only those fittings which conform to the relevant Indian Standard with or without ISI Mark would be included in the list approved by the Corporation.

In pursuance of the recommendations made by the Conference on Implementation of Indian Standards held in Goa on 2 September 1972, the Government of the Union Territory of Goa issued a notification to all the concerned departments to specify the available Indian Standards in the tender documents for the purpose of stores purchases and for guiding design and construction work in the public sector. Accordance of price preference to ISI certified goods was another significant aspect of the notification.

Several government departments and semi-government organizations were contacted for adopting Indian Standards in their day-to-day purchases and most of these contacts proved fruitful.

An Orientation and Review Programme was held in the College of Engineering, Poona on 9 and 10 August 1974 which was attended by more than 100 faculty members of the College apart from the representatives of College of Military Engineering, Poona, Institute of Armament Technology, Khadakwasla and Government Polytechnic, Poona.

During the year under report, and In-Plant Company Standardization Programme was held as a part of the Extension Services at Bharat Bijlee Ltd, Bombay, in three phases.

The programme of propagating the concepts of standardization in the field of education was continued during the year under report. Officers of the Bombay Office represented the Institution in the Committee aimed at reviewing the syllabi of Industrial Training Institute as well as S.N.D.T. University, Bombay.

As a part of their Silver Jubilee celebrations, the Electrical Contractors Association of Maharashtra organized a series of seminars in Bombay during 1974. Some of the important seminars in which the Bombay Office took active part are given below:

- a) Indian Standards on Cables and Conductors, 12 October 1974.
- b) Code of Practice for Electrical Installations, 23 November 1974.

The Bombay Office also participated in the following important seminars/symposia:

- a) 'Maintenance Standards in Textile Industry' organized by the Institute of Standards Engineers (SEI), Bombay Section jointly with Institution of Engineers (India), Bombay Centre, 27 July 1974.

- b) 'Safety Through Instrumentation' organized jointly by the National Safety Council and the Instrument Association of India, 17 August 1974.
- c) 'Dock Safety' organized jointly by the Indian National Ship-owners Association and Director General, Factory Advice Service and Central Labour Institute, Bombay, 25 November 1974.
- d) 'Challenge Before Retailers' organized by Fair Trade Practices Association, Bombay, 12 December 1974.
- e) 'Impact of IDEMI' organized by Institute for Design of Electrical Measuring Instruments, Bombay, 7 December 1974.
- f) Symposium on Television organized in Poona by the Institution of Electronics and Telecommunication Engineers, Poona Centre, 11 January 1975.

As a part of publicity campaign, the Bombay Office participated in the following exhibitions organized during the period under report:

- a) Exhibition to mark the conclusion of Golden Jubilee Celebrations of Electrical Contractors Association of Maharashtra organized at Bombay from 25 to 31 January 1975.
- b) Consumer Protection Exhibition organized by Consumer Guidance Society from 16 to 23 February 1975 at Bombay.
- c) Exhibition at the Vidarbha Industries Fair organized by the Vidarbha Industries Association at Nagpur for about a month from 26 February 1975 onwards.

A Press Conference on 30 April 1974 and a Radio Interview on 8 November 1974 on 'Consumer Problems' were also arranged.

During the year under report, 100 new licences were granted. The number of operative licences as on 31 March 1975 stood at 485. The collection under certification for the year under review was Rs 1 111 405.24.

Licences were issued for the first time for shot-firing cables (IS : 5950-1971) and for a few agricultural implements, such as rotary paddy weeder, dust applicator and hand rotary duster. Another important item for which licence was issued was hydraulic shock absorbers.

The Bombay Office received first applications for the following important new items:

- a) Wiring accessories like lampholders, ceiling roses, etc;
- b) Shunt capacitors for power systems;
- c) Food items, like egg powder, custard powder, etc;

- d) Water supply fittings, like pillar taps, plastic flushing cisterns, etc;
- e) Rain gauges;
- f) Bourdon tube pressure and vacuum gauge;
- g) Bottle coolers; and
- h) Evaporative air coolers.

Several lot inspections of steel items and special inspections on behalf of Maharashtra Government, National Malaria Eradication Programme and Export Inspection Council were carried out by the Bombay Office.

An Inspection Office was opened at Poona mainly to carry out local inspections for certification marking in the engineering field.

The Bombay Office Laboratory carried out tests on 492 samples which included pesticides, biscuits, cables and conductors.

The total sales of Indian Standards during the year stood at Rs 2 81 000'00.

The membership collection during the year under report amounted to Rs 837 000'00.

Mr K. K. Kiziki, Managing Director of Organization for Small and Medium Scale Industries (OPEZ) of Republic of Zaire (Africa) visited the Bombay Office in company of the officials of Small Industries Service Institute, Bombay. Besides, ten trainees from Africa and West Asian countries also visited the Bombay Office and were taken to some factories and textile mills located in Bombay and Poona.

Calcutta — Implementation of Indian Standards continued to receive high priority during the period under report. To promote adoption of standards, following seminars/conferences were organized in collaboration with technocommercial associations and professional institutions noted against each:

<i>Date</i>	<i>Place</i>	<i>Subject</i>	<i>In Association with</i>
10-11 Oct 1974	Calcutta	Quality Control Through Standar- dization	Calcutta Productivity Council
14-15 Nov 1974	Burla, Sambalpur	Role of Indian Standards in Tech- nical Education	University College of Engineering, Burla
27-28 Nov 1974	Calcutta	Engineering Mate- rials and Equip- ments	Association of Engi- neers

<i>Date</i>	<i>Place</i>	<i>Subject</i>	<i>In Association with</i>
10-12 Jan 1975	Calcutta	Convention on Environmental Engineering	Institute of Public Health Engineers and All India Institute of Hygiene and Public Health
1 Mar 1975	Asansol	Standardization of Coal Mining Equipment and Refractories	Asansol Productivity Council
29 Mar 1975	Calcutta	Indian Standards and Their Formulation and Adoption	Indian Association for Productivity, Quality and Reliability

A number of talks on various subjects relating to standardization and quality control were arranged and delivered at different forums by the officers of the Calcutta Office.

In addition, the Calcutta Office also participated in the following exhibitions:

<i>Date</i>	<i>Place</i>	<i>Organized by</i>
14 & 15 Oct 1974	Burla	University College of Engineering
1 Mar 1975	Asansol	Asansol Productivity Council

The Committee for Revision of Calcutta Municipal Building Bye-laws, set up by Government of West Bengal with In-charge, Calcutta Office as member, held a series of meetings for drafting revision of Schedule 26th of Calcutta Municipal Act in accordance with the recommendations of the National Building Code and the recommendations as finalized by the Committee were presented to Shri B. Mazumdar, Secretary, Municipal Service Department, Government of West Bengal, for appropriate action. It was a major work done for implementation of National Building Code through statutory authority. The Committee, among others, also recommended establishment of a Tall Building Committee with In-charge, Calcutta Office as Chairman for scrutiny of the plans in the light of the recommendations of National Building Code pending finalization of comprehensive regulations. This was another step forward, following acceptance of the recommendations by the Government of West Bengal, for implementation of National Building Code.

A meeting with the representatives of West Bengal Brick Field Owner's Association was held to sort out the problems connected with the manufacturing cost of modular bricks *vis-a-vis* conventional bricks, changes

required to be made in the drawings, designs, specifications, etc, for issue of tenders by the Public Works Department, Government of West Bengal and allotment of coal to the actual users. The meeting was also attended by City Architect, Superintending Engineer (Metric Cell) and Additional Chief Engineer, PWD, West Bengal. It was decided at the meeting that the changeover should be gradual and to begin with 100 million modular bricks should be manufactured to meet the requirements of Government Departments within the stipulated period.

A group discussion with manufacturers of canned food and vegetable products, jointly sponsored by SEI, AFST and ISI was held to acquaint them with available standards. The representatives of the trade showed keen interest in the implementation of the standards with the object of covering their products ultimately under ISI Certification Marks Scheme.

ISI actively contributed to the finalization of the recommendations of the Trade Committee, set up under Regional Director, National Apprenticeship Training for re-orientation of the trade curricula for fitters under Apprenticeship Act. The recommendations advocated extensive use of Indian Standards.

Sponsored by the Institute of Indian Foundrymen, a UNIDO Team visited India for exchange of experience in the foundry industries among seven selected countries in Asia and Far East. As a member of Indian Delegation, In-charge, Calcutta Office accompanied the UNIDO Team on visit to different foundries in Calcutta, Jamshedpur and Ranchi and also assisted the Team in the finalization of its recommendations, implementation of which would secure wider adoption of Indian Standards.

The Registrar, Government of West Bengal had issued administrative instructions to the Executive Officers of the Cooperative Societies of the State to insist on and procure ISI certified items for distribution through consumers co-operative societies as a measure of protection of consumers' interest.

The draft Science and Technology Plan prepared by State Planning Board, West Bengal, envisaged ISI as one of the implementing agencies for a number of projects. The feasibility study of the involvement of ISI was made and views communicated for necessary modification. The State Planning Board of which In-charge, Calcutta Office is a member, has accepted the views offered and agreed to set up a number of Subcommittees for each specialized group of projects.

As a result of sustained efforts by Calcutta Office, a number of units both in public and private sectors have agreed in principle to accord preference to ISI certified articles and to include a suitable clause, wherever possible, in tender notices. The following are worthy of mention:

- a) Tata Engineering & Locomotive Company Limited, Jamshedpur
- b) Coal Mines Authority Limited, Calcutta

- c) Director of Industries, Government of Meghalaya
- d) State Electricity Board, West Bengal
- e) Government of India Mint, Alipore
- f) Directorate of Geology and Mining, Government of Assam
- g) Pyrites, Phosphates & Chemicals Ltd, Bihar
- h) State Electricity Board, Purnea, Bihar
- j) Fertilizers & Chemicals Travancore Ltd
- k) Calcutta State Transport Corporation

Institution of Engineers (India) has nominated In-charge, Calcutta Office as member of the Subcommittee set up for enforcement of quality control and development of standardized procedures for inviting tenders. He has also been nominated as member of the Editorial Board by the Institution of Engineers (India). The Chairmanship of Institution of Standards Engineers, Calcutta Section and Vice-Presidentship of Non-Destructive Testing Society of India are also held by him.

ISI Certification Marks Scheme showed considerable progress during the year under report. New licences granted numbered 122 against the target of 120, the achievement being higher by 18 licences over the last year. The new items covered included miners' cap lamp, shot-firing cable, precision hexagonal nuts, clearer cloth and sprayers, besides steel items. Number of applications received was 341.

Three review meetings were held at Calcutta and Tinsukia to assess the performance of the plywood licensees as well as to find out the need for change of operating procedures for quality improvement. A number of important decisions were taken at the meetings to remove the difficulties so as to ensure effective operation of the Scheme.

A meeting of the sluice valve licensees of Eastern Region was held on 9 December 1974 to review the performance of the licensees and the difficulties being encountered by them.

A meeting of the tea-chest metal fittings licensees was held in Calcutta on 27 January 1975 to assess the performance of the individual units. Depending upon the respective performance, it was agreed to classify the licensees into three groups to determine the frequency of inspection for effective operation of the Scheme.

The efforts to bring more steel items under ISI Certification Marks Scheme succeeded. Ministry of Industrial Development issued a notification under Industries (Development and Regulations) Act, 1951 which required the manufacturers to obtain ISI Certification Marks Licence in respect of 17 steel items as one of the conditions for endorsement/approval of their industrial licences by the Ministry.

Calcutta Laboratory continued to render useful services for effective operation of ISI licences. During the year under report, 5 521 samples inclusive of those sent by the Headquarters were tested. New testing facilities were added in respect of sluice valves, MS wire rod and wire, pitch bound wire reed, cotton cambs, hot rolled MS indented wire, MS deformed bars, hard drawn steel wire, etc.

Calcutta Office continued to maintain close contact with local press, radio and various technical journals. Important activities were covered from time to time. The Statesman, Amrita Bazar Patrika, Anand Bazar Patrika and Jugantar extended their cooperation to cover ISI activities of public interest. Calcutta Station of All India Radio broadcast the deliberations of conferences/seminars through News Bulletins and News Reels.

A 5-Member Soviet Delegation under the leadership of Mr A. M. Nikiforenko, First Vice-President of USSR State Committee for Standards visited Calcutta Office and was taken round the factories of Indian Oxygen Limited and Guest, Keen, Williams Limited.

Mr Kieth Siang, a delegate from Burma, visited Calcutta Office and exchanged views on standardization and quality control. An expert on flameproof equipment from Australia also visited Calcutta Office.

During the year under report, the sale of Indian Standards amounted to Rs 296 000 while revenue from membership subscription stood at Rs 679 000.

Chandigarh — The Branch Office made special efforts during the year to maintain close liaison with the various departments, of the concerned state governments industrial units. Chambers of Commerce and associations for wider adoption of Indian Standards in their manufacturing and purchase programmes and greater support to various activities of the Institution. As a result, there was heartening response from the governmental and other quarters to strengthen the movement for quality control in the area through the ISI Certification Marks Scheme.

A publicity drive was launched in October for bringing the establishment of Chandigarh Branch Office as also the services being rendered by it to the notice of all concerned, which helped considerably in spreading the message of the Institution.

The Branch Office participated in a number of meetings/conferences held in the region including the meetings of the manufacturers of bicycle components organized by the Quality Marking Centre, Department of Industries, Ludhiana and of Quality Marking Officers of Department of Industry Organized by Small Industries Service Institute, Ludhiana.

To promote educational utilization of Indian Standards, a close liaison was maintained with engineering colleges and polytechnics in the area. As a result of these efforts a number of Indian Standards were

adopted by the Punjab Engineering College, Chandigarh for the students of Civil Engineering. Thirty-seven new licences were granted to various manufacturers in the area to use ISI Certification Mark on their products.

Decision was taken to hold the formal inauguration of Chandigarh Branch Office. The Branch Office was subsequently inaugurated by Shri B. P. Maurya, Union Minister of State for Industry and Civil Supplies on 11 April 1975.

The Scheme submitted by the Institution for setting up a regional office in Mohali was approved by the Government of Punjab who further decided to provide a plot of land measuring 7 330 square metres at a suitable location for constructing Office-cum-Laboratory complex.

In order to cater to the increased demand for its services, the Branch Office shifted to a more spacious accommodation.

The sale of Indian Standards during the year under report amounted to Rs 21 998.13.

Hyderabad — A high level group discussion was organized under the Chairmanship of Shri S. K. Sen, Director General, ISI and with the participation of Secretary, Ministry of Industries, Director of Industries, Director of Small Industries Service Institute, Chiefs of private and public sector units, Federation of Andhra Pradesh Chamber of Commerce and Industry and other institutions. The discussion brought out a number of useful recommendations for accelerating the pace of standardization in the developing industrial economy of Andhra Pradesh.

Efforts were also made with the assistance of the Directorate of Industries to visit industrial estates, and to address the representatives of the units so as to apprise them about the activities of the Institution. Industrial estates covered during the year were those located at Cuddapah, Guntur, Kakinada, Nellore, Rajahmundry, Samalkot, Tirupati, Visakhapatnam, Vijayawada, Vizianagaram and Warangal. As a result, there was a significant increase in the demand for various services rendered by the Branch Office.

Ninety-two applications were received for certification mark licences covering items like pesticides, LPG cylinders (below 5 litres capacity), steel billets, structural steel, alloy steel, centrifugally cast iron spun pipes, cables and conductors, rigid PVC pipes and conduits, miners' shoes, 18-litre square tins and shuttles for jute mills. Twenty-four licences were granted under ISI Certification Marks Scheme covering various items including some items of consumer interest like refrigerators and milk boilers.

In order to promote implementation of Indian Standards in various fields, the Branch Office participated in the following forums:

- a) Seminar on 'Graphite Crucible Industry';

- b) Lecture programme on 'Current Needs of Standardization in Electronic Industry';
- c) Meeting of the members of the Research and Development Committee and representatives of the various Paints Manufacturers' Associations in Andhra Pradesh and Small Industries Service Institute; and
- d) Open house discussion on 'Modernization of Small Scale Industries (auto components, machine tools and foundry)'.

The Branch Office arranged for the broadcast of an interview with Shri S. K. Sen, Director General, ISI, and participated in seminars/lectures/training programmes organized by Consumer Associations and the Andhra Pradesh Productivity Council. An exhibition was organized on the occasion of the Fourth Annual Convention of the Indian Society for Technical Education.

For promoting implementation of Indian Standards by purchasing organizations, special drive was launched through personal contacts with various government purchasing departments, corporations and public sector units. Tenders issued by the purchasing organizations were also scrutinized on a regular basis so as to inform the organization about the availability of standards and certified products.

Andhra Pradesh State Electricity Board informed that whenever Indian Standard specifications were available the suppliers were being insisted to comply with the relevant Indian Standards.

Visakhapatnam Port Trust agreed to insist for ISI-marked products and the Controller of Stores issued an order to this effect.

The collection from subscribing membership registered a total of Rs 79 100'00 as on 31 March 1975. The sale of Indian Standards during the year under report amounted to Rs 87 000'00.

Kanpur — During the period under report, the Branch Office laid emphasis on the implementation of Indian Standards. A meeting of UP State Action Committee for Guiding Implementation Work of National Building Code and two meetings of the Subcommittee for revision of Municipal Bye-laws in accordance with National Building Code were held. Draft Municipal Bye-laws were finalized and they are expected to be adopted by KAVAL towns of Uttar Pradesh as model bye-laws.

A high level conference on adoption of modular bricks was also organized which recommended to Civil Supplies Department that no coal be supplied for burning old size bricks after October 1975. This is expected to provide a great fillip to adoption of modular bricks in the State of Uttar Pradesh.

A stall for exhibition of 'Indian Standards on Safety' set up at the "Governors' State Safety Conference on Industrial Safety and Health" at Kanpur aroused considerable interest in this aspect of the Institution's work.

The Branch Office arranged lectures on Standardization and Quality Control for entrepreneurs at the instance of Uttar Pradesh Small Industries Corporation; Small Industries Service Institute, Kanpur, and others. A talk was also arranged for high-level executives participating in the Material Management Programme jointly organized by Uttar Pradesh State Planning Board and National Productivity Council.

