IEEE

CENTENNIAL

1884 1984

A CENTURY OF ELECTRICAL PROGRESS

CONTENTS

HISTORY OF IEEE REGION 10

Looking back from 1984, the Centennial Year, it is some 17 years since the first IEEE Sections were formed in Region 10, a geographical entity which covers a largh part of the world, namely Asia and Pacific countries and at that time, part of Africa also.

The chronological sketch which follows records how the region, through the efforts of its regional committee, advanced to where it is today.

1967-72

The inaugural steering director for Region 10 was Dr.Shigeo Shima of Japan who was offered this task for 1967-68 by the IEEE Assembly. Then began establishment of IEEE Sections and the gradual development of a community of interest in the Asia-Pacific region.

In 1971 Mr. Tatsuji Nomura of NHK Japan, the then director, took the initiative of forming a regional committee. The existing IEEE Sections in the region namely India, New Zealand, Pakistan and Tokyo were represented on that committee and the first meeting took place at the Peninsular Hotel, Hong Kong in early July 1971. That first meeting was exploratory. Section chairmen exchanged ideas and experiences and sought solutions to problems of Section administration and Section operation.

Since then the regional committee has met annually, somewhere in the region, on occasions with IEEE Headquarters staff officers present to assist and advise. Over these years the regional committee evolved up to the present as the deliberating body for the region.

1973-76

The Region 10 Student Paper Contest, introduced in 1974, was the first major exercise undertaken on a region-wide basis The drafting and approval of the rules of the contest was the outcome of

considerable study and discussion by the regional committee. This was a natural development of the student activities function of the committee. Also innovated in the years leading up to 1974 were important section technical conferences in India, Japan and New Zealand.

By 1976 section formation in the countries of the region was virtually complete. Moreover, in India where just one country section had been formed initially, new independent sections were being established in the important cities.

An important parallel development was the formation of multiple technical chapters of technical groups in Tokyo Section, where formation of new chapters has continued up to the present. Several chapters were also formed elsewhere in the region, in India and New Zealand.

The formation of multiple IEEE Sections in India was followed by establishment of the all India IEEE Council, the first in Region 10 with Mr. Faqir Kohli, a past regional director, as founding chairman.

The regional committee gave much study to educational activities and the arranging of lecture tours by distinguished IEEE speakers. Several such tours took place in the region.

1977-80

In the period 1977-78 region 10 office bearers were apprehensive about the growing size of the regional committee and the mounting cost of staging the annual meeting. The increase in committee membership resulted in part from formation of additional sections in countries where one section existed already. As a reaction to this situation a special formula was hammered out covering reimbursement of costs to attendees from the regional treasury.

The regional committee from inception in 1971 through until the end of 1980 was in search of its identity and mission in the region and functioned by and large as a discussion group of elected sec-

tion representatives without set parliamentary procedures and without an elected region 10 delegate. Preoccupation with side issues tended to inhibit the development of important objectives in the region.

In 1979, on the initiative of the serving director Dr.S.Y. King, the regional committee accepted the long overdue and exacting task of drafting and approving a set of Region 10 Bylaws covering election of Region 10 officers, voting procedures within the committee and the essentials of committee operation and management.

In 1979 the territory of the region was amended to exclude Africa which with the mutual agreement of other concerned was added to the territory of Region 8, namely Europe.

1981-84

Under the newly introduced and approved Region 10 Bylaws the first Region 10 Delegate and Director to be elected was Dr. V. Prasad Kodali of New Delhi who took office in 1981.

In 1981-82 the regional committee, with a new sense of purpose, gave considerable attention to forward planning and to improving the organization and administration of Region 10 to give effect to these plans. New programmes were instituted.

The Region 10 bylaws were amended in respect of election of vice chairman by the region. Procedural guidelines were introduced.

A significant first in 1981-82 for the region was the inception of TENCON, an international technical conference initiated and hosted by Hong Kong Section and co-sponsored by Region 10.

In 1981 the IEEE membership in Region 10 passed the 10,000 mark, a growth rate of better than 10 per cent having been sustained for many years. The prediction for 1984, the Centennial year is 15,000 members.

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It is interesting to note that in 1971 the number of regional committee members was just 5 whereas a decade later in 1981-82 this number was 27. Also there were 8 special guests at the regional committee meeting held in 1982 in New Delhi, so the attendance possible had risen to 35. Special guests at that meeting included the IEEE President, General Manager, Vice President for Regional Activities, Vice President for Technical Activities, and Presidents of the Computer, AES, CHMT and MTT Technical Societies.