Active liaison with the Directorate of Technical Education resulted in our participation in educational programme for students of Technical Institutions. Officers of the Branch Office were invited to deliver lectures on 'Quality Improvement Programme' organized by Curriculum Development Centre, Allahabad Polytechnic.

At the Implementation Meeting of Miners' Safety Footwear comprising ISI licensed manufacturers and users like Coal Mines Authority, National Coal Development Corporation, etc, convened by Director General of Mines' Safety at Dhanbad, greater emphasis was laid on purchase of ISI-marked safety footwear as statutorily required under the Mines Safety Act.

The Land Development Bank, Uttar Pradesh, made ISI marking of diesel engines compulsory for the next rate contract. For some time diesel engines certified by agencies other than ISI would also be financed by the Bank subject to the provision that within 9 months all of them would take to ISI Marking. The State Bank of India and other commercial banks engaged in agricultural financing were also approached and their decisions on the same pattern as the Land Development Bank are expected.

Close collaboration was maintained with other organizations in the region by active participation in seminars, symposia and meetings organized by various State and Central Government Departments and Industrial Estates.

A survey was made of the Kumaun Hill Region for creating awareness and implementation of Indian Standards. In collaboration with the Indian Paints Association (Northern Region), a concerted drive was directed to Paint Manufacturers for certification marking. ISI Mark has been made compulsory for the purchase of pest control equipment by the State Government.

Through the Census Department of the Directorate of Industries a Spot Survey Questionnaire was circulated to ascertain amenability of Small Scale Industries to certification marking. Encouraging response was received from Agra, Mathura and Bareilly areas. For creating

greater awareness of Indian Standards, Advisory Subcommittees for Agra area were constituted. Area Advisory Subcommittees which exist at other important industrial centres in the State have already started yielding results by way of enrolment of new members and more applications for certification mark licences.

Collection and testing of samples and delineation of specific items under paddy processing equipment was done. As a sequel to the decision taken by Bombay Municipal Corporation to purchase only ISI-marked water supply fittings after 1 July 1975, there was a spate of applications for the grant of certification marking licences for various types of stop taps, bib taps and pillar taps, ball valve, flushing cisterns, etc.

Moulded rubber sole and heel, miner's cap lamps and heptachlor EC were brought under certification marking for the first time in this region.

During the year under report, 111 applications for grant of certification mark licences were received covering items, such as carbon brushes for electrical machines, dental chair, dental unit, pedestal cuspidor, handloom cotton bandage cloth, handloom cotton gauze, flashers, cylinder liner for internal combustion engines, piston rings and cultivators.

A total of 187 samples were drawn for inspection and 20 new ISI Certification Marks licences granted. Total number of operative licences as on 31 March 1975 was 110.

As on 31 March 1975, the total membership subscription amounted to Rs 133 150·00.

The sale of Indian Standards during the year stood at Rs 64 694·89.

Madras — Intensive efforts were made for adoption of Indian Standards by large-scale purchasing authorities of State Governments, Central Government, public sector undertakings and local bodies. Further 479 tender notifications were scrutinized and actions initiated in 91 cases where assistance regarding standards information was necessary. As a result, it was possible to persuade these departments to make their purchases on the basis of Indian Standards and to give preference to ISI certified products wherever available.

The Director, Madras Office was appointed a member of the Curriculum Development Cell of the Directorate of Technical Education for the preparation of the syllabus for the course on inspection and metrology for engineering colleges in Tamil Nadu. In the finalized draft syllabus under engineering metrology reference to related IS Specifications and under the subject of non-destructive testing Indian Standard Test Codes were included.

Various engineering colleges agreed to include the latest version of IS : 696-1972 'Code of practice for general engineering drawings' as part of the curriculum material for the first year students. This has resulted in a series of bulk orders for the supply of IS : 696 to the newly admitted students in various engineering colleges.

National Building Code — As a result of the deliberations of the Action Committee for Implementation of National Building Code (NBC) in the State of Tamil Nadu with which the Madras Office has been closely associated, the Government of Tamil Nadu issued orders to the effect that after 1 April 1976 only the NBC will be adopted by the Public Works Department (PWD) of the State. As an interim measure, the agreement forms for tenders issued by the PWD already would incorporate references to relevant portions of NBC in addition to the Madras Detailed Standards Specifications (MDSS).

Another direction in which the NBC was being implemented in Tamil Nadu was in respect of multi-storeyed buildings. The draft rules in this respect for public comments have been formulated by the Ministry of Rural Development and Local Authorities, the rules are based on the provisions of the NBC.

The Tamil Nadu PWD also proposed mandatory use of modular bricks according to the relevant Indian Standard from 1 January 1975.

The Action Committee for Implementation of NBC, for the State of Kerala, its subcommittees and working groups met a number of times during the year under report in connection with the redrafting of Kerala Detailed Standard Specifications.

With a view to improving the quality control measures and reorganizing the state Q-Marking scheme for eventual adoption of the ISI Certification Marks Scheme in the small-scale sector in Kerala, a special Panel was set up with Director, Madras Office as Convener. The Panel commenced work during the year under review, resulting in the grant of licence for ISI marking to one unit, with applications registered from a few more.

After the appointment of Rubber Board, Kottayam as the competent authority under the ISI Certification Marks Scheme and with the proposed measure to introduce ISI certification of raw natural rubber on a wider basis, details of procedure for operating the Scheme were worked out. The manner of carrying out inspections, number of samples to be taken, details of tests to be conducted at the Rubber Research Institute of India, Kottayam, etc, were discussed for the smooth operation of the grading of natural rubber and ammonia preserved latex in accordance with the relevant Indian Standards.

The progress of certification marking in the sago industry, which is concentrated in and around Salem, was extremely slow due to inadequate hygienic conditions prevailing in the industry. In order to improve the situation, the following actions were taken:

- a) On the suggestion of the Branch Office, the Tamil Nadu Health Department issued directives to the Municipal Health authorities to enforce IS : 7003-1973 Code for hygienic conditions for sago manufacturing units.
- b) The Director, Madras Office was appointed a member of the Tamil Nadu State Advisory Board for sago industry.
- c) A Subcommittee was set up with Director, Madras Branch Office as the Convener, for making recommendations for modernization of the sago industry, improvement of hygienic conditions and of the quality standards for water used in the industry.

Seven applications were received during the year for certification marking of cotton yarn out of which four have matured into licences for putting ISI Mark. The co-operative sector of Spinning Mills under the control of the Tamil Nadu Government was also expected to fall in line for certification marking of cotton yarn.

As a part of the modernization programme in the small scale sector, efforts were made to promote certification marking in the field of grey iron castings in Tamil Nadu. The Branch Office in collaboration with the Small Industries Service Institute, Madras has provided necessary technical information to several foundries in the area. As a result, four applications for certification marking of grey iron castings, against IS : 210 were received out of which one matured into a licence. The response was encouraging and some more units were expected to fall in line in due course.

First licences for certification of the following products were granted during the year:

a) Paper adhesive	IS : 2257-1970
b) Galvanized stay strand	IS : 2141-1968
c) Coal tar food colour preparations	IS : 5346-1969
d) Steel tubes for bicycle	IS : 2039-1964
e) Grey iron castings	IS : 210-1970
f) Spark ignition engines	IS : 7347-1974
g) Cotton yarn	IS : 171-1973 & IS : 834-1970

In order to review the existing licences for their operation, review meetings of licensees of tea-chest plywood panels, battens and metal fittings against IS : 10 and biscuit licensees in the Southern Region against IS : 1011 were held in Kottayam and Madras, respectively.

During the year under report the Madras Office Laboratory received 1 372 samples for testing, out of which 1 278 samples were tested.

Testing of products against 17 new specifications including products like roasted chicory powder, paper adhesives, laundry and toilet soaps, titanium dioxide, *BIDIS* and tobacco was taken up.

The construction of the Madras Office-cum-Laboratory building at Adyar which had been entrusted to the Directorate of Technical Education, Government of Tamil Nadu, had been making good progress. During the year under report, the building reached the first floor level and it was expected that it would be completed for occupation during the middle of the next financial year.

The Madras Office participated in the Pooram Exhibition at Trichur where the ISI stall was adjudged as the best alongwith the quasi-Central Government stalls. A silver shield and a merit certificate were also awarded. More than four lakhs of people visited the stall during the exhibition time.

Display of relevant Indian Standards was arranged in the following exhibitions organized in Madras City:

- a) Exhibition on the occasion of Annual Conference of Indian Section of the International College of Surgeons held at Taj Coramandel, Madras for three days from 29 September 1974.
- b) Exhibition organized by National Safety Council at Guindy Engineering College during November 1974.
- c) Exhibition put up on the occasion of Seminar on Metal Finishing organized jointly by the Society for Advancement of Electrochemical Science and Technology and the Institution of Engineers India (Madras Centre) on 29 December 1974.

Director, Madras Office participated in a programme in Tamil entitled 'Kalappadam' (Adulteration) broadcast over Madras Station of All India Radio on 8 August 1974.

During the year under report the sale of Indian Standards amounted to Rs 192 000 while revenue for membership subscription stood at Rs 360 000.

Patna — To disseminate information about ISI activities and to enlighten the industrialists and entrepreneurs about their significance for business and industry, S. K. Sen, Director General, ISI addressed the Executive Committee members of Bihar Industries Association at Patna on 5 July 1974. The industry was urged to participate in ISI activities by enrolling as subscribing members, implementing Indian Standards and covering their products under ISI Certification Marks Scheme.

During the year under report the Head, Patna Branch Office addressed a joint meeting of Bokaro Industries Association and Bokaro Laghu Udyog Udyami Sangh at Bokaro Steel City, Members of Central Bihar Chamber of Commerce at Gaya, and industrialists and entrepreneurs of Siwan in North Bihar. Two batches of entrepreneurs receiving training under industrial entrepreneurship training programmes conducted by the Patna Productivity Council in December 1974 and January 1975 were also addressed on the importance of planning for implementation of Indian Standards and operation of ISI Certification Marks Scheme.

For promoting implementation of Indian Standards the Branch Office established contacts with various officers of the Directorate of Industries Bihar, Industrial Area Development Authorities at Bokaro, Ranchi and Patna, and senior staff of engineering colleges and polytechnics. The nationalized banks and the Bihar State Financial Corporation were also contacted for this purpose.

The Branch Office organized jointly with Patna Productivity Council a seminar on 'Paddy Milling Technology' at Patna on 28-29 September 1974 when related Indian Standards were also exhibited.

In the 'Eastern Region Energy Seminar' organized by Bihar Industries Association at Patna on 4-5 February 1975, the need for creating standardization cells in the Electricity Boards was emphasized for ensuring intra-board and inter-board standardization.

The Institution was given representation on the Committee for Development of Electronic Industry in Bihar. The Industries Department of the Government of Bihar and the Bihar State Electricity Board (BSEB) have decided to recognize a number of industrial units as ancillaries to BSEB. ISI was offered representation on the Inspection Committee which would look after the testing and inspection facilities for the purpose. The industrial units whose products bear the ISI Mark would be exempted from the payment of testing and inspection fees.

For implementation of the National Building Code of India efforts were continued with the Engineer-in-Chief and the Chief Engineer (Building), PWD, Bihar and the Chief Town Planner, Bihar. The Supplies Department, Government of Bihar, issued Bihar Bricks Control Order, 1974 providing for compulsory implementation of IS : 1077-1970 Common burnt clay building bricks.

The first class judicial magistrates in Bihar were empowered by Patna High Court through its notification No. 235A dated 24 July 1974 to try offences under ISI Certification Marks Act, 1952.

Industry-wise group discussions were held with Bihar State Diesel Engine Manufacturers and Bihar Wax Refiners to apprise them of the

technical requirements of ISI Certification Marks Scheme. Ten manufacturers of diesel engine and seven paraffin wax refiners have applied for ISI Mark.

The Plant Protection Officer-cum-Licensing Authority, Bihar was approached to restrict purchase of pesticidal formulations by Government of Bihar to ISI-marked materials and also to prohibit sale of pesticidal formulations without ISI Mark in the State. An order was accordingly issued by the authority to all formulators of pesticides in Bihar to obtain ISI Mark otherwise technical material might not be allocated to them as the State Government would purchase only ISI-marked pesticides. The order also urged all dealers in Bihar to sell only ISI-marked pesticides.

The Commissioner of Excise, Bihar was also approached to make ISI Mark compulsory for alcoholic drinks manufactured and marketed in Bihar and the matter is being pursued further.

The Bihar State Industries Department had decided to set up a Central Laboratory at Patna and three or four regional laboratories. It is understood that for the Patna Laboratory a sum of about Rs 1 800 000 has been earmarked. ISI has been requested to provide technical advice on testing equipment. The architectural plan of the laboratory has also been provided by ISI. The construction of the building has started and it is expected that the laboratory would start functioning next year with arrangements for testing pesticides, paints, diesel engines, paraffin wax, leather and leather products.

Standardization Abroad and at International Level—The Institution participated actively in the work of organizations devoted to standardization at international level including International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Commonwealth Standards Conference (CSC) with the object of promoting standards activity at international level and developing international trade. The Institution also made concerted efforts to establish cooperative relations with the standards bodies of other countries, particularly those of the developing nations.

During the year under report, the Institution was a participating or active member of 115 committees of ISO and almost all committees of IEC. In addition, India provided the chairmanship of IEC/TC 43 Electric Fans for Domestic and Similar Use, and held the Secretariats of the following 22 technical committees, subcommittees and working groups dealing with subjects of interest to the country:

1. ISO/TC 50 Lac
2. ISO/TC 56 Mica
3. ISO/TC 113 Measurement of Liquid Flow in Open Channels
4. ISO/TC 149 Cycles

5. ISO/TC 8/SC 9/WG 3 Solid Lifesaving Apparatus
6. ISO/TC 8/SC 11 Ship-Building-Terminology, Symbols, Drawings, etc
7. ISO/TC 8/SC 11/WG 5 Ship-Building — Identification Colours for Pipes Covering Fluids
8. ISO/TC 12/SC 1 Procedures for Inter-Conversion of Value
9. ISO/TC 17/SC 2 Classification and Designation of Steels
10. ISO/TC 17/SC 8 Dimensions of Hot-Rolled Steel Sections
11. ISO/TC 34/SC 7 Spices and Condiments
12. ISO/TC 34/SC 8 Stimulant Foods
13. ISO/TC 38/SC 8 Physical Testing of Fabrics and Fabric Terminology
14. ISO/TC 45/WG 4 Rubber and Rubber Products — Physical Properties
15. ISO/TC 54/WG 7 Oil of Vetiver
16. ISO/TC 113/WG 1 Measurement of Liquid Flow in Open Channels — Velocity Area Methods
17. ISO/TC 113/WG 2 Measurement of Liquid Flow in Open Channels — Notches, Weirs and Flumes
18. ISO/TC 113/WG 3 Measurement of Liquid Flow in Open Channels — Glossary of Terms
19. ISO/TC 113/WG 4 Measurement of Liquid Flow in Open Channels — Dilution Methods
20. ISO/TC 113/WG 5 Measurement of Liquid Flow in Open Channels — Flow Measuring Instruments and Equipment
21. ISO/TC 113/WG 6 Measurement of Liquid Flow in Open Channels — Sediment Transport
22. IEC/TC 43 Electric Fans for Domestic and Similar Uses

Shri S. K. Sen, Director General, ISI, attended the twenty-eighth meeting of the ISO Council held in Geneva on 24-26 September 1974. He also attended the meeting of the ISO Planning Committee (PLACO) held on 23 September 1974.

At the thirty-ninth Annual General Meeting of the International Electrotechnical Commission (IEC) held in Bucharest (Romania) from 9 to 21 September 1974; India was represented by Shri Y. S. Venkateswaran, Deputy Director General, ISI and Shri K. S. Subramanyam, Member (Hydroelectric), Central Water and Power Commission.

The fourth session of the Asian Standards Advisory Committee (ASAC) was held at Kuala Lumpur from 16-19 December 1974. Besides an

Observer from ISO, the session was attended by 25 other participants from 11 countries of Asia and the Far East. India was represented at the session by Dr A. K. Gupta, Deputy Director General, ISI.

On a request from the Government of Burma, Shri S. K. Sen, Director General, ISI, visited Rangoon during 7-18 September 1974 to advise the Burmese Government on the adoption of metric system. He also visited Algeria from 16 to 20 September 1974 in order to advise the Government on the organization of the work of the Algerian Institute for Standardization and Industrial Property.

A delegation headed by Mr A. M. Nikiforenko, Vice-President of the Soviet State Committee for Standards, visited New Delhi from 18 to 25 November 1974 to attend the Second meeting of the Indo-Soviet Working Group on Standardization and Metrology.

0. INTRODUCTION

0.1 Part II of the Report gives, in brief, a record of the technical work done during 1974-75 by different divisions and departments of the Institution in respect of the formulation of Indian Standards.

It does not attempt to cover in detail all the work done and that under consideration, but it deals only with the more important developments in different spheres of ISI activities.

0.2 Formulation of Standards — During 1974-75, a total of 375 new standards were adopted and sent to press, 235 standards were revised, 307 new proposals for formulation of Indian Standards were received and 257 proposals (including some made during the previous year) were accepted and referred to various committees for further processing.

Graphical representation of the growth of Indian Standards since 1966 is given in Fig. 5.

0.3 Technical Committees of ISI and Their Membership — As on 31 March 1975, 2 044 technical committees with a total membership of 28 792 experts representing various interests, namely, manufacturers, consumers, scientists, technical and research organizations, government departments and purchasers, were engaged in the task of formulation of Indian Standards.

During the year under report, a total of 710 committee meetings were held for the work relating to formulation of standards.

The growth since 1966 in the number, membership and activities of the technical committees is shown in Fig. 6 and 7.

0.4 Record of Work — Cumulative information about the work pertaining to different divisions and departments of the Institution is given in Table 1.

FIG. 5 GROWTH OF INDIAN STANDARDS

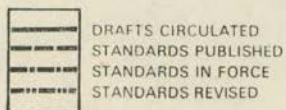
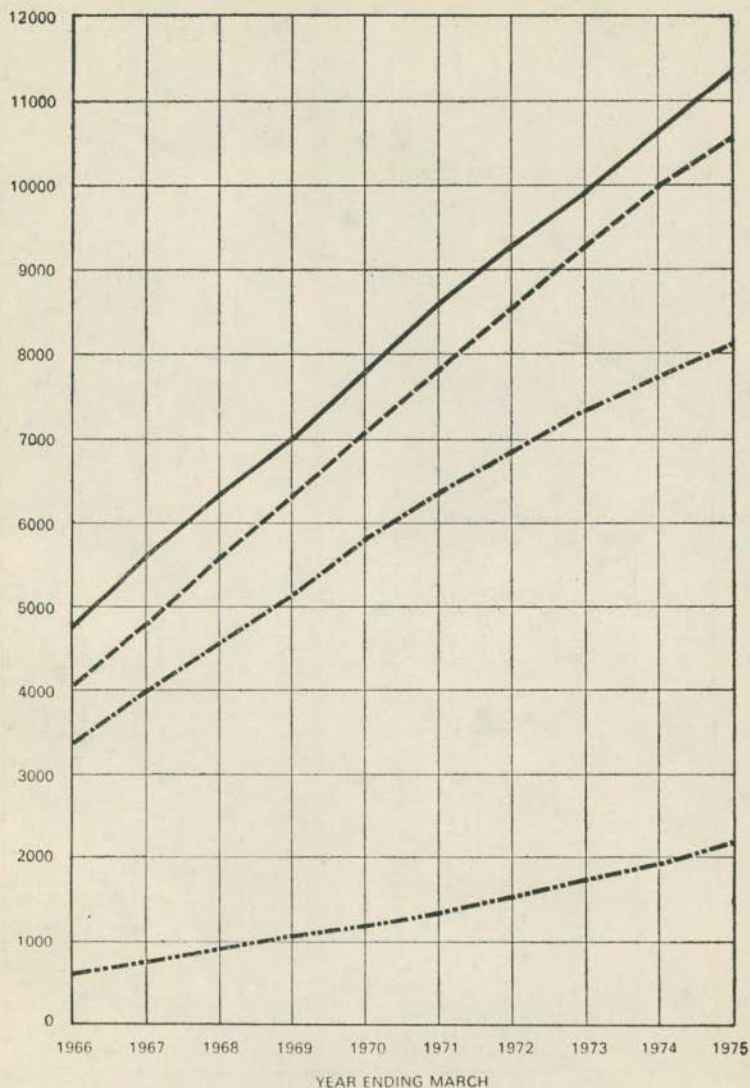
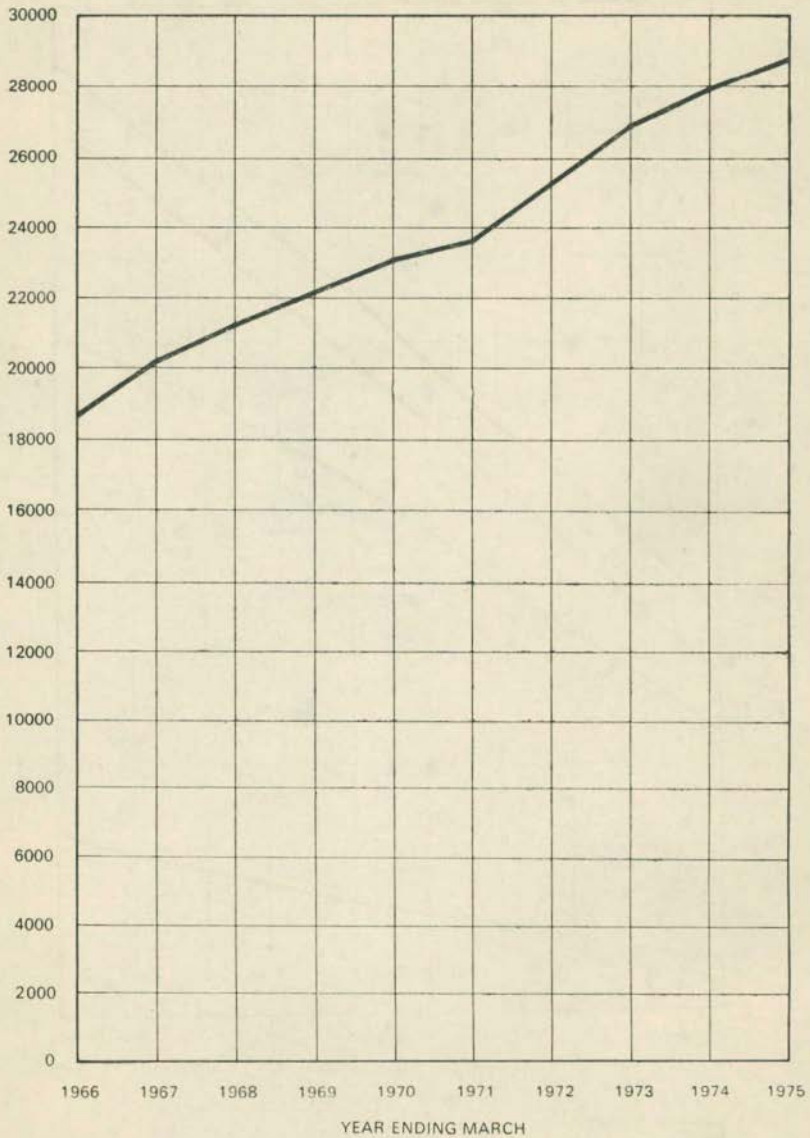


FIG. 6 GROWTH OF COMMITTEE MEMBERSHIP




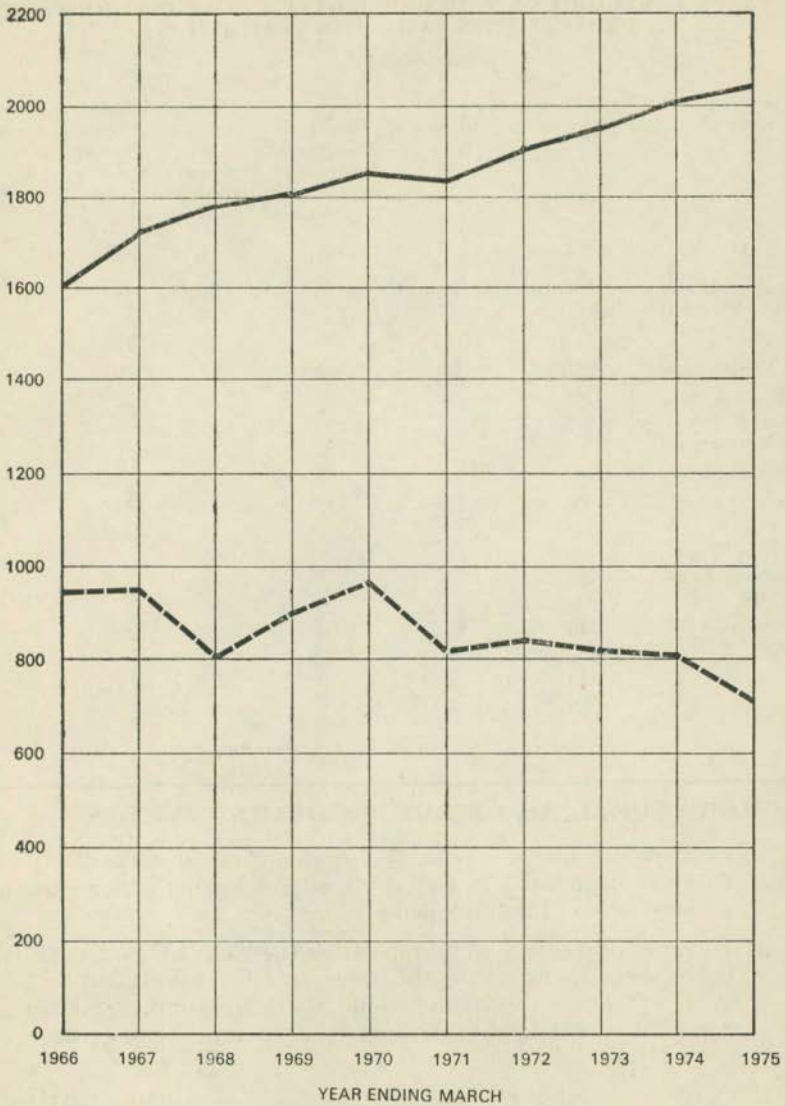
 No. OF COMMITTEE MEMBERS

FIG. 7 GROWTH OF COMMITTEES AND THEIR ACTIVITIES






 No. OF COMMITTEES

 No. OF MEETINGS HELD

TABLE 1 RECORD OF WORK OF ISI TECHNICAL DIVISIONS AND DEPARTMENTS (FOR THE YEAR 1974-75)*(Clause 0.4)*

DIVISION OR DEPARTMENT	NO. OF COMMITTEES	NO. OF MEETINGS	NEW AND REVISED STANDARDS PUBLISHED AND UNDER PRINT	AMENDMENTS TO STANDARDS	DRAFT STANDARDS CIRCULATED	NEW SUBJECTS TAKEN UP
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agricultural and Food Products	146	64	75	29	103	19
Chemical	425	180	101	50	120	44
Civil Engineering	285	91	90	64	92	71
Consumer Products & Medical Instruments	97	58	54	8	71	—
Electrotechnical	202	71	63	73	80	—
Marine, Cargo Movement & Packaging	86	29	32	1	32	18
Mechanical Engineering	281	73	85	24	66	18
Structural & Metals	344	67	62	44	61	16
Textiles	113	58	43	26	41	55
Miscellaneous	65	19	5	2	7	16
Total	2 044	710	610	321	673	257

1. AGRICULTURAL AND FOOD PRODUCTS DIVISION

1.1 During the year under report, the Agricultural and Food Products Division Council formulated 75 Indian Standards among which particular mention may be made of the following:

- a) Revision of ten Indian Standards in the field of food colours to bring them in line with the latest specifications issued by FAO/WHO. These revisions would help in implementation of compulsory ISI Certification of food colours coming into effect from 1 June 1975.
- b) Code of practice for keeping dairy accounts (IS : 7607-1975) published in three parts. The code would help in the correct and uniform assessment of commercial aspects of the functioning of the dairy plants by streamlining the system of keeping accounts of various operations.

- c) Nomenclature of vegetables (IS : 7470-1974) which would help in unambiguous understanding of regional names of the vegetables.

1.2 In addition, specifications were formulated for carbaryl, technical; wasp trap for apiary industry; pig feeds; trap nests, pedigree hatching boxes and battery cages for poultry industry; reference food colour boxes; specification for blade for tractor operated terracer; tines for animal driven and tractor operated cultivators; and various types of pest control equipment. In the field of foodgrains and foodgrain products, new specifications were formulated for improver wheat and wheat flour for use in biscuit and bread industry. Specifications for protein based beverages and protein based biscuits were also formulated.

1.3 Some of the standards have broken new ground, such as methods of test for determination of nitrite and nitrate content of meat and meat products; analysis of wines, and estimation of vitamin B₁₂ and pyridoxine (vitamin B₆) in foodstuffs. Specifications were formulated for microbiological grades of liver extract, soluble starch, gelatin and malt extract. An Indian Standard method of determination of protein efficiency ratio (PER) has been formulated on the basis of the investigations carried out in six different laboratories in India.

1.4 Apart from the revisions of the standards on food colours [see 1.1 (a)] other revisions include specifications for pesticides including aldrin technical and aldrin dusting powder, endrin technical and endrin emulsifiable concentrates, wettable sulphur powder, ziram technical and ziram WDP, dimethoate technical and dimethoate EC, beeswax, layout for honey processing plant, extracted honey, specifications for equipment for insecticidal spray, specification for frozen frog legs, frozen lobster tails, desiccated coconut, Bombay HALWA, peanut candy, rolled oats, high protein mixes for use as food supplements, soluble coffee chicory powder, sampling of tea, and grading of monsooned coffee.

1.5 Draft standards finalized for printing included specification for cigarettes, guide for sensory evaluation of foods (statistical analysis of data), methods for sensory evaluation of beer, pasteurized milk, GHEE and butter, test code for disc harrows; and test code for stationary power thresher for wheat.

1.6 The nineteenth meeting of Agricultural and Food Products Division Council (AFDC) was held on 8 August 1974 under the Chairmanship of Dr M. S. Swaminathan, Director General, Indian Council of Agricultural Research. In this meeting it was decided to make an objective study to assess the impact of the standards prepared by AFDC and to point out gaps in the standardization programme. In consultation with various

experts in the country, new areas have now been identified for formulation of Indian Standards as follows:

- a) Soil reclamation
- b) Agriculturally useful micro-organisms
- c) Farm accounts
- d) Silk worm cultivation
- e) Plant growth substances

1.7 ISI Certification — During the year under review, the total number of operative ISI Certification Mark Licences against the standards prepared by AFDC rose from 618 to 674 showing a growth rate of 9 percent. The new items brought under ISI Certification during the year under review are as under:

- a) Roasted chicory powder (IS : 612-1971)
- b) Rotary paddy weeders (IS : 1976-1969)
- c) Rotary duster, shoulder mounted type (IS : 2477-1970)
- d) Dust applicator for burrows (IS : 3634-1966)
- e) Sprayer atomizer type, hand operated (IS : 3897-1966)
- f) Coaltar food colour preparations and mixtures (IS : 5346-1975)
- g) Chewing gum and bubble gum (IS : 6747-1972)

Pesticides

- h) DDT, technical (IS : 563-1973)
- j) Methyl bromide (IS : 1312-1967)
- k) Copper oxochloride, technical (IS : 1486-1967)
- m) Insecticidal space spray (IS : 1824-1971)
- n) Phenyl mercury acetate, technical (IS : 2126-1973)
- p) Heptachlor emulsifiable concentrates (IS : 6439-1972)
- q) Carbaryl water dispersible powder concentrates (IS : 7121-1973)
- r) Carbaryl dusting powders (IS : 7122-1973)

2. CHEMICAL DIVISION

2.1 During the year under report, greater emphasis was laid on updating of existing standards; the work which would enable optimum utilization of natural resources, particularly scarce raw materials and by-products; and the work which would effect import substitution.

2.2 During the year, 104 standards were published of which special mention may be made of the following:

- a) IS : 2296-1974 *Tolerance limits for inland surface waters subject to pollution (first revision)* — The revised standard incorporates

several additions and improvements in view of the experience of the use of the original standard since 1963 by the State Governments to control pollution as also of coming into being of the new types of manufacturing activity.

- b) *IS : 2490-1974 Tolerance limits for industrial effluents discharged into inland surface waters* — In view of the experience of the use of the original standard since 1963 indicating that problems of some of the highly polluting industries should be dealt with separately, the revised standard is being issued in several parts. The first part is for general applicability and four more parts have been published dealing with distillery, tanning, strawboard and electroplating industries, respectively.
- c) *IS : 4707 (Part II)-1973 Classification of cosmetic raw materials and adjuncts* — This standard provides guidance on the hazardous nature of chemicals which may be used in formulation of cosmetics. The standard would be of particular interest to the small scale sector which accounts for nearly two-third, of cosmetic industry and would assist the State Governments in ensuring production of hazard-free cosmetics.
- d) *IS : 4749-1968 Method for calculation of bulk quantities of industrial aromatic hydrocarbons (first revision)* — Tabulated values of volume reduction factors for benzene, toluene, xylenes and ethylbenzene up to a temperature of 55°C have been given in this revision. This Indian Standard has proved to be of great assistance to the excise authorities.
- e) *IS : 5182 Methods for measurement of air pollution:*
Part IX Oxidants; Part XII Polynuclear aromatic hydrocarbons in air particulate matter; Part XV Mass concentration of particulate matter in the atmosphere and; Part XVIII Continuous analysis and automatic recording of the oxidants contents of the atmosphere — These standards derived their importance from the fact that they make an attempt to unify the methods of determination of various air pollutants and are likely to find place in the Air Pollution Act, which is before the Parliament.
- f) *IS : 6609 (Part II|Sec 1)-1973 Methods of test for commercial blasting explosives and accessories: Part II Explosives; Section 1 Explosives, general*
IS : 6609 (Part II|Sec 2)-1973 Methods of test for commercial blasting explosives and accessories: Part II Explosives; Section 2 Explosives, permitted — These are pioneering documents in the field as no other standards body has so far published national standard on these subjects.

- g) *IS : 6994 (Part I)-1973 Specification for industrial safety gloves: Part I Leather and cotton gloves* — The canalization of demand for gloves into the preferred types and sizes covered in this standard will facilitate economic production for the benefit of both the manufacturers and the users.
- h) *IS : 7159-1973 Methods of test for henna powder* — Standard methods of evaluation will help assure that only good quality product is exported thus safeguarding India's substantial interest in the export trade of henna powder. This standard will be followed by standards on quality.
- j) *IS : 7277-1974 Code of practice for safe use of polyethylene in contact with foodstuffs, pharmaceuticals and drinking water and IS: 7288-1974 Code of practice for safe use of polyvinylchloride (PVC) and its copolymers in contact with foodstuffs, pharmaceuticals and drinking water* — These important codes will help to regulate basic resins, and other processing ingredients which are considered safe for the required end-use of packing foodstuffs and pharmaceuticals.
- k) *IS : 7324-1974 Specification for brix hydrometers* — Brix hydrometers are used by the sugar industry for determining the percentage of sugar content in cane juice. The demand for specification will help to reduce the multiplicity in the shapes, sizes and standard temperature of calibration of the hydrometers which are presently being imported as also manufactured indigenously.
- m) *IS : 7374-1974 Specification for glass rods and tubing for laboratory glassware* — This standard lays down basic requirements for glass rods and tubing up to a maximum diameter of 38 and 110 mm, respectively, with appropriate dimensional tolerances and three wall thicknesses, namely, light, medium and heavy.
- n) *IS : 7395-1974 Specification for gum ghatti* — Gum ghatti is an important import substitute for gum arabic and is widely used in recent years in the petroleum industry, explosive industry; food processing and pharmaceutical industries, etc.
- p) *IS : 7413-1974 Code of practice for application and finishing of thermal insulation materials between 40°C to 700°C* — The code covers the various practical details in the application/finishing of thermal insulation materials.
- q) *IS : 7490-1974 Specification for reclaimed rubber* — This standard will promote the use of reclaimed rubber obtained from the rubber waste.
- r) *IS : 7503 (Part I)-1974 Glossary of terms used in rubber industry, Part I* — This standard would help in eliminating ambiguity and

confusion arising from different interpretations of terms used in the rubber/trade and industry. Part I covers the general terms and terms relating to latex, physical properties and testing and chemical properties and testing. Other parts are under preparation.