Plans were laid in 1981-82 for marking the Centennial in 1984. These plans included preparations for publication of a Region 10 history and for the Region to participate in commemorative activities. These plans were carried forward in 1983 and include preparations for the Region 10 Centennial Banquet to be held in Singapore during TENCON II.

This sketch of the Region 10 Committee from 1971 through until the present would not be complete without a retrospective thank-you to all the un-named committee members who have contributed to the progress of Region 10 in the past 13 years and let to the development of the present community of interest.

History of IEEE Australia Section

The first meeting of IEEE Australian members was organized by Mr. James J. Vasseleu in early 1972 and held at the Cell Block Theatre, Darlinghurst N.S.W. It was agreed by those attending that the formation of an Australian Section would be highly desirable and that Mr. Vasseleu should proceed with the preparation and submission of a petition. The area to be encompassed by the proposed section was all Australian States and Territories comprising New South Wales,Victoria, Queensland, South Australia, West Australia, Tasmania,Australian Capital Territory, Northern Territory and the Territory of Papua New Guinea. The petition was signed by 63 members and submitted to IEEE Headquarters at the beginning of June, 1972. Dr. Tatsuji Nomura from Tokyo Section, who was the Region 10 Director, supported the petition and the Australian Section was established on 16 August, 1972. At the first official meeting which was held at Neutral Bay Junction N.S.W. on 12 September, 1972, Mr. James J. Vasseleu was elected Chairman, Mr. Lennox J. Clementson Vice Chairman and Mr. James Deans Secretary/ Treasurer.

Shortly afterwards the 1972 IEEE President Dr.Robert Tanner visited Australia and accompanied by officers of the newly formed Australian Section, had discussions with representatives of the two chartered Australian national societies, the Institution of Engineers, Australia and the Institution of Radio and Electronics Engineers, Australia.

Australian Section By-Laws were prepared in October, 1972 and submitted to IEEE Headquarters.

During 1973 a number of technical meetings were held in co-operation with the national societies and in early October, Dr. John D. Ryder, 1973 Chairman of the IEEE Fellows Committee, visited the section and conducted a seminar at the University of New South Wales, Kensington. N.S.W.

Mr. Vasseleu retired as Australian Section Chairman at the end of 1973 and Mr. Clementson was elected 1974 Chairman.

A full program of technical meetings was again arranged in co-operation with the national societies during 1974 and 1975.

The 1975 IEEE President Mr. Arthur Stern visited the Section in October 1975. In late 1975, as a result of an earlier petition, Victorian Sub Section was formed. Mr. Clementson retired at the end of 1975 and was succeeded as Chairman by Mr. Dennis Bradshaw who had been secretary of the Section.

During 1976 the Australian Section nominated Mr. Vasseleu for the position of Region 10 Director for 1977-78 and he was appointed by the IEEE Board of Directors in December of that year.

Dr. Ivan Getting, the 1978 IEEE President, visited the section in October, 1978.

Mr. Bradshaw retired in 1978 and was succeeded as Chairman by Dr. Ramutis Zakarevicius. Mr. Clementson died in November 1978 and in early 1979 the L.J. Clementson Memorial Student Prize was established.

The 1981 IEEE President Dr. Richard Damon visited the Section in August 1981 in June 1981 Mr. Brian Love was appointed Chairman of the Victorian Sub Section, which had been inactive for several years, and held an inaugural meeting in October 1981. A new committee was elected and the Victorian Sub Section reactivated.

At the end of 1981 Dr. Zakarevicius retired and was succeeded by Mr. Max Simons who had been Secretary of the Australian Section.

Dr. Robert Larson, the 1982 IEEE President, visited the Victorian Sub Section in the latter part of 1982.

Dr. Harry Green was elected Region 10 Director for 1983-94.

A petition to upgrade the Victorian Sub Section to full Section status was prepared and submitted to IEEE Headquarters by Mr. Brian Love in Mid 1983 and approval obtained in September, 1983.

The 1983 IEEE President Dr.James Owens and the IEEE General Manager Mr. Eric Herz, visited the Victorian and Australian Sections during September 1983. They also visited the Canberra Headquarters of the Institution of Engineers, Australia for discussions about formalising a co-operative agreement.

Although no Student Branches have been established in the Australian and Victorian Sections, Australian students have participated in all the Region 10 Student Prize Competitions held since 1972 and have been quite successful. Dr. Robert Radzyner has been responsible for all Student Activities, including the screening and submission of entries for the Region 10 Competition.

Since the inception of the IEEE Australian Section the membership has grown over five-fold and at the commencement of the IEEE 1984 Centenary year the combined total for the Australian and Victorian Sections is in excess of 1700 members.