- s) *IS : 7402 (Part I)-1974 Methods of test for eye protectors: Part I Routine test*—In any industrial operation, where there are chances of injury to the eyes, it is always advisable to wear eye protectors to safeguard against such possibility. Selection of an appropriate eye protector calls for consideration of nature of activity hazards involved in it and suitable methods for testing to ensure safety in use. This Indian Standard prescribes methods of routine tests for the same.

2.3 The twentyseventh meeting of the Chemical Division Council (CDC) was held on 5 February 1975 under the Chairmanship of Dr J. S. Badami, Swastik Household and Industrial Products Pvt Ltd, Bombay. In this meeting composition of the Standing Working Committee of Chemical Division Council (SWCC) and Standing Working Committee for Petroleum, Coal and Their Derived Products (SWCPC) was reviewed. In addition, the compositions of Glassware Sectional Committee, CDC 10 and Solid Mineral Fuels Sectional Committee, CDC 14 were reviewed and the Committees were reconstituted.

2.4 The Standing Working Committee of the Chemical Division Council (SWCC) and the Standing Working Committee for Petroleum, Coal and Their Derived Products (SWCPC) met on 4 October 1974 under the Chairmanship of Dr J. S. Badami. A new Sectional Committee for Solid Wastes, CDC 54 was set up.

CIVIL ENGINEERING DIVISION

1 During the year under review, 90 Indian Standards were formulated by the Civil Engineering Division Council. Besides, progress was achieved in relation to the work undertaken by the Division on a project basis, namely, handbook of construction practices, handbook on construction plant and machinery, and unified concrete code. Considerable progress was also registered with regard to the work relating to ports and harbours.

2 Of the important standards, special mention may be made of the guidelines for allocation of cost among different purposes of river valley projects, Code of practice for structural design of surge tanks, Code of practice for operation and maintenance of barrages and weirs, Code of practice for installation and observation of cross arms for measurement of internal vertical movement in earth dams, Criteria for earthquake resistant design of structures (revision of IS : 1893) and criteria for design of reinforced concrete bins for the storage of granular and powdery materials.

3.3 Of the draft Indian Standards taken up during the period under report, particular mention may be made of Design criteria for dimensioning cement rotary kilns and auxiliaries, Dimensions and materials of cement rotary kilns and auxiliaries, Criteria for design of multi-storeyed buildings and Recommendations for layout and planning of posts and harbours.

3.4 Through special efforts towards implementation of standards, it has been possible to implement 80 percent of the standards formulated by the Civil Engineering Division.

3.5 National Building Code — Implementation of the National Building Code through adoption by Public Works Departments of various States modification of bye-laws of municipal corporations, and municipalities showed good progress. Implementation conferences in this regard have been held in the States of Tamil Nadu, Karnataka, Kerala, Maharashtra, West Bengal, Orissa, Gujarat, Assam, Meghalaya and Uttar Pradesh. As a result of these Conferences, Action Committees have been set-up in all these States to look after the details of implementation of the Building Code. The ISI Directorate gave necessary assistance to these Action Committees and has also helped in the review of building bye-laws of various Municipal Corporations, Municipalities and other local bodies as well as departmental specifications of State PWDs.

3.6 Conferences were held in the Union Territory of Delhi (Delhi) and Uttar Pradesh (Lucknow) for the promotion of adoption of modular bricks.

4. CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DIVISION

4.1 The Consumer Products and Medical Instruments Division maintained the steady progress in its activities during the year under report. Fifty-four standards were sent for printing and 74 draft standards were issued into wide circulation for eliciting comments.

4.2 In the medical field, special mention may be made of the standard developed by the Surgical Instruments Sectional Committee (CPDC 11) laying down a boiling and autoclaving test for assessing the corrosion resistance of surgical instruments made of stainless steel. Until recently copper sulphate test for corrosion resistance was being insisted upon in the specification for surgical instruments. However, difficulties were being experienced by the manufacturers of surgical instruments in meeting the requirements of this test and a suggestion was received that this test be replaced by boiling and autoclaving test as followed in B S specification. The Sectional Committee decided to accept boiling and autoclaving test as obligatory and copper sulphate test as optional.

Besides, standards on important subjects like Aneroid type of sphygmomanometer, hot and cold pressure sterilizers, folding wheel chair, stain

and curbs for the handicapped, dental pliers, episiotomy scissors, decapitation hook, vaginal retractor, etc, were also finalized.

4.3 The four sectional committees created last year to expedite the standardization work in the fields of ENT, eye, cardio and neuro surgery instruments held their first meetings during the period under review and laid down the priority for the formulation of standards in their respective fields. Twenty-one preliminary drafts were approved by these committees for wide circulation.

4.4 In the consumer group, mention may be made of the specifications on safety razor, safety razor blades, culinary measures for household and revision of specifications on football, volleyball and basketball and domestic pressure cooker. The effective provisions of these specifications have attracted attention of a large number of manufacturers and users and it is hoped that these specifications will go a long way in improving the quality of these items manufactured in the country. In the revised version of standards on football, volleyball and basketball, an important provision relates to inclusion of cotton thread as an alternative material to flax thread for stitching of these balls.

4.5 The tenth meeting of Consumer Products and Medical Instruments Division Council (CMIDC) was held on 31 March 1975 under the Chairmanship of Col R. D. Ayyar. The Council appointed new Chairmen of 7 Sectional Committees besides reviewing the composition of 6 Sectional Committees.

5. ELECTROTECHNICAL DIVISION

5.1 During the period under report, 63 Indian Standards were published or were under print, 12 existing Indian Standards were revised, 51 draft standards were finalized for publication and 80 were issued in wide circulation to the various interests concerned for eliciting technical comments. Preliminary draft standards on a number of new subjects were also prepared.

5.2 Among the standards printed during the period under report, special mention may be made of the standards relating to methods of high voltage testing issued in two parts dealing with general definitions and test requirements, and test procedures, dimensions of three-phase foot-mounted induction motors, assesment of noise-exposers during work, lead acid storage batteries for motor vehicles, life testing of semiconductor devices, dimensions for TV ferrite components (cores for deflection coil), road traffic signals, radio frequency diathermy apparatus, three-phase squirrel cage induction motors for centrifugal pumps for agricultural applications diagnostic medical X-ray equipment, and automatic releasing circuit breakers (automatic circuit reclosers) for distribution system.

5.3 Eighteenth meeting of Electrotechnical Division Council was held on 26 July 1974 under the Chairmanship of Shri J. S. Zaveri, Managing Director, Bharat Bijlee Ltd. Apart from reconstituting 6 sectional committees for another term of three years and appointment of new Chairmen for three committees, the Council took two important decisions, namely, to recommend:

- 1) Creation of a new division to undertake work in the field of electronics and telecommunications; and
 - 2) Formulation of a National Electrical Code.
- a) **Proposal for the Creation of New Division Council** — It was recommended to General Council of ISI to create a new Division Council, namely, Electronics and Telecommunications Division Council to deal exclusively with electronics and telecommunications. The General Council at its meeting held on 15 November 1974 agreed to constitute a new Division Council with the following title and scope of work:
- Title* — Electronics and Telecommunications Division Council.
- Scope* — To cover standardization and other related activities in the field or electronics and telecommunications including acoustics and nuclear physics.
- b) **Formulation of National Electrical Code** — The Division Council constituted a new committee called National Electrical Code Sectional Committee (ETDC 56). The Committee is charged with the responsibility of formulating the National Electrical Code. The Code will provide under a single cover unified practices and procedures and safety requirements for installation inspection and maintenance of electrical work in different locations. It would encompass the design, selection, installation, operation, maintenance of entire range of electrical equipment and installation in normal and hazardous areas, safety procedures in electrical works as all aspects of the electrical installations in buildings.

5.4 During the year under report, a Seminar on electrical insulation was held at Bangalore between 28 and 30 November 1974. The Seminar comprised four sessions, namely, (a) evaluation of materials and systems, (b) power cables and capacitors, (c) power transformers and bushings; switchgear and outdoor HV insulation, and (d) rotating machines. The Seminar discussed problems relating to design, research, development, manufacture, use and evaluation of insulating materials and insulation systems. Need for implementation of Indian Standards on insulating materials was emphasized. The Seminar recommended that both the manufacturers and users should communicate to ISI the modifications which they felt should be made in the Indian Standards for better implementation.

5.5 The Electrotechnical Division Council which is also the Indian National Committee of the International Electrotechnical Commission (IEC) continued to take part in the deliberations of the various committees of IEC. An account of the activities of IEC of interest to India is given in Part III of this Report.

6. MARINE, CARGO MOVEMENT AND PACKAGING DIVISION

6.1 During the period under report, Marine, Cargo Movement and Packaging Division Council formulated Indian Standards on a number of important subjects leading to publication of 32 Indian Standards, revision of 4 standards and wide circulation of 30 draft Indian Standards for eliciting technical comments.

6.2 Among the standards printed during the period under report, special mention may be made of the standard relating to acceptance tests for harbour tugs and the standard for domestic freight containers.

6.3 The fourth meeting of the Marine, Cargo Movement and Packaging Division Council was held on 5 February 1975. Consequent upon Shri C. P. Srivastava relinquishing the chairmanship of the Division Council to take up his new assignment as Secretary-General with IMCO, Shri A. Krishnan, Chief Surveyor to the Government of India, Directorate General of Shipping was elected Chairman of the Division Council. Shri S. Parmanandhan, Director of Naval Designs, Indian Navy and Shri A. Ray, Director of Guest, Keen, Williams Ltd, Calcutta were elected Vice-Chairmen for Marine Group and Packaging Group, respectively.

6.4 The Council reconstituted 15 Sectional Committees for another term of 3 years and appointed new Chairman for 3 Committees in place of those who had retired from the services of their respective organizations.

6.5 The title for the Sectional Committee for Performance Evaluation of Transport Packages (MCPD 18) was changed to Transport Packages Sectional Committee. One new Subcommittee and four panels were set up under various Sectional Committees.

6.6 It was decided by the Division Council to request the Ministry of Transport and Shipping for adoption of marine standards.

6.7 A technical meeting was held with a delegation from Japan Marine Standards Association in September 1974 with the object to highlight the marine standardization work undertaken in Japan and India and to explore the possibilities of exchange of expertise between the two countries for further development of standardization in the field of ship building.

7. MECHANICAL ENGINEERING DIVISION

7.1 The Mechanical Engineering Division made satisfactory progress in its work during the year under report. Eighty-five Indian Standards were

either published or were under print. Seventy draft standards were finalized while 65 draft standards were issued into wide circulation for eliciting comments. Besides, 94 new draft standards were also prepared during the year. On the recommendation of the Bicycles Sectional Committee (EDC 26), the Division Council constituted a separate Sectional Committee for formulating standards relating to Mopeds (EDC 78), thus bringing the total of Sectional Committees to 44.

7.2 Among the important standards published during the period under report, particular mention may be made of the following:

Chemical Engineering — The Chemical Engineering Sectional Committee (EDC 57), which has already published a number of Indian Standards on Glossary of terms for valves and their parts, published recently IS : 4854 (Part III)-1974 which defines the types and parts, of butterfly valves. By the publication of this standard, it is hoped that the various terms used in butterfly valve trade and industry would be better understood.

Engineering Metrology — 'IS : 7327-1974 Granite surface plates' which was published recently prescribes the requirements, such as grade, material, hardness, dimensions, and accuracy, for rectangular and square granite surface plates. Detailed procedure for testing has also been given in the standard.

Gears — 'IS : 7403 - 1974 Code of practice for the selection of standard worm and helical gear boxes' has been prepared for the guidance of machinery manufacturers and users to assist in the selection of correct size of worm and helical gear boxes for various applications and operating conditions. The Code specifies the data to be had regarding prime mover and driven machine, service factors which are to be considered to determine maximum rated power and load characteristics values for different applications.

Internal Combustion Engines — 'IS : 7451-1974 Reciprocating internal combustion engines' which has been published in six parts deals with fundamental concepts in IC engines. Various parts of the standard cover general definitions, definition of locations on an engine, definition of right and left hand single bank engine, designation of cylinders, designation of direction of rotation and standards direction of motion for hand operated control devices. This standard is in agreement with corresponding international standard and gives the unified practice of designating and identifying reciprocating internal combustion engines in the country.

Another important standard published in this field is 'IS : 7347-1974 Performance of small size spark ignition engines' which covers engines up to 20 kW being used for sprayers and other agricultural purposes as well as for automotive applications. The standard lays down the standard reference conditions, methods of test and acceptance standards for such engines.

Mining — The Mining Sectional Committee (EDC 50) has recently formulated 'IS : 7587-1975 Suspension gear for winding in mines'. This standard, issued in five parts, deals with different components of suspension gear used for suspension of cages or skips using bridle chains for winding in mines. The parts covering general requirements for all the components, cappels and bridle chains are under print and those covering shackles and pins and equalizing plates are in an advance stage of formulation.

'IS : 7577-1975 Gas testing flame safety lamp' covers lamps used for the detection of inflammable and noxious gases in the mines, which are the main cause of some of the disasters which take place in the mines. While formulating the standard, care had been taken to ensure that the lamp, if properly maintained, would not be a source of ignition of the inflammable gases in the mines. Stringent testing procedures have been prescribed in the standard so that an accidental fall of the lamp or extreme conditions of temperature in the mine shall not make the lamp unsafe by damaging the glass cylinders, wire gauzes or any other part.

Sewing Machines — 'IS : 7491-1974 Accuracy requirements for sewing machines for household purposes' and 'IS : 7493-1974 Durability requirements for sewing machines for household purposes' have been brought out recently. Whereas IS : 7491-1974 lays down the accuracy requirements of various components of sewing machines, IS : 7493-1974 specifies the maximum change in assembly clearance for various components of the sewing machines.

Meteorological Instruments — Two standards, one relating to sunshine recorder (IS : 7243-1974) and the other for thermometer for mercury barometer (IS : 7244-1974) were sent for printing. IS : 7243-1974 covers the requirements for the tropical pattern sunshine recorder suitable for use in the latitudes 5°S to 45°N while IS : 7244-1974 lays down the requirements for thermometers for use with the mercury barometers conforming to 'IS : 5798-1970 Specification for mercury barometers'. These standards are part of a series of Indian Standards dealing with the instruments for meteorological observations.

7.3 The Mechanical Engineering Division Council (EDC) held its twenty-fourth meeting on 4 February 1975 in New Delhi. The Council elected Maj-Gen R. Janardhanam, Director-General of Inspection, Department of Defence Production, Ministry of Defence as its Chairman and re-elected Shri Abhijit Sen as its Vice-Chairman for a term of three years ending 31 December 1977. The Council also appointed new chairmen for seven Sectional Committees.

In order to ensure production and use of only metric hardware, particularly fasteners, in the industry, the Division Council recommended to the Government of India to immediately activate the Metrication

Advisory Committee set up under the chairmanship of the Deputy Minister in the Ministry of Industrial Development in June 1972, to consider introduction of legislation for limiting the production of non-metric fasteners only for specific purposes authorised by a Subcommittee empowered for the same.

7.4 During the year under review, meetings of 23 Sectional Committees, and 78 Subcommittees and Panels were held. Six new Subcommittees and Panels were also set up under various Sectional Committees.

8. STRUCTURAL AND METALS DIVISION

8.1 The Structural and Metals Division maintained steady pace of progress in its activities during the year under report. Indian Standards on a number of important subjects were published while work on several new subjects was initiated. Sixty-two Indian Standards including revision of 28 existing Indian Standards were formulated and sent for publication. Besides, 59 draft standards were issued in wide circulation for eliciting technical comments. Meetings of 19 Sectional Committees, and 54 Subcommittees and Panels were held. Three Subcommittees and four Panels were set up under the various Sectional Committees.

8.2 Of the important standards sent for publication, mention may be made of the following:

- a) *IS : 7520-1974 Specification for corrosion resistant high silicon iron casting* — This standard has been prepared to cover the special type of castings used where high corrosive media are to be handled, such as in chemical, petro-chemical, textile and other similar industries. Silicon iron is also used for the manufacture of anodes used in cathodic protection. Various compositions used for these castings have been rationalized. With the publication of this standard, the foundries will be in a better position to control the quality of high silicon iron castings.
- b) *IS : 7598-1974 Classification of steels* — This standard which is based on the proposals submitted by India as Secretariat of the ISO Subcommittee ISO/TC 17/SC 2 Terminology, Classification and Designation of Steels aims at removing the ambiguity prevailing in the steel industry and trade regarding classification of steels.
- c) *IS : 3469 (Part I to III)-1974 Tolerances for closed die steel forgings* — This standard covers tolerances for the following types of closed die steel forgings: (a) upset forgings, (b) drop forgings, and (c) press forgings. It keeps in view the practice of specifying forging tolerances at the international level and will be very helpful to the designer, the forger and the consumer in proper application of forging tolerances.

- d) *IS : 226 - 1975 Structural steel (standard quality) (fifth revision); IS : 961 - 1975 Structural steel (high tensile) (second revision); IS : 1977 - 1975 Structural steel (ordinary quality) (second revision); IS : 2830 - 1975 Carbon steel billets, bloom and slabs for re-rolling into structural steel (standard quality) (first revision); and IS : 2838 - 1975 Carbon steel billets, blooms and slabs for re-rolling into structural steel (ordinary quality) (second revision)*— These structural steel standards have been accepted widely by the steel industry in the production of structural steel of various qualities. They have now been revised to remove certain ambiguities and also to bring them in line with the international practices being followed.
- e) *IS : 7547-1974 Specification for steel nail used as internal chills in steel castings*— The function of internal chills is basically to reduce the effect of hot spots in castings. The chills, therefore, play a very important role in steel foundry industry. This standard has been prepared with a view to rationalizing the different shapes and sizes being used in the steel foundry industry.
- f) *IS : 736-1974 Specification for wrought aluminium and aluminium alloys, plate and sheet (for general engineering purposes) (second revision), and IS : 737-1974 Specification for wrought aluminium and aluminium alloys, sheet and strip (for general engineering purposes) (second revision)*— These standards relate to wrought products of aluminium and its alloys and form one of the series of standards on wrought products which are currently under revision. The requirements of these standards, such as mechanical properties and chemical composition, have been reviewed and modified to bring them in line with the relevant international standards, as far as possible. Another main modification in this revision is the inclusion of aluminium of 99.7 percent purity and five new aluminium alloys developed in the country. Two alloys which had a limited use have been excluded.
- g) *IS : 28-1975 Specification for phosphor bronze ingots and castings (third revision)*— This revision was necessitated because of the need for including two more grades phosphorus bronze which are being used in the country. A category of continuously cast phosphorus bronze materials has also been included. Changes have also been made in the clauses on physical properties and methods of sampling because of the inclusion of continuously cast materials.

- h) *IS : 7608-1975 Specification for phosphor bronze wire (for general engineering purposes)* — The requirements of phosphorus bronze wire were earlier covered in IS : 1385-1968 along with the requirements of sheet and strip, bars and rods, etc. The need was felt to bring out a separate standard on the requirements of phosphorus bronze wires. This standard, therefore, supersedes the requirements given in IS : 1385-1968. The two grades covered in this standard have been brought in line with the composition of similar grades given in International Standards.
- j) *IS : 21-1975 Specification for wrought aluminium and aluminium alloys for manufacture of utensils (third revision)* — With the development of new alloys, such as 31 500, 40 800, 51 000-A and 51 000-B, which were found suitable for manufacturing utensils, it became necessary to revise IS : 21-1951 to incorporate these new alloys. There is a wide choice now with the manufacturers of utensils to choose an alloy taking into consideration the end uses, the type of utensils and the method of fabrication adopted by them.
- k) *IS : 7562-1974 Specification for gold cladding* — Rolled gold and gold filled materials are used for the manufacture of less expensive jewellery like watch cases, optical frames, fountain pens, propelling pencils, cosmetic containers, vanity cases, etc. This standard covers the requirements of gold cladding on various basic metals and includes methods for assessing the quality and proportion of gold in gold cladding materials, adhesion and uniformity of the cladding, etc. It has been recommended that all rolled gold materials shall be marked with a designation indicating the fineness of the gold used and the proportion of the weight of gold in the cladding as compared to the entire material.

8.3 The seventeenth meeting of Structural and Metals Division Council (SMDG) was held in New Delhi on 12 October 1974. Shri J. G. Keswani, Director and General Manager, Indian Tube Co Ltd, was elected as the Chairman of the Division Council. Besides reviewing the activities, the Council appointed six new Chairmen of the Sectional Committees, approved 26 new subjects for formulation of Indian Standards, and set up a special Panel for studying weldability of structural steels.

8.4 A Seminar on 'Classification and Coding of Covered Electrodes for Metal Arc Welding of Structural Steels' was held on 27 February 1975 in New Delhi. About 70 delegates representing manufacturers and users of electrodes attended the Seminar. Advantages and disadvantages of the ISI and ISO system *vis-a-vis* the systems of classification being followed in other countries were discussed. The discussion brought out a number of suggestions for improving the prescribed classification systems so that the

Code could be of use to welders, designers and technologists, besides being simple and comprehensive incorporating all the operations and technological characteristics of electrodes.

9. TEXTILE DIVISION

9.1 During the period under report, 43 Indian Standards on various subjects were processed for publication including revision of certain existing standards.

9.2 Of the standards published, special mention may be made of the one developed for jute bags for packing fertilizers. Jute bags conforming to 'IS : 7406-1974 Specification for laminated jute bags for packing fertilizers, when packed with the specified quantity of fertilizers, are expected to withstand normal transit hazards due to incidental droppings. Due to the varying hygroscopic nature and bulk volume density of fertilizers, selection of proper type of bag has direct bearing on the economy of the packing of fertilizers. Another standard, 'IS : 7407-1974 Specification for jute fabric for fertilizers bag' prescribes the requirements of basic fabric out of which fertilizer bags are to be tailored.

9.3 Indian Standards for Textile Materials for Fishing — Discussions on the implementation of Indian Standards for textile materials for fishing took place on 28 December 1974 in Madras. The decisions arrived at include publicising Indian Standards among fishermen through local language, leaflets and their inclusion in the curricula of Fisheries Training Centres. The discussions also revealed new areas of Standardization so far not covered by the Textile Materials for Fishing Purposes Sectional Committee (TDC 42).

9.4 Indian Standards and Textiles Committee's Regulations — At present, 18 components/accessories of textile machinery are covered under compulsory preshipment inspection by the Textiles Committee. The inspection regulations laid down by the Textiles Committee in respect of these items are at variance with the corresponding Indian Standards in certain respects. A close scrutiny of these standards was undertaken by the representatives of ISI and the Textiles Committee with the object of eliminating the differences between the two sets of standards for better implementation by the industry. Based on these discussions, the relevant Indian Standards are being amended, wherever necessary, to make them mutually acceptable.

9.5 The Textile Division Council held its twenty-first meeting in Madras on 28 November 1974. In addition to the election of Shri G. K. Devarajulu as Chairman and Shri D. N. Shroff as Vice-Chairman, the Council reconstituted 8 Sectional Committees and approved 56 new subjects for formulation of Indian Standards. New Chairmen for two Sectional Committees were also appointed.

10. SECTIONAL COMMITTEES UNDER THE EXECUTIVE COMMITTEE

10.1 Documentation (EC 2) — The twenty-ninth meeting of the reconstituted Documentation Sectional Committee (EC 2) was held on 28 November 1974. The Sectional Committee approved the revised scope of work and appointed thirteen new panels and revised the composition of the Reprographic Subcommittee (EC 2 : 2), Alphabetization and Abbreviations for Titles of Periodical Subcommittee (EC 2 : 5), and Transliteration Subcommittee (EC 2 : 12). During the year, four Indian Standards, namely, (a) 'IS : 7140-1971 Symbols and notations for correction of illustrations and illustration proofs'; (b) 'IS : 7150-1974 Specification for library catalogue and abstract card'; (c) 'IS : 7160 (Part I)-1974 Guide for print area, margins and type sizes for textbooks : Part I Textbooks in English'; and (d) 'IS : 7400-1974 Guide for preparation and production of textbooks' were published.

New Subjects Approved — Indexing principles, terminology, forms and records for libraries, automated information handling systems (formats and codes), book numbering, serial numbering, guide for documentation-in-source entries, items of information and layout of an entry in a union catalogue of periodical publications, writing of calendar dates in all-numeric form, and guidelines for preparation of a thesaurus, were the new subjects approved by the Sectional Committee.

10.2 Quality Control and Industrial Statistics Sectional Committee (EC 3) — The eleventh meeting of the Sectional Committee was held on 8 January 1975. The committee finalized three draft Indian Standards, namely (a) Presentation of statistical data, Part II Diagrammatic representation of data; (b) Analysis of variance; and (c) Methods for statistical quality control during production, Part II Control charts for attributes. One draft Indian Standard on 'Statistical vocabulary and symbols, Part I Terms used in industrial statistics', was approved for wide circulation for eliciting comments.

10.3 Publications and Graphic Technology Sectional Committee (EC 10) — The first meeting of the new Sectional Committee was held on 8 November 1974 under the chairmanship of Shri S. N. Guha Ray, Managing Director, Sree Saraswaty Press Ltd, Calcutta. Shri S. K. Sen, Director General, ISI, inaugurated the meeting. The committee approved its scope of work to cover : (a) Book production — Manuscript and copy preparation, arrangement of content, preliminary pages, typography, page layout, etc ; (b) Illustrations — Designing, production, symbols for correction of illustrations and their proofs; (c) Plate and block-making; (d) Printing processes; (e) Style manuals in English and Indian languages; (f) Binding; and (g) Any other aspects relevant to publications and graphic technology.

The Committee identified the following subjects for detailed study and preparation of drafts ; (a) Glossary of terms relating to printing and publishing ; (b) A series of standards for print area, margins and type sizes for textbooks in various Indian languages ; (c) Code of practice for binding techniques ; (d) Guide for specifying items of information and their sequence on the reverse of title-page of a book to help computerization of information ; (e) A series of style manuals for publications in various Indian languages ; and (f) Subjects concerning metricization in printing industry.

A draft standard 'Guide for preparation of technical reports: Part I Research and development reports' prepared by the Documentation Sectional Committee (EC 2) was approved for wide circulation as the subject had been brought under the scope of publications and Graphic Technology Sectional Committee (EC 10).

11. STATISTICS DEPARTMENT

11.1 The propagation of statistical quality control (SQC) techniques through training programmes tailored to the needs of different groups continued to be one of the highlights of the work of the Department during the year under report. One such programme, conducted at the Bharat Heavy Electricals Limited (BHEL), Hardwar at the request of the Western UP Productivity Council, was specifically designed to suit the needs of the engineers and other technical personnel working in the factory. The second programme, meant exclusively for the ISI licensees in the pesticides industry, was held at Calcutta. This programme covering the eastern region was in fact the fourth in the series the earlier ones having been conducted in the preceding year for the northern, western and southern zones. In this programme the main emphasis was on standardization and certification marking with the object of assisting the ISI licensees to fulfil their obligation under the scheme. The third programme commenced on 31 March 1975 at Visakhapatnam on the quality control for ores and minerals for the benefit of various organizations dealing with handling/sampling/analysis of ores and minerals. It is hoped that these programmes would go a long way in the proper utilization of various SQC techniques in Indian industries.

11.2 The Department was actively engaged in the formulation of a number of basic Indian Standards on various statistical and management techniques. In this connection, mention may be made of ' Indian Standards on presentation of statistical data [IS : 7200 (Part I)-1974]', ' Correlation and regression (IS : 7300-1974)', and ' Glossary of terms in network analysis (IS : 7337-1974)'. Collection and analysis of extensive data were also undertaken with a view to arriving at realistic specification limits for various products and recommending practical sampling procedures for different materials.

11.3 The Department continued to scrutinize the draft Indian Standards with the object of introducing, wherever possible, statistical quality control concepts in them. During the year under review, 328 Indian Standards were scrutinized and in 140 cases statistically sound sampling plans were recommended. In most of the cases these recommendations were accepted by the concerned technical committees. In this connection mention may be made of the following Indian Standard specifications:

IS : 873-1974 Liquid glucose (*first revision*)

IS : 1528 (Part VII)-1974 Methods of sampling and physical tests for refractory materials: Part VII Methods of sampling and criteria for conformity (*first revision*)

IS : 1795-1974 Pillar taps (*first revision*)

IS : 7371-1974 Safety razor blades

IS : 7421-1974 Porcelain bushings for alternating voltages up to and including 1 000 V

IS : 7426-1974 Special cotton webbings

11.4 Seventy-eight routine inspection schemes referred to the Statistics Department in connection with the issue of licences under the ISI Certification Marks Scheme were scrutinized. The routine inspection data collected from different licensees in accordance with the recommended schemes, were also statistically analysed to find out the performance of the licensees during the period under review, as also to assess the need for further relaxation or tightening in the quantum of inspection.

11.5 Extensive investigations and statistical analysis were carried out by the Department on various aspects of standardization work, such as:

- a) Evaluation of specification limits for various characteristics of products like cottonseed oil-cakes, rice bran, Kangra Valley tea, etc.
- b) Standardization of test method for estimation of protein efficiency ratio by evolving suitable criteria for the elimination of outlying observations in respect of gain in weight by test animals.
- c) Carrying out statistically designed inter-laboratory investigation with a view to establishing the precision of test method for the determination of shearing strength of plywood tea chest panels manufactured to the relevant Indian Standard.
- d) Examining the adequacy of the frequencies of testing and inspection for products like adhesive insulating tapes on the basis of the past performance of the licensee.

11.6 Comments and suggestions were sent for the improvement of a number of draft proposals of the International Organization for Standardization (ISO) and various overseas standards bodies in respect of sampling for products like processed food and vegetables, green coffee in bags, meat and meat products as also basic documents dealing with sampling procedures and charts for inspection by attributes and variables, determination, of statistical tolerance intervals, estimation and tests relating to means and variances, etc.

12. RESEARCH AND INVESTIGATIONS

12.1 The Institution continued to pursue research and analytical studies in different fields with the active collaboration and assistance of national, state and private laboratories, testing organizations and research institutions. Details of research and investigations carried out during the year under report are given in the following paragraphs.

12.2 Agricultural and Food Products — During the year under review testing and research investigations were in progress in the following areas:

- a) Trials for suitability of mini-butyrometers for determination of fat in milk by Gerber method,
- b) Investigations on the feasibility of the development of a simpler method for paper chromatographic determination of dye intermediates,
- c) Limits for loose shorts in cigarettes.

12.3 Chemical — Research and investigations conducted during the period under report related to development of accelerated laboratory test on durability of road marking paints; evaluation of anticorrosive properties of aluminium-zinc oxide composite RMP primer for outdoor exposure tests; determination of anticorrosive properties of barium chromate and barium potassium chromate primers *vis-a-vis* zinc chromate primers; development of a suitable method of estimation of rosin and rosin derivatives in synthetic enamels; determination of suitable concentration of sulphuric acid and hydrocarbon contents for the thinners for cellulose nitrate based paints and lacquers; determination of solvent characteristics of the oil of turpentine; collaborative tests on iodine value of linseed stand oil; collaborative investigations on decolorizing power of bleaching earths of Indian origin; collaborative investigations on detection of mineral oil; and argemone oil in vegetable oils; collaborative investigations for the determination of the effect of glycerine content on physical properties of laundry soap on storage; determination of iron content in organic compounds by various methods; determination of available chlorine by various methods; determination of chlorate content by various methods; collection of data on density of bromine at different temperatures; investigation on the creep characteristics for oil

and water finding pastes ; determination of colour requirements of trichloroethylene ; determination of limit for copper and iron content in common salt for fish curing ; detection of impurities in benzoyl chloride ; development of engine test procedure for evaluation of crankcase lubricating oil ; investigations for flash point values for different lubricating oils ; method for the determination of total base number ; storage stability test for high speed diesel oil ; performance test for Abels' flash point apparatus ; ageing test on wire reinforced rubber covered hydraulic hose ; determination of the requirements for rubber gaskets for pressure cookers ; determination of requirements for high tension insulating cotton tape impregnated with bitumen based compound ; determination of the requirements for breaking load for fire resistant brattice cloth ; determination of chloride and water absorbancy for bitumen impregnated paper ; and determination of various requirements for the cheque papers.

12.4 Civil Engineering Division — Research and investigations taken up during the period under report include those relating to accelerated water resistance test for tea chest plywood and grading of portland cements produced in India on the basis of compressive strength. For grading of cement weekly samples drawn for a year from all the cement factories in India will be tested at three national laboratories in the country. The results of these tests will be used in introducing strength grades in existing cement specifications and in reviewing them, if necessary.

PART III

INTERNATIONAL ACTIVITIES

1. INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

1.1 Out of 150 Technical Committees of the International Organization for Standardization (ISO), as on 31 March 1975, ISI was a Participating Member of 116 Technical Committees and an Observer Member of 28 others. Of these, the Institution held the Secretariats of 4 Technical Committees, 7 Subcommittees and 9 Working Groups.

1.2 ISO Council — Twenty-eighth meeting of the ISO Council was held in Geneva on 24-26 September 1974. India not being a member of the Council for this year, Shri S. K. Sen, Director General, ISI, attended the meeting as a member of the ISO Executive Committee. The subjects discussed related mainly to policy and organizational matters, financial issues and progress of work of the Council Committees. Among the highlights of the meeting was adoption of the various recommendations of the Long Range Planning Committee (which was constituted on a suggestion from Director General, ISI, and of which he was a member) including establishment of the Developing Country unit at the ISO Central Secretariat. Composition of the Council and method of election of the members also came up for review. The matter was referred to the Executive Committee (of which Director General, ISI, is a member) for study and report to the next meeting.

1.3 Planning Committee — The Planning Committee is responsible for coordination of the technical work of ISO and approval of new subjects before approval by the ISO Council. The Committee held two meetings on 2 April 1974 and 23 September 1974, India could be represented only at the second meeting through the Director General, ISI.

1.4 ISO Technical Committees — The Institution participated in the work of most of the technical committees, subcommittees and working groups of ISO. However, a brief report on the work of such committees which are of direct interest to India is given in the following paragraphs.

ISO/TC 5 Metal Pipes and Fittings (*Sectt : Switzerland*) — The following draft International Standards were received and India's approval was conveyed to ISO Central Secretariat:

- a) No. 560 Plain end precision steel tubes, seamless and welded — Dimensions and masses per unit length (Revision of ISO/R 560)
- b) No. 2441/2 Pipeline flanges for general use — Shapes and dimensions of pressure tight surfaces
- c) No. 2853/2 Metal pipes and fittings — Stainless steel screwed couplings for the food industry
- d) No. 3304 Plain end seamless precision steel tubes — Technical conditions for delivery
- e) No. 3305 Plain end welded precision steel tubes — Technical conditions for delivery
- f) No. 3306 Plain end as-welded and sizes precision steel tubes — Technical conditions of delivery
- g) No. 3418 Steel tubes — Butt-welding bends, types 3D and 5D (45°, 90° and 180°) without quality requirements
- h) No. 3419 Steel tubes — Butt-welding bends, type 3D (45°, 90° and 180°) with quality requirements
- j) No. 3545 Steel tubes and tubular shaped accessories — Symbols to be used in specifications

ISO/TC 8 Shipbuilding (*Sectt : Netherlands*) — India's approval was conveyed to ISO Central Secretariat on the following draft International Standards:

- a) No. 3254 Toughened safety glasses for rectangular windows in ships
- b) No. 3434 Heated glasses for ships' windows

In addition, India's comments on various documents received from different subcommittees of ISO/TC 8 were communicated at different stages to ISO.