Members in West Australia, South Australia and Queensland are moving toward Section status and it is proposed that an Australian Council will be established to cater, eventually, for five Australian Sections comprising:

Queensland/Papua-New Guinea
New South Wales/Australian Capital Territory
Victoria/Tasmania
South Australia/Northern Territory
WEST AUSTRALIA

When this occurs IEEE membership in Australia should expand considerably and be in excess of 3000 members within five years.

History of Electrical and Electronics Engineering Development in Australia

1838   —   Edward Davey, Inventor of the relay (1835), settled in Adelaide, South Australia.

1858   —   Adelaide, Melbourne and Sydney linked by telegraph lines.

1859   —   Under sea telegraph cable laid between mainland Australia and Tasmania.

1863   —   First recorded use of electric light, in Australia, at Sydney observatory. The power was supplied by batteries.

1872   —   Overland telegraph line between Adelaide and Darwin completed. Adelaide, Sydney and Melbourne now had direct link with Europe via overland telegraph to Darwin and from Darwin via submarine cable to Java.

1875   —   Work begins on the telegraph line between Adelaide and Perth, a distance of 2532 KM across the Nullabor Plain.

1877   —   Henry Sutton (Ballarat, Victoria)within 12 months of bells announced invention in Scientific American in 1976 had made 20 versions of his telephone. He probably set up Australia's first telephone link in 1877 between Suttons store and music factory in Ballarat.

         —   Telephone used between Launceston and Campbelltown in Tasmania.

1878   —   First commercial telephone service commissioned in Melbourne.

1880   —   First telephone exchanges opened, in Melbourne, Sydney and Brisbane.

         —   First record of company formed for supply of electricity. In Melbourne (Victoria) for lighting in nearby markets and a public hall.

1881   -   Henry Sutton (Ballarat, Victoria) "invented" carbon fila-
ment lamp 16 days after Edison but due to poor communica-
tions was not aware of this until later.   Also invented
vacuum pump to go with above which was subsequently used
by in England.

1882   -   Demonstration of public street electric lighting in Bris-
bane.

1884   -   Chair of engineering established at Sydney University.

1888   -   First public lighting installation in Australia, and the
Southern Hemisphere, commissioned at Tamworth.   Two 18 KW
generators supplied the power.

1890   -   Lambton power station in Newcastle opens, at this time it
was the largest in Australia having two 130 H.P. Westing-
house compound engines.   Steam was supplied by 2 B and W
tubular boilers.

       -   First Australian member (Associate) of IEEE Mr. Wilford J.
Spruson of Hepburn and Spruson, Sydney.

1891   -   Mr. Gustav S. Fischer, tramway construction, Sydney joins
IEEE.

1892   -   First hydro power scheme started.   435 KW "Duck Reach"
power station on South Esk River near Launceston Tasmania.

1893   -   Queensland's first hydro electric generation at Thargo-
mindah. Water from an artesian bore powered a water
wheel, made by local blacksmith,to drive two 8 KW dynamos.

1895   -   435 KW "Duck Reach" hydro station commissioned.

1898   -   First recorded use of wireless in Australia (Adelaide,
South Australia): transmission over about 500 metres.

1899   -   First public power station opened in Sydney by the depart-
ment of railways. The station comprised four 850 KW,
600 V D.C. generators each driven by a horizontal cross
compound condensing steam engine.

1903   -   First government tests of wireless in Australia   between Moreton Island and naval stores in Brisbane

1906   -   First practical demonstration of wireless,   for possible commercial use, in Australia between Queenscliff(Victoria) and Devonport (Tasmania), - a distance of 300 kilometres.

1910   -   Australian wireless experimeters form "Wireless Institute of Australia", first such society in British Empire.

1911   -   By this year a total of 26 private experimental   wireless stations were operating in Australia.

        -   Australia's first private automatic   telephone   exchange placed in service in Sydney.

1912   -   Australia's first public automatic telephone exchange (and the first in the Southern Hemisphere)   opened in Geelong (Victoria)

1918   -   First commercially built wireless receiver   using   three electrode valves designed and manufactured in Sydney.

        -   First direct wireless messages transmitted from England to Australia.

        -   First electric train service opened in Australia   (Melbourne)

1919   -   Pioneering wireless telephone tests, between land stations in Australia and ships at sea, successfully carried out.

        -   First demonstration of wireless broadcasting   given   in Sydney.

1920   -   First manufacture of radio valves in Australia.

1922   -   First mobile police car in Australia (Victoria)   equipped with radio.

1923   -   First high powered broadcasting station opened in Sydney. Australian designed and manufactured.

        -   The sealed (wavelength) set introduced to Australian radio listeners.

1924   - First transmission of human voice   (Marconi's)   between Chelmsford, England, and Sydney.