ISO/TC 11/WG 7 Boilers and Pressure Vessels/Revision of ISO/R 831 (*Sectt : UK*) — Meeting, 20-24 May 1974, London. India was represented by Shri S. C. Dey, Technical Adviser (Boilers), Ministry of Industry and Civil Supplies, and Shri S. M. Razvi, Director (Mechanical Engineering), ISI. The Working Group discussed the revision of ' ISO/R 831 Rules for the construction of stationary boilers ' and took into account not only the experience gained during the validity of ISO/R 831 but also the need for its alignment with the International Standards that have been published during the intervening period. The Working Group examined in detail the revision in the light of the recently published draft International Standard ' ISO/DIS 2694 Pressure vessels '.

ISO/TC 12 Quantities, Units, Symbols, Conversion Factors and Conversion Tables (*Seckt : Denmark*) — The following document was circulated by the ISO Central Secretariat to the ISO member bodies for voting and India has approved the document:

ISO/DIS 31/XIII Quantities and units of solid state physics

ISO/TC 23 Agricultural Tractors and Machinery (*Seckt : France*) — The following draft International Standards were received from ISO Central Secretariat for India's comments/approval:

- a) ISO/DIS 3462 Agricultural tractors and machinery — Seat reference point
- b) ISO/DIS 3463 Agricultural wheeled tractors — Protective cabs and protective frames — Test method and acceptance conditions
- c) ISO/DIS 3600 Agricultural equipment — Operator manuals and technical publications — Guidelines for a standard presentation
- d) ISO/DIS 3737 Agricultural tractors and self propelled machines — Test methods for enclosures pressurization system
- e) ISO/DIS 3776 Anchorages for seat belts
- f) ISO/DIS 3778 Agricultural tractors — Actuating forces required to operate control members

ISO/TC 34 Agricultural Food Products (*Seckt : Hungary*) — Two new subcommittees were set up, namely, ISO/TC 34/SC 10 Animal Feeding Stuffs (*Seckt : Netherlands*); and ISO/TC 34/SC 11 Animal and Vegetable Fats and Oils (*Seckt : Germany*). India has enrolled as a Participating Member of these two subcommittees.

ISO/TC 34/WG 2 Sensory Analysis (*Seckt : France*) — Draft International Standard No. 3591 Sensory analysis — Apparatus — Wine tasting glass was approved on behalf of India.

ISO/TC 34/SC 3 Fruits, Vegetables and Their Derived Products (*Seckt : Poland*) — Twelfth meeting of the Subcommittee along with its Working Groups dealing with Terminology (WG 1), Sampling (WG 2), Methods of Test (WG 3), Dry and Dried Fruits (WG 4), and Storage and Transport (WG 8) was held at Warsaw (Poland) during 21-30 May 1974. Shri N. K. Muralidhara Rao, Chairman, Fruits and Vegetables Sectional Committee (AFDC 23) represented India. In this meeting, among other items, India's draft proposals for cashew kernels and peanuts and storage and transport of mangoes were discussed.

The following draft International Standards were received from ISO Central Secretariat for India's comments/approval:

- a) ISO/DIS 3631 Citrus fruits — Guide to storage and transport

- b) ISO/DIS 3634 Vegetable products — Determination of chlorides content (Reference method)
- c) ISO/DIS 3659 Fruit and Vegetables — Ripening after storing by refrigeration

ISO/TC 34/SC 4 Cereals and Pulses (*Sectt : Hungary*) — Twelfth meeting, 23 to 25 September 1974, The Hague (Netherlands). No delegation from India was sent. India's comments on the following documents were sent to the ISO Secretariat for consideration:

- a) Determination of the proportion of mottled grains in durum wheat
- b) Measurement of water absorption of flour and of physical properties of dough, Part III Method for using valorigraph
- c) Microbiological damage of cereals
- d) Sedimentation test (Zeleny test)

India's approval was also conveyed on draft International Standard No. 2164.2 Pulses — Determination of glucosidic hydrocyanic acid.

ISO/TC 34/SC 5 Milk and Milk Products (*Sectt : Netherlands*) — The following draft International Standards were approved on behalf of India:

- a) ISO/DIS 3356 Milk and dried milk, butter milk and butter milk powder, whey and whey powder — Determination of phosphatase activity (Reference method)
- b) ISO/DIS 3432 Butyrometers for determination of percentage of fat in cheese by the Van Gulik method
- c) ISO/DIS 3433 Cheese — Determination of fat content — Van Gulik method
- d) ISO/DIS 3495 Determination of lactic acid and lactates content — Dried milk
- e) ISO/DIS 3594 Milk fat — Detection of vegetable fat — Method by gas-liquid chromatography of sterols
- f) ISO/DIS 3595 Milk fat — Detection of vegetable fat — Phytosteryl acetate test
- g) ISO/DIS 2911-2 Sweetened condensed milk — Determination of sucrose content -- Polarometric method is under consideration

ISO/TC 34/SC 6 Meat and Meat Products (*Sectt : Netherlands*) — The following draft International Standards were approved on behalf of India:

- a) ISO/DIS 2918.2 Meat and meat products — Determination of nitrite content (Reference method)
- b) ISO/DIS 3091.2 Meat and meat products — Determination of nitrate content (Reference method)

- c) ISO/DIS 3496 Meat and meat products — Determination of hydroxproline content (Reference method)
- d) ISO/DIS 3565 Meat and meat products — Detection of salmonellae (Reference method)
- e) ISO/DIS 3577 Animal fats — Determination of bomer value

The draft International Standard No. 3596 Fats and oils — Determination of unsaponifiable matter was disapproved for technical reasons.

ISO/TC 34/SC 7 Spices and Condiments (*Sectt : India*) — ‘ Draft International Standard No. 3493 Vanilla — Vocabulary ’ and ‘ DIS No. 3588 Method for determination of degree of fineness of grinding by hand sieving ’ were approved on behalf of India. ‘ Draft International Standard No. 3513 Spices and condiments — Chillies — Determination of Scoville index ’ was disapproved on behalf of India for technical reasons.

ISO/TC 34/SC 8 Stimulant Foods (*Sectt : India*) — ‘ Draft International Standard No. 3509 Coffee and its products — Vocabulary ’ was disapproved on behalf of India as the sieve sizes specified in the draft standard differed from the sizes being used in India.

‘ DIS No. 3579 Green coffee beans — Determination of mass of foreign matter ’ was approved on behalf of India.

ISO/TC 44/SC 5 Tests and Inspection of Welds (*Sectt : Italy*) — The following draft ISO proposals circulated by the Secretariat were approved on behalf of India:

- a) Qualification of welders for general purpose welding
- b) Transverse tensile test for fusion welded butt joints
- c) Transverse root and face bend test for fusion welded butt joints
- d) Transverse side bend test for fusion welded butt joints
- e) Longitudinal tensile test on cylindrical weld metal specimens from fusion welded butt joints
- f) Calibration block — Ultrasonic examination of steel pieces
- g) Classification of defects in metallic fusion welds with explanations

ISO/TC 45 Rubber and Rubber Products (*Sectt : UK*) — Twenty-second meeting, 19-28 September 1974, London. This meeting was attended by about 175 delegates from 17 countries. India was represented by Dr D. Banerjee of Escon Consultants Pvt Ltd, Calcutta; Shri M. M. Patel of Synthetics and Chemicals Ltd, Bombay; and Shri Lalit Mohan Jamnadas of Cosmos India Rubber Works Pvt Ltd, Bombay. Along with the meeting of TC 45, meetings of all its working groups were also held. In these meetings documents relating to methods of test and specifications for natural and synthetic rubber, natural rubber latex, vulcanized rubbers, treated fabrics, glossary of terms and other miscellaneous rubber products

were discussed. In the meeting of WG 4, secretariat of which is held by India, three documents, namely, permeability of vulcanized rubber to gases; method of test for resistance to liquids; and amendment to method for measurement of elongation at break of ebonite were agreed to for being forwarded to the Central Secretariat for processing as International Standards. Two documents, namely, dimension measurement of vulcanized rubbers, and static adhesion of textile cord to rubber were decided to be circulated as draft International Standards. Five documents relating to tear testing of rubber, cone adhesion test, wire cord adhesion test, permeability of vulcanized rubber to water vapour, and determination of tensile stress-strain properties of vulcanized rubbers (small test pieces) were decided for circulation as draft ISO Proposals.

ISO/TC 67 Materials and Equipment for Petroleum and Natural Gas Industries (*Sectt : Romania*) — Sixth meeting, 7-11 October 1974, Cimpina (Romania). 'Draft International Standard No. 3183 Oil and natural gas industries—Steel line pipe' was received and India's approval conveyed to the ISO Central Secretariat.

ISO/TC 69 Application of Statistical Methods (*Sectt : France*) — The following draft ISO Standards were received for our comments/approval. In most of the cases India's comments have been accepted:

- a) ISO/DIS 2854 Statistical treatment of data — Problems of estimation and tests relating to means and variances
- b) ISO/DIS 3207 Statistical treatment of data — Determination of statistical tolerance interval
- c) ISO/DIS 3301 Statistical treatment of data — Comparison of two means in the case of paired observations
- d) ISO/DIS 3319 Guide to the use of ISO 2859 — Sampling procedures and tables for inspection by attributes

Draft International Standards ISO/DIS 2823 Statistical Vocabulary and Symbols — Third Series of Terms and Symbols — In view of the objections made at the time of the second Member Body inquiry on the above mentioned draft International Standard, the ISO/TC 69 Secretariat (AFNOR) has decided to cancel this draft.

A general document comprising all the statistical terms and symbols which the Technical Committee ISO/TC 69 has adopted to date (including the ones defined in DIS 2823) is under preparation and will soon be submitted to the ISO Member Bodies as a draft International Standard.

ISO/DIS 2859 has since been approved and has been published as International Standard 'ISO 2859 Sampling procedures and tables for inspection by attributes'.

ISO/TC 72/SC 1 Spinning Preparatory, Spinning and Doubling (Twisting) Machinery (*Sectt : Switzerland*) — Twelfth meeting, 30 and

31 October 1974, Milan (Italy). India was represented by Shri Suresh M. Mehta, Managing Director, Star Textile Engineering Works Ltd, Bombay. The following subjects were considered in the meeting:

- a) Cylindrical tubes, inner diameters and lengths — Recommended values
- b) Spinning machines — Bottom fluted rollers for drafting systems
- c) Top and bottom aprons for spinning machines and flyer frames
- d) Terminology of spinning preparatory machinery, spinning and doubling (twisting) machinery
- e) Cylindrical sliver cans
- f) Spring bottoms for cylindrical sliver cans
- g) Card wires, terminology
- h) Single boss top rollers (covering charecteristics)

ISO/TC 102/SC 1 Sampling of Iron Ores (*Sectt : Japan*) — Ninth meeting, 30 September to 4 October 1974, Sydney (Australia). Dr B. N. Singh, Director (Statistics), ISI attended the meeting. The sixth draft proposal on mechanical sampling on iron ore (Doc : ISO/TC 102/SC 1366) was discussed and it was agreed that mass-basis sampling and time-basis sampling be given as separate sections of the draft proposal.

India and Japan presented the results of their experiments on sample division and sieving on certain categories of iron ores. After detailed comments and exchange of views made by the delegates it was agreed that Japan would examine the various data on sample division and submit the report. It was also agreed that the graphical method may be adopted for illustrating the requirements of sample division.

ISO/TC 104 Freight Containers (*Sectt : USA*) — The Eighth plenary meeting was held in October 1974 in Tokyo in which the committee reviewed the ISO response to UN activities on containers and created an *ad hoc* Group to prepare a suitable document giving factual information on freight containers as also impact of standardization in the field of container transport in both developed and developing countries. India had nominated an expert on this Group at the request of ISO.

The following ISO recommendations were published during the period:

- No. 1496/I Series 1 containers — Specification and testing: Part I
General cargo containers
- No. 1496/III Series 1 freight containers — Specification and testing:
Part III Tank containers for liquids and gases

No. 1496/VII Series 1 freight containers — Specification and testing:
Part VII Air mode containers

India had also approved the following draft ISO proposals:

- a) Revision of ISO 1496/1 — Series 1 freight containers — Specification and testing: Part I General cargo containers
- b) Specifications and testing of series 1 freight containers: Part V Platform (containers)
- c) Specifications and testing of series 1 freight containers: Part VIa Platform based containers with incomplete superstructure and fixed ends
- d) Specifications and testing — Series 1 freight containers: Part VIc Platform based containers, open-sided, with complete superstructure
- e) Revision of recommendation I161 Specification of corner fittings for series 1 freight containers
- f) Specifications and testing of series 3 containers
- g) Freight containers — External dimensions and ratings
- h) Specification and testing of series 1 freight containers: Part II Thermal containers

ISO/TC 111 Round Steel Link Chains, Chain Wheels, Lifting Hooks and Accessories (*Sectt: UK*) — The following International Standard was published during the period for which India had sent its approval to the ISO Central Secretariat:

No. 3056 Non-calibrated round steel link lifting chain and chain slings — Safe use and maintenance

India also had approved the following ISO recommendations for transformation into ISO standards:

No. 1834 Short link chain for lifting purposes — General conditions of acceptance

No. 1835 Short link chain for lifting purposes — Grade 40 non-calibrated chain for chain slings, etc

No. 1836 Short link chain for lifting purposes — Grade 40 calibrated load chain for pulley blocks and other lifting appliances

In addition, India's approval was conveyed to ISO Central Secretariat on the following draft International Standard:

No. 3189 Sockets for wire ropes — General characteristics

ISO/TC 113 Measurement of Liquid Flow in Open Channels and Its Working Groups (*Sectt: India*) — Fourth plenary meeting of ISO/TC 113 was held on 14 June 1974 in the Hague, preceded by the meetings of all the six Working Groups of ISO/TC 113 from 4 June 1974.

Shri K. K. Framji, Managing Director, Consulting Engineers (India) Pvt Ltd presided over the meeting of TC 113 and one of its Working Groups (WG 6).

The following draft proposals were considered and approved with certain modifications for submission to Central Secretariat for processing as draft International Standards:

- a) Cableway system,
- b) Water level measuring devices,
- c) Functional requirements and characteristics of suspended sediment load samplers, and
- d) Revision of ISO/R 772 Vocabulary and symbols.

Drafts on the following subjects were considered and certain modifications were agreed:

- a) Moving boat method;
- b) Thin plate weirs and venturi flumes;
- c) Radio-active isotopes techniques; and
- d) Methods for analysis of sediment in streams and canals for size, shape and specific gravity.

The revised drafts will be discussed at the next meeting.

A draft providing the guidelines for the selection of weirs and flumes was considered and approved.

The first draft proposals relating to cableway system, functional requirements and characteristics of suspended sediment load samplers and methods for analysis of sediment in streams and canals for size, shape and specific gravity were prepared by India.

For coordinating the work of TC 30 Measurement of Fluid Flow in Closed Conduits and TC 113 Measurement of Liquid Flow in Open Channels on the subject of errors of measurement, a joint meeting of the two Working Groups connected with this work was held in the Hague during 17 and 18 June 1974. A document on errors, acceptable to both the Working Groups was worked out.

ISO/TC 122 Packaging (*Sectt : USA*) — No meeting was held during the period. India's approval on the 'draft International Standard No. 3394 Dimensions of rigid rectangular packages — Transport packages' was conveyed to the ISO Central Secretariat.

ISO/TC 126 Tobacco and Tobacco Products (*Sectt : Germany*) — The following draft International Standards received from ISO Central

Secretariat were approved on behalf of India:

- ISO/DIS 2965 Tobacco and tobacco products — Cigarette papers — Determination of air permeability
- ISO/DIS 3308 Tobacco and tobacco products — Routine analytical cigarettes smoking machine
- ISO/DIS 3400 Determination of alkaloids in cigarette smoke condensates — Spectrophotometric method
- ISO/DIS 3401 Tobacco and tobacco products — Determination of alkaloid retention by filter of cigarettes
- ISO/DIS 3402 Tobacco and tobacco products — Atmospheres for conditioning and testing
- ISO/DIS 3406 Tobacco and tobacco products — Expression of analytical test results
- ISO/DIS 3550 Tobacco and tobacco products — Cigarettes — Determination of loss of tobacco from the ends

ISO/TC 149/SC 1 Cycles and Major Sub-Assemblies (*Sect: UK*), **and ISO/TC 149/SC 2 Sub-Assemblies and Components** (*Sect: France*) — Meeting, 21-25 October 1974, London. India was represented by Shri Abhijit Sen, Sen-Raleigh Ltd; Shri M. S. Rao, T. I. Cycles of India; and Shri S. M. Razvi, Director (Mechanical Engineering), ISI. SC 1 discussed the proposal for the International Standard dealing with safety regulations on assembled bicycles. SC 2, which deals with components, took up the preliminary work related to rationalization of various types and sizes of screw threads for bicycle components to ensure safety and interchangeability.

2. INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

2.1 As on 31 March 1975, there were 72 Technical Committees, 115 Subcommittees and 415 Working Groups of the International Electrotechnical Commission (IEC). India participated in the work of a large number of Technical Committees, Subcommittees and Working Groups. India also holds the Secretariat of IEC/TC 43 Electric Fans for Domestic and Similar Use.

2.2 A brief report of the meetings of the various IEC Committees which met during the period under review and in which Indian delegates actively participated is given in the following paragraphs.

Annual General Meeting — The 39th Annual General Meeting of IEC was held in Bucharest (Romania) from 9 to 21 September 1974. Apart from 18 Technical Committees, 15 Subcommittees and 28 Working Groups, the IEC Council, Committee of Action and the Mixed Committee on

Traction (CMT) met during this period. India was represented at these meetings by Shri Y. S. Venkateswaran, Deputy Director General, ISI; and Shri K. S. Subrahmanyam, Member (Hydroelectric), Central Water and Power Commission, New Delhi.

Council (16 and 18 September 1974) — The Council which met under the chairmanship of Mr S. E. Goodall, Acting President of IEC had four half-day sittings attended by representatives of 36 countries. Mr V. I. Popkov (USSR) was elected President of the IEC for the usual three-year term of office. The Presidents of the Canadian, German and Japanese National Committees were elected members of the Committee of Action in succession to the Presidents of the Indian, Swiss and United States National Committees.

The Council, *inter alia*, considered approving the following:

- a) Budget for 1975 — The budget provides for an income of Swiss Fr. 6 456 575;
- b) Setting up of a Finance Committee to advise the Treasurer in all fields relating to the financial stability of the IEC;
- c) Constitution of an Engineering Board;
- d) Creation of posts of two Vice-Presidents of the IEC; and
- e) IEC Quality Assessment System for Electronic Components — IECQ.

The Council also decided that the IEC should be associated with the World Electrotechnical Congress to be held in the USSR in 1977. Ireland joined as a new member of the IEC. It was decided to hold 40th IEC General Meeting in The Hague from 15 to 27 September 1975 at the invitation of the Netherlands Electrotechnical Committee.

Committee of Action (11 and 21 September 1974) — The Committee of Action met under the chairmanship of the Acting President, Mr S. E. Goodall.

The Committee, *inter alia*, considered approving the following:

The report of the Working Group on Degree of Implementation of IEC Standards at National Level constituted at the Munich meeting was reviewed and the Working Group was requested to carry out an investigation using a few IEC Standards in order to be able to judge the value of such questionnaires.

The proposal of the Advisory Committee on Safety (ACOS) containing draft classification of electrical and electronic equipment with voltages up to 440 V ac with regard to protection against electric shock was recommended for submission to National Committees for approval under the Six Months' Rule.

A special group chaired by Mr L. Van Rooij (Netherlands) should review the technical problems and the work in progress in the field of electromagnetic compatibility ensuring proper liaison between the various bodies concerned.

A special working group was set up to consider the possible programme of work in the field covering equipment used when carrying out live-line work.

Reports from Technical Committees — Ninety drafts relating to various subjects, namely, terminology, electric traction equipment, radiocommunications, measuring instruments, power transformers, insulating materials, quantities and units and their letter symbols, insulators, instrument transformers, electron tubes, capacitors and resistors for electronic equipment, cables, wires and waveguides for telecommunication equipment, reliability and maintainability, electrical installations of buildings, and electronic measuring equipment were approved for circulation under the Six Months' Rule.

IEC/TC 1 Terminology (Sectt : France) — 17-18 September 1974 — The Committee reviewed the procedure for the preparation of International Electrotechnical Vocabulary (IEV) and in particular its advanced edition. The Committee also decided to conduct an investigation into the possibility of regularly issuing the General Index of the IEV. The Committee recommended to set up a Committee of Action Working Group regarding the organization of the terminology work of the IEC.

IEC/TC 8 Standard Voltages, Current Ratings and Frequencies (Sectt : Italy) — 9-10 September 1974 — At this meeting, it was decided to set up a Working Group to report at the next meeting on the proposed value of voltage above 765 kV having not agreed for 1 200 kV. The Committee also decided that the Working Group should propose a single value of LV distribution voltage replacing existing 220 V, 230 V and 290 V.

IEC/TC 9 Electric Traction Equipment (Sectt : France) — 10-13 September 1974 — A document dealing with rules for electronic equipment used on railway and road vehicles was accepted for circulation under the Six Months' Rule. It was decided that a new draft on criteria for assessing the commutation of rotating electrical machinery should be circulated under the accelerated procedure. It was also decided to set up two Working Groups one for standardization on certain dimensions of electronic equipment and the other for special conditions of power capacitors used on traction vehicles.

IEC/TC 12 Radio Communications (Sectt : Netherlands) — 19 September 1974, *SC 12A Radio Receiving Equipment (Sectt : Germany)* — 12-13 September 1974, *SC 12B Safety (Sectt : Netherlands)* — 12-14 September 1974, and *SC 12F Equipment Used in the Mobile Services (Sectt : USA)* — 16-18 September

1974 — Revised documents in respect of Pub 107, on overall system measurements for selective calling equipment, and Pub 65 were recommended for circulation under the Six Months' Rule. It was decided that the documents on supplement to Pub 315-7, measurements on receivers for A 3 A and A 3 B, short-term and long-term frequency instability, RF measurements for selective calling equipment and methods of measurement for the receiving part of the equipment employing AF band widths generally not exceeding 10 kHz be circulated under the accelerated procedure. It was also decided to issue revised secretariat documents on several subjects.

IEC/TC 13 Measuring Instruments (Sectt: Hungary) — 14 September 1974, *SC 13A Integrating Meters (Sectt: Hungary)* — 9-11 September 1974, and *SC 13B Indicating Instruments (Sectt: Hungary)* — 11-13 September 1974 — The Technical Committee for Measuring Instruments (TC 13) approved the proposal of the Secretariat of SC 13B regarding the election of Mr D. W. Braudaway (USA) as Chairman of SC 13B. The document relating to dc bridges and a draft amendment to Pub 258 were approved for circulation under the Six Months' Rule. It was decided that new drafts will be prepared for the document on meter testing stations, static watt hour meters, and ac and dc measuring transducers.

IEC/TC 14 Power Transformers (Sectt: UK) — 18-20 September 1974 — The Committee approved for circulation under the Six Months' Rule the revision of Pub 76 (Part 3) Application guide concerning the section 'Tappings' of Pub 76, and the choice of connection for three-phase transformers and three-phase banks of single-phase transformers of the application guide for power transformers. The Committee also approved the scope of work proposed by SC 14D. With regard to the proposal of SC 14C to initiate work on reactors used in HV dc transmission lines, it was decided that the same would be considered when the results of the CIGRE on the subject are known.

IEC/TC 15 Insulating Materials (Sectt: Italy) — 19 September 1974, *SC 15A Short Time Test (Sectt: Germany)* — 18 September 1974, *SC 15B Endurance Tests (Sectt: USA)* — 16 September 1974, and *SC 15C Specification (Sectt: Netherlands)* — 9-13 September 1974 — The documents relating to methods of tests for the determination of ionic impurities of insulating materials by extraction with liquids and glass fabrics were accepted for circulation under the Six Months' Rule. It was decided that the documents on procedures for irradiation (Part 2), test procedures for permanent effects (Part 3) of the guide for determining the effects of ionizing radiation of insulating materials, specifications for press boards, papers and pressure sensitive adhesive tapes would be circulated under the accelerated procedure. The Committee decided to prepare a draft revision of Pub 112. Considering the proposal of the Austrian

National Committee on powder coatings, it was decided that this subject would be dealt with in two new drafts, one relating to general requirements and the other on methods of tests.

IEC/TC 25 Quantities and Units and Their Letter Symbols (Sectt : USA) — 12-13 September 1974 — Two documents, one on angle of rotation and the other on symbols for time dependent quantities were approved for circulation under the Six Months' Rule. A document on proposed rotation for parts per million would be circulated under the accelerated procedure. The Committee also considered the use of symbol K instead of °C for temperature difference and did not feel any need to impose any restrictions on the usage of °C.

IEC/TC 36 Insulators (Sectt : Italy) — 20 September 1974, and *SC 36B Insulators for Overhead Lines (Sectt : France)* — 18-19 September 1974 — The revision of Pub 383 was approved for circulation under the Six Months' Rule. As regards the discussion of a document on draft revision of Pub 372-1, it was decided that a new document should be prepared for consideration at the next meeting. TC 36 also decided that SC 36A should undertake a rearrangement of Pub 137 to ensure its uniformity with the recommendations prepared by other technical committees and with those of TC 36 itself. It was reported that SC 36B had succeeded in preparing a complete range of recommendations covering the field of insulators for overhead lines.

IEC/TC 38 Instrument Transformers (Sectt : Germany) — 16-17 September 1974 — It was decided to circulate two drafts covering partial discharge measurements on instrument transformers and test for the short-circuit capability of voltage transformers under the Six Months' Rule. It was also decided that the new Working Groups, namely, WG 17 will deal with the tan delta on voltage and current transformers, and WG 18 would consider the possibility of including switching impulse tests in the recommendations for instrument transformers.

IEC/TC 39 Electronic Tubes (Sectt : Netherlands) — 9-10 September 1974 — The Committee decided that a document containing additional drawings for inclusion in Pub 67 Dimensions of electronic tubes should be circulated under the Six Months' Rule. It was also decided that draft amendments and additions to Pub 151-14 should be circulated as a Secretariat document. Discussing the implications for TC 39 of the proposed IEC Quality Assessment System for Electronic Components, it was decided that for the time being the work could not be based on the requirements of the system and, therefore, normal work should be continued.

IEC/TC 40 Capacitors and Resistors for Electronic Equipment (Sectt : Netherlands) — 13-20 September 1974, and *SC 40A Variable Capacitors (Sectt : UK)* — 10-12 September 1974 — An important highlight of the meetings was the approval of 20 documents for circulation under the Six

Months' Rule and of 7 documents for circulation under the Accelerated Procedure. It was decided to set up Working Groups to revise Pub 161, 202, 361B and 384-1. Working Groups would also be set up to deal with (a) pulse testing of fixed resistors, and (b) the implementation of quality assessment in TC 40 Documents on capacitors and resistors.

IEC/TC 46 Cables, Wires and Waveguides for Telecommunication Equipment (Sectt : USA) — 19 September 1974, *SC 46A Radio-Frequency Cables (Sectt : Netherlands)* — 13-14 September 1974, *SC 46B Waveguides and Their Accessories (Sectt : USA)* — 9-11 September 1974, *SC 46C LF Cables and Wires (Sectt : France)* — 16-17 September 1974, and *SC 46D Connectors for RF Cables (Sectt : Germany)* — 16-18 September 1974 — A large number of documents was approved for circulation under the Six Months' Rule and an equally large number of documents was approved for circulation under the Accelerated Procedure. TC 46 accepted reports of all the Subcommittees but with reference to report of SC 46C it was decided that the Subcommittee should reconsider the matter regarding polyethylene LF cables for outdoor use at its next meeting.

IEC/TC 56 Reliability and Maintainability (Sectt : USA) — 9-13 September 1974 — It was agreed to circulate a document containing tests for the validity of a constant failure rate assumption under the Accelerated Procedure. The Committee recommended that an urgent consideration be given to the revision of Pub 409. Considering the scope of TC 56, the meeting confirmed that the approval of the Committee of Action for the following scope was awaited:

' To prepare international recommendations concerned with reliability, maintainability and associated characteristics applicable to products dealt with by IEC Technical Committees.

NOTE — Each interested Technical Committee will have to define for each particular case the appropriate use of the recommendations proposed by TC 56.'

IEC/TC 64 Electrical Installations of Buildings (Sectt : Germany) — 9-14 and 17 September 1974 — The Committee discussed the scope of IEC/TC 64 as to whether or not it should embrace telecommunication, signalling and control. Finally the existing scope including these fields was confirmed in view of the fact that the border line between the conventional heavy-current installation and modern electronic techniques was rapidly disappearing. Out of the various documents discussed at the meeting, the one on external influences governing the specific requirements for particular installations and two others dealing with protection against thermal effects in normal services and with protection against over-current respectively, were approved for circulation under the Six Months' Rule.

IEC/TC 66 Electronic Measuring Equipment (Sectt: Hungary) — 18-20 September 1974, and *SC 66A Generators (Sectt: Hungary)* — 14-17 September 1974 — The Committee approved for circulation under the Six Months' Rule the documents on revision of Pub 348 Safety requirements for electronic measuring apparatus; Standard interface system for programmable measuring apparatus: Part 2 Byte-serial/bit-parallel systems; Expression of performance of microwave signal generators; and Pulse techniques and apparatus: Part 3 Recommendation for specification of pulse generators. The Committee also decided to set up Subcommittee 66D to deal with the preparation of recommendations for composition analyzers for air and water quality measurement.

IEC/TC 77 Electromagnetic Compatibility Between Electrical Equipment Including Networks (Sectt: Germany) — 18-20 September 1974 — The Committee defined its scope as follows which was later approved by the Committee of Action:

'To prepare international recommendations concerning electromagnetic compatibility of electrical and/or electronic equipment, between themselves and with electric power networks.'

NOTE — The programme of work will be coordinated according to work of other Technical Committees and particularly work which falls within the scope of the C.I.S.P.R.'

The Committee examined two Secretariat documents dealing with voltage fluctuations and harmonics induced by household and similar electrical appliances in mains supply networks and decided that the revised drafts be prepared for further consideration. The Committee also set up five Working Groups to deal with the following aspects: terminology, system and artificial network impedances, harmonics and non-harmonics produced by electrical appliances for household and similar purposes, voltage fluctuations produced by electrical appliances for household and similar purposes, and harmonics and non-harmonics produced by television receivers.

3. ASIAN STANDARDS ADVISORY COMMITTEE (ASAC)

3.1 The fourth Session of the Asian Standards Advisory Committee (ASAC) was held at Kuala Lumpur from 16-19 December 1974. India was represented at the Session by Dr A. K. Gupta, Deputy Director General, ISI. Besides an Observer from International Organization for Standardization (ISO), the Session was attended by 25 other participants from 11 countries of Asia and the Far East. Having considered various possibilities of reconstitution of ASAC, the Committee concluded that the functions of ASAC would be more fruitfully executed if it is established as one of the main Committees with a permanent status

entitled 'Asia and Pacific Standards Committee (APASC)' under Economic and Social Commission for Asia and Pacific (ESCAP). The Chairman of the Session was authorized to forward the recommendation to ESCAP authorities. The Committee also reviewed the activities of the fourteen Working Groups under ASAC and laid particular stress on the development of regional standards, establishing liaison with the relevant international committees, conducting surveys on the degree of implementation of regional standards and promoting such implementation, processing the project for regional training course on standardization, setting up of regional training centres for repair, maintenance and calibration of testing equipment, and establishing contact with the regional standards bodies in different parts of the world. Besides, for harmonization of certification marks schemes in operation in various countries of the region, and also to facilitate action on mutual recognition of the marks, the Committee recognized the need for collecting basic information on the local, operational and financial aspects of the schemes in operation. India was requested to collate the information through issue of a questionnaire and submit the report after reviewing the data on the status of certification marking activity in the region.

4. BILATERAL SCIENTIFIC AND TECHNICAL COOPERATION BETWEEN USSR AND INDIA IN THE FIELD OF STANDARDIZATION AND METROLOGY

4.1 In pursuance of the decision taken at the first meeting of the Indo-Soviet Working Group on Standardization and Metrology, the technical information and available literature related to the 16 items of collaboration were exchanged between India and USSR. The second meeting of the Working Group was held in New Delhi during 18-25 November 1974. A five-member Russian delegation headed by Mr A. M. Nikiforenko, Vice-President of USSR State Committee of Standards participated in the meeting. The decisions taken in this meeting covered: (a) working programme for the year 1975, (b) reciprocal visits of Soviet and Indian specialists, and (c) new areas proposed for collaboration.

5. CONFERENCE ON ANIMAL FEEDS OF TROPICAL AND SUB-TROPICAL ORIGIN

5.1 The Tropical Products Institute (TPI), London, invited ISI to contribute a paper in the Conference on Animal Feeds of Tropical and Sub-Tropical Origin, organized by them in London from 1-5 April 1975. Dr Hari Bhagwan, Director (Agricultural and Food Products), ISI attended the Conference and presented a paper on 'Standardization and Quality Control of Animal Feeds' in the Session on 'Assessment and Standardization of Feed Quality'. Various organizations in Malaysia and Singapore have indicated that they would like to develop their standards on animal feeds on the basis of Indian Standards.

6. INDIAN TECHNICAL AND ECONOMIC COOPERATION PROGRAMME

6.1 On a request from the Government of the Socialist Republic of the Union of Burma, through the Government of India, Director General, ISI, visited Rangoon during 7-13 September 1974 to advise the Burmese Government on the question of adoption of metric system, under the Indian Technical and Economic Cooperation Programme. After detailed discussions with the Deputy Minister for Planning and Finance and the officials of the concerned Departments and making an appropriate assessment of the situation, Director General, ISI, in his report has suggested three alternative proposals for the metric changeover. Should the Burmese Government decide to adopt the metric system in the manner suggested by him, there is a possibility of their asking for an expert from ISI.

7. TECHNICAL COLLABORATION WITH THE GOVERNMENT OF ALGERIA

7.1 On a request from the Government of Algeria seeking ISI's collaboration in organizing the standardization work of the Algerian Institute for Standardization and Industrial Property (INAPI), Director General, ISI, visited Algeria on 16-20 September 1974. In his report, he has suggested an organizational pattern that should be useful in the present situation in Algeria and the actions that are required to be taken to start the standardization work. During discussions with the Director and other officials of INAPI, it was recognized that the system of standardization conceived to suit the conditions in Algeria would permit an extent of cooperation between INAPI and ISI. Besides requiring an expert for a shorter period of one or two months for preparing some documents, there is a possibility that INAPI may ask from ISI one or two experts for a long term assistance either through UNIDO or on bilateral basis.

APPEN

INCOME AND EXPENDITURE ACCOUNT FOR

EXPENDITURE

PREVIOUS YEAR	SL No.	HEADS OF EXPENDITURE	AMOUNT
Rs			Rs
	1.	<i>Pay</i>	
2 637 959	1.1	Officers	4 173 624
4 203 613	1.2	Staff	4 393 111
	2.	<i>Allowances</i>	
1 421 051	2.1	Officers	1 819 101
1 457 202	2.2	Staff	2 471 082
201 887	3.	CGHS and other Medical Charges	254 969
271 051	4.	Provident Fund Contribution	312 571
425 438	5.	Pension Fund	579 547
30 000	6.	Gratuity Fund	30 000
36 825	7.	Staff Welfare	36 741
	8.	<i>TA</i>	
123 380	8.1	Overseas	83 470
464 726	8.2	Officers and Staff	470 797
16 562	8.3	Committee Members	23 412
	9.	<i>Subscription to International Organizations</i>	
374 000	9.1	ISO	440 000
195 226	9.2	IEC	250 000
	10.	<i>Production</i>	
578 307	10.1	Standards	754 575
304 966	10.2	Bulletin	366 233
79 080	10.3	Calculation Aids	24 774
42 356	10.4	Reprographic and Other Publications	94 560
—	11.	Research and Consultation	—
114 255	12.	Testing Fees	262 692
157 770	13.	Laboratory Apparatus and Stores	241 624
	14.	<i>Publicity</i>	
25 990	14.1	Exhibition	12 871
138 364	14.2	Advertising	67 780
—	14.3	Short Film	—
10 540	14.4	Miscellaneous	13 646
38 962	15.	Conferences	27 143
20 304	16.	Training Programmes	19 646
42 461	17.	<i>Library</i>	66 569
13 412 275		CARRIED OVER	17 290 538

DIX A

THE YEAR ENDED 31 MARCH 1975

INCOME

PREVIOUS YEAR	SL No.	HEADS OF INCOME	AMOUNT
Rs			Rs
2 847 406	1.	Membership Subscription	2 908 325
	2.	<i>Sales</i>	
1 544 415	2.1	Indian Standards	1 702 897
79 755	2.2	Calculation Aids	62 205
320 706	2.3	Overseas Publication (Commission)	416 088
152 168	3.	Bulletin Advertisements	115 879
5 203 245	4.	*Certification	6 562 213
24 420	5.	CGHS Contributions	26 095
15 751	6.	Conference (Delegates Fees)	—
24 944	7.	Training Fees	28 732
74 578	8.	Miscellaneous	103 782
10 287 388	9.	<i>Government Grant</i>	11 926 216
	9.1	Received during the year	6 660 000
5 980 000	9.2	Carry forward of unspent balance of Govt. grant received during 1973-74	899 434

16 267 388

CARRIED OVER

19 485 650

*Income under this Head has been taken on cash basis and not on accrued basis.

(Continued)

THE YEAR ENDED 31 MARCH 1975 — Contd
I N C O M E

PREVIOUS YEAR	Sl No.	HEADS OF INCOME	AMOUNT
Rs			Rs
16 267 388		BROUGHT FORWARD	19 485 650

 16 267 388

 —

 16 267 388

Excess of Expenditure over Income

 19 485 650

 284 999

Total

 19 770 649

BALANCE SHEET AS

		LIABILITIES		
PREVIOUS YEAR	SL No.			
Rs			Rs	Rs
	1. <i>Capital Fund</i>			
	1.1 As per last Balance Sheet		8 518 606	
	1.2 <i>Add: Cost of project capitalized</i>			
	a) Lab. Bldg. at Ghaziabad	101 767		
	b) Laboratory Equipment	277 953	379 720	
				8 898 326
	1.3 <i>Less:</i>			
	i) Excess of expenditure during the year as per annexed statement of Income and Expenditure	284 999		
	ii) Unutilized Grant (Recurring) for 1973-74 carried over to Income & Expenditure A/c	899 434	1 184 433	7 713 893
8 518 606				
	2. <i>Reserve and Funds</i>			
	2.1 K. L. Moudgill Prize Fund		13 837	
	2.2 Gratuity Fund		282 301	
	2.3 <i>Building Fund</i>			
	a) As per last B/Sheet	267 728		
	b) Receipt during the year	182 266	449 994	
	2.4 <i>Laboratory Building and Equipment Fund</i>			
	a) Govt. Grant received	400 000		
	b) <i>Less:</i> Transferred to Capital Account			
	i) Lab. Bldg.	101 767		
	ii) Lab. Equipment	277 953	379 720	20 280
	2.5 <i>Madras Building Project</i>			
	a) As per last B/Sheet	222 676		
	b) <i>Add:</i> Receipt during the year	200 000	422 676	
	2.6 Govt. Grant for Land for Bombay Bldg. (as per last B/Sheet)		300 000	
	2.7 Pension Fund		2 593 033	
	2.8 CPF		8 827 962	
12 381 416	2.9 CPF		2 503 645	15 413 728
	3. <i>Loans: from Govt. of India for Conveyance Advances</i>		—	275 000
384 500	4. <i>Current Liabilities</i>			
	4.1 Advance Subscription (1975)		1 993 115	
	4.2 <i>Sundry Creditors</i>			
	a) Inland		547 918	
	b) Abroad		1 185 458	
3 344 941	c) Earnest Money		26 484	3 752 975
24 629 463	CARRIED OVER			27 155 596

AT 31 MARCH 1975

		ASSETS		
PREVIOUS YEAR	SL No.		Rs	Rs
		Rs		
	1. <i>Fixed Assets</i>			
	1.1 <i>Buildings</i>			
	a) As per cost value		4 921 703	
	b) Additions during the year		—	
			4 921 703	
	c) <i>Less: Depreciation w/o</i>			
	i) Up to 31.3.74	1 250 769		
3 670 934	ii) During 1974-75	141 929	1 392 698	3 529 005
	1.2 <i>Lab. Bldg. at Ghaziabad</i> (under construction)			
	a) As per last B/Sheet		200 000	
200 000	b) Additions during the year		101 767	301 767
	1.3 <i>Madras Bldg. (under construction)</i>			
	a) As per last B/Sheet		167 426	
167 426	b) Additions during the year		239 417	406 843
	1.4 <i>Land for Branch Offices</i> (Bombay and Calcutta)			
	a) As per last B/Sheet		381 041	
381 041	b) Additions during the year (BBO)		10	381 051
	1.5 <i>Xerox Copying Equipment</i> (as per last B/Sheet)			242 000
242 000	1.6 <i>Laboratory Equipment</i>			
	a) As per cost value up to 31.3.74		2 345 265	
	b) Additions during the year		277 953	
			2 623 218	
	c) <i>Less: Depreciation w/o</i>			
	i) Up to 31.3.74	825 334		
1 519 931	ii) During 1974-75	173 350	998 684	1 624 534
	1.7 <i>Furniture and Equipment</i>			
	a) As per cost value up to 31.3.74		1 514 474	
	b) Additions during the year		143 220	
			1 657 694	
	c) <i>Less: Depreciation w/o</i>			
	i) Up to 31.3.74	823 302		
691 172	ii) During 1974-75	105 247	928 549	729 145
	1.8 <i>Vehicles</i>			
	a) As per cost value up to 31.3.74		214 815	
	b) <i>Less: Refunds during the year</i>		457	
			214 358	
	c) <i>Less: Depreciation w/o</i>			
	i) Up to 31.3.74	124 028		
90 787	ii) During 1974-75	18 066	142 094	72 264
6 963 291	CARRIED OVER			7 286 609

(Continued)

BALANCE SHEET AS**LIABILITIES**

PREVIOUS YEAR	SL No.		
		Rs	Rs
24 629 463		BROUGHT FORWARD	27 155 596

24 629 463Total 27 155 596

AT 31 MARCH 1975 — Contd

ASSETS

PREVIOUS YEAR	SL No.		Rs	Rs	Rs
6 963 291		BROUGHT FORWARD		7 286 609	
	1.9	<i>Library Books</i>			
	a)	As per last B/Sheet	212 960		
212 960	b)	Additions during the year	37 859	250 819	7 537 428
	2.	<i>Investment at Cost</i>			
	2.1	Deposits with Banks	1 200 000		
	2.2	Shares of ISI Emp. Cons. Co-op Store	7 500		
	2.3	Shares of Jay Engg. Works (A/c K. L. Moudgill Prize Fund)	11 400	1 218 900	
	2.4	Pension Fund		2 593 033	
	2.5	CPF		8 827 962	
11 810 142	2.6	GPF		2 503 645	15 143 540
	3.	<i>Current Assets</i>			
	3.1	Stock of Printing Paper (valued at cost)		403 976	
	3.2	<i>Sundry Debtors</i>			
	a)	Sale of Publications	669 730		
	b)	Bulletin Advertisements	88 959		
879 143	c)	Licence, Inspection charges, etc	49 040	807 729	1 211 705
	4.	<i>Loan and Advances</i>			
	4.1	<i>Advances</i>			
	a)	Conveyance Advance	273 620		
	b)	Festival	12 500		
	c)	Flood	1 727		
	d)	Store Purchases	128 748	416 595	
	4.2	Security Deposits		78 297	
	4.3	Pre-paid Expenses		53 865	
	4.4	Due from Min. of External Affairs (A/c ITEC Grantees)		72 237	620 994
744 748	5.	<i>Cash and Bank Balances</i>			
	5.1	With bankers		2 593 397	
	5.2	In hand (including Imprest)		35 531	
4 019 179	5.3	Postage Stamps		13 001	2 641 929
24 629 463		Total		27 155 596	

(Figures have been rounded off to whole rupees.)

APPENDIX B

Principal Officers of INDIAN STANDARDS INSTITUTION (As on 31 March 1975)

General Council (GC)

President

SHRI T. A. PAI
Union Minister of Industry and
Civil Supplies,
Government of India

Vice-Presidents

SHRI D. C. KOTHARI
SHRI R. H. MODY

Executive Committee (EC)

Chairman

SHRI D. C. KOTHARI

Finance Committee (FC)

Chairman

SHRI R. H. MODY

Agricultural & Food Products Division Council (AFDC)

Chairman

DR M. S. SWAMINATHAN

Vice-Chairman

DR B. L. AMLA

Chemical Division Council (CDC)

Chairman

DR J. S. BADAMI

Vice-Chairman

DR S. P. VARMA

Civil Engineering Division Council (CEDC)

Chairman

DR K. L. RAO

Vice-Chairmen

SHRI Y. K. MURTHY
SHRI M. S. BHATIA

Consumer Products & Medical Instruments Division Council (CMIDC)

Chairman

COL R. D. AYYAR

Vice-Chairman

BRIG HARBANS LAL

Electrotechnical Division Council (ETDC)

Chairman

SHRI J. S. ZAVERI

Vice-Chairman

MAJ-GEN K. K. MEHTA

Marine, Cargo Movement and Packaging Division Council (MCPDC)

Chairman

SHRI A. KRISHNAN

Vice-Chairmen

SHRI S. PARMANANDHAN
SHRI A. RAY

Mechanical Engineering Division Council (EDG)

Chairman

MAJ-GEN R. JANARDHANAM

Vice-Chairman

SHRI ABHIJIT SEN

<i>Structural & Metals Division Council (SMDG)</i>	
Chairman	SHRI J. G. KESWANI
Vice-Chairmen	DR R. V. TAMHANKAR SHRI M. DHAR
<i>Textile Division Council (TDC)</i>	
Chairman	SHRI G. K. DEVARAJULU
Vice-Chairman	SHRI D. N. SHROFF
<i>Certification Marks Advisory Committee (CMAG)</i>	
Chairman	SHRI H. P. NANDA
<i>Advisory Committee on Implementation of Indian Standards (ACI)</i>	
Chairman	DIRECTOR GENERAL, SUPPLIES AND DISPOSALS, NEW DELHI
<i>Industrial Safety Advisory Committee (ISAC)</i>	
Chairman	BRIG G. R. CHAINANI
<i>Women's Advisory Committee (WAC)</i>	
Chairman	SHRIMATI LILAVATI MUNSHI
<i>Ahmedabad Branch Office Advisory Committee</i>	
Chairman	SHRI M. SIVAGNANAM
<i>Bangalore Branch Office Advisory Committee</i>	
Chairman	DR S. M. PATIL
<i>Bombay Branch Office Advisory Committee</i>	
Chairman	—
<i>Calcutta Branch Office Advisory Committee</i>	
Chairman	SHRI K. N. MOOKERJEE
<i>Hyderabad Branch Office Advisory Committee</i>	
Chairman	SHRI T. G. V. NAIDU
<i>Kanpur Branch Office Advisory Committee</i>	
Chairman	SARDAR INDER SINGH, MP
<i>Madras Branch Office Advisory Committee</i>	
Chairman	SHRI D. C. KOTHARI

STAFF

(As on 31 March 1975)

Director General :	SHRI S. K. SEN	} HEADQUARTERS
Deputy Directors General :	SHRI B. S. KRISHNAMACHAR (on deputation)	
	DR A. K. GUPTA	
	SHRI Y. S. VENKATESWARAN	
	SHRI A. B. RAO	
	SHRI HARBANS LAL	
	SHRI A. P. BANERJI ...	
	SHRI S. SRINIVASAN ...	} Eastern Region Western Region

Agricultural & Food Products Department

Deputy Director/Head SHRI T. PURNANANDAM

Chemical Department

Director DR G. M. SAXENA

Civil Engineering Department

Director SHRI D. AJITHA SIMHA

Consumer Products and Medical Instruments Department

Deputy Director/Head SHRI SOM PRAKASHA

Electrotechnical Department

Director SHRI N. SRINIVASAN

Marine, Cargo Movement & Packaging Department

Director SHRI P. S. DAS

Mechanical Engineering Department

Director SHRI S. M. RAZVI

Structural & Metals Department

Director SHRI C. R. RAMA RAO

Textile Department

Director SHRI S. M. CHAKRABORTY

Accounts Department

Director SHRI R. K. SATIA

Personnel Management

Secretary SHRI GIRDEHARI LAL

General Services

Director SHRI K. P. KHANNA

Central Marks Department

Director SHRI S. P. RAMAN

Certification Marks Department, Delhi

Deputy Director/Head SHRI S. K. KARMAKAR

Implementation Department

Director SHRI S. R. KUPFANNA

Laboratory	
Director	DR S. GHOSH
Library	
Deputy Director/Head	SHRI V. P. VIJ
Publications Department	
Director & Chief Editor	SHRI RAM D. TANEJA
Editor	SHRI GUROHARAN SINGH
Public Relations Department	
Director	SHRI MANOHAR LAL
Statistics Department	
Deputy Director/Head	SHRI Y. K. BHAT
Ahmedabad Branch Office	
Deputy Director/Head	KM H. N. MYTHILI
Bangalore Branch Office	
Deputy Director/Head	SHRI T. S. SUBRAMANIAN
Bombay Branch Office	
Director, Certification Marks	SHRI C. B. CHANDORKAR
Calcutta Branch Office	
Director, Steel Cell	SHRI H. P. GHOSE
Director, Certification Marks	SHRI S. P. BATTOO
Chandigarh Branch Office	
Deputy Director/Head	SHRI R. I. MIDHA
Hyderabad Branch Office	
Director	SHRI M. RAGHUPATHY
Kanpur Branch Office	
Director	SHRI M. S. SAXENA
Madras Branch Office	
Director	SHRI S. SUBRAHMANYAN
Patna Branch Office	
Deputy Director/Head	SHRI N.C. TYAGI

INDIAN STANDARDS INSTITUTION

— THE NATIONAL STANDARDS ORGANIZATION OF INDIA

The Indian Standards Institution, commonly known as ISI, was established in 1947 by a resolution of the Government of India, with the active support of industrial, scientific and technical organizations in the country.

The aims and objects of the Institution include preparation of standards relating to products, commodities, etc, and their promotion on national and international levels; provision of registration of standardization marks applicable to products, commodities, etc.

INDIAN STANDARDS

Indian Standards are the national standards of the country specifying requirements necessary for the production of quality goods, such as methods, dimensions, performance, finish, tests, etc. Standards are formulated through a network of technical committees on which are taken experts representing manufacturers; consumers; scientific, research and technical organizations; purchasers and government departments. Committees are appointed by the nine Division Councils responsible for the work of standardization for different industries, namely, agricultural and food products; chemicals; civil engineering; consumer products and medical instruments; electrotechnical; marine, cargo movement and packaging; mechanical engineering; structural and metals; and textiles.

Indian Standards are implemented by industrial undertakings, business organizations, corporations, firms and others in their manufacturing and purchase programmes. Central and State Governments and local bodies have taken policy decisions to adopt Indian Standards.

ISI CERTIFICATION MARKS SCHEME

For providing practical utility of standards to the ordinary consumer, the Institution operates ISI Certification Marks Scheme, under the

authority of the ISI Certification Marks Act, 1952 (as amended in 1961), passed by the Parliament. Under the Scheme, licences are issued to manufacturers producing goods in conformity with the relevant Indian Standards to apply ISI Certification Mark on their products.

Strict quality control and vigilance are exercised over the production of such goods. Regular and surprise inspections of the licensees' factories are carried out and samples of their products are drawn from factories and from the open market and subjected to tests in ISI and other independent laboratories.

The Scheme provides an assurance to the consumer about the quality of ISI-marked products and holds the manufacturer in reaping the advantages of standardization.

ISI LABORATORIES

For testing products under the ISI Certification Marks Scheme, the Institution has set up its main Laboratory at the Headquarters, and laboratories on smaller scales in ISI Regional Offices at Bombay, Calcutta, and Madras.

TRAINING PROGRAMMES

Company Standardization — The Institution assists Indian industries in promoting and developing organized in-plant standardization through training and survey programmes, conferences and factory visits.

Centralized Training Programmes — ISI provides facilities for training technical personnel of developing countries of Asia and Africa in principles, procedures, methodology and organization of standardization.

Utilization of Indian Standards in Education — Educational utilization of Indian Standards is promoted through training programmes for teachers, circulation of special documents and display of standards.

SUBSCRIBING MEMBERS

Central and State Governments, local bodies, industrial organizations, business undertakings, corporations, firms, institutions and individuals join ISI as Subscribing Members in any one of the different categories, namely, Patrons, Donor, Members, Sustaining Members, Associate Members, Ordinary Members and Individual Members, and avail of the specialized services in standardization and quality control extended by the Institution.

INTERNATIONAL COLLABORATION

For standardization at the international level, the Institution participates actively in the work of International Organization for Standardization (ISO), International Electrotechnical Commission (IEC),

Commonwealth Standards Conference (CSC) and Asian Standards Advisory Committee (ASAC).

REGIONAL AND BRANCH OFFICES

For keeping close liaison with and for rendering efficient service to industry, trade and commerce in different regions of the country, the Institution has opened its Regional Offices in Bombay, Calcutta and Madras and Branch Offices in Ahmedabad, Bangalore, Chandigarh, Hyderabad, Kanpur and Patna.