1927   - Beam wireless service opened between Australia, Great Britain and Ireland.

1928   - First recorded monitoring over long distances of aeroplane in flight - captain Kingsford Smiths "Southern Cross" from the time it left San Francisco until it reached Brisbane.

1929   - First picturegram service opens between Sydney and   Melbourne.

1930   - Australia sets a world record for a land line   telephone call - from Geraldton, Western Australia and Cairns(Queensland) - a route distance of 7662 kilometres.

1934   - Longest radio - picturegram service in the world   and   the first in Australia opened between Melbourne (Victoria) and London.

1948   - Demonstration of the first Australian designed and   manufactured television receiver.

1954   - First 220 KV transmission line commissioned in Australia.

1955   - Design and manufacture of transtorized radios.

1956   - First television transmissions in Australia.

1957   - Messers D.G. Lampard and M. Thompson publish   significant paper on electrical measurements, "a new theorem   in electrostatics with application to calculable standards   of capacitance".   IEE (U.K.) heaviside prize awarded for this paper.

1959   - First 330 KV transmission line commissioned.

1967   - First monolithic silicon integrated circuit produced   in Australia.

1968   -   First 500 KV transmission line commissioned in Australia.

1970   -   During this decade csiro division of radiophysics perfected "Interscan"   a microwave aircraft landing guidance system. now adopted by all world airlines.

1976   -   FM broadcasting commenced in Australia.

Most wireless/radio milestones listed above were result of work done by amalgamated wireless (Australasia) limited.

History of IEEE Bombay Section

IEEE activities started in India fifteen years ago with less than four score members. A band of dedicated engineers started IEEE - India Section at Bombay and today, the IEEE India Council, as it is now termed, has a membership approaching 2000. Over the years, Sections at Bombay, Bangalore, Madras, Delhi and Calcutta and Sub-sections at Kerala, Kanpur and Hyderabad have been formed. Out of the Sub-sections, Kerala and Hyderabad have already made petitions for elevation to full-Sections. IEEE-Society Chapters in Power, Industrial Applications, Computer, Electronic Aerospace, Nuclear Plasma, Industrial Electronics, were formed. Student Branches came up at various Engineering Colleges. Thus with a small beginning at Bombay, IEEE activities have spread over the length and breadth of India and Bombay Section, the eldest in the family, continues to assist and guide IEEE Members all over India.

Bombay Section has been very active at Regional level, having given it in Mr. F.C. Kohli the first Indian Region 10 Director, the Regional 10 Secretaries in Dr. V.P. Kodali and Mr. T.V. Balan, as well as Mr. D.N. Purandare and Mr. T.V. Balan as Region 10 Membership Development Chairman and Mr. Kirit J. Sheth as Educational Activities Chairman. Prof. P.V.S. Rao and Dr. B.D. Pradhan were selected as distinguished speakers to tour Region 10 and deliver lectures on computer technology.

The IEEE8s all India Annual Activity in the form of 'Annual Convention and Exhibition' (ACE) which first started in Bombay ten years ago has now become a regular annual feature and Bombay Section has played host to six such functions so far, at some of which IEEE Presidents and Past Presidents were present. Bombay & Delhi Sections played joint hosts to 1984 SMC Conference held in January 1984.

Amongst the other activities, Student Activities of Bombay Section are well organised and annual paper contest is a regular feature. A few students of Bombay who had entered Region 10 Student Paper Contests, won top awards. The Section's News-letter too has been regularly published.

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IEEE Headquarters has selected five Bombay Section members viz. Mr. F.C. Hohli, Mr. T.V. Balan, Mr. D.N. Purandare, Mr. Kirit heth and Mr. H.S. Sonawalla, for 'IEEE Centennial Medal Award' for 1984 as the IEEE President, James Owen states: "Fro loyal and dedicated service to the Institute and in recognition of the exceptional service to the profession". We are indeed proud of this unique recognition.

IEEE Bombay Section's relations with other professional Institutions have been very close, especially with the Institution of Engineers (India) the largest national institution and they hold a number of joint programmes.

In the IEEE Centennial year, 1984, IEEE Bombay Section has proposed to organise programmes to bring to the notice of Engineering Fraternity in particular and Society in general, the contribution made by IEEE during the last one hundred years and its plans of future contributions in nation's developments.

"IEEE has come to stay in India for professional excellence and solidarity".

History of IEEE Calcutta Section

Way back in 1971 members of IEEE over the entire Eastern and North Eastern region of India got together to form the Eastern Regional Section of IEEE, in India. Mr. Alak Ghose was the founder Chairman of this Section. After the formation of the India Council the Eastern Regional Section was given the name of Calcutta Sub-Section under the Delhi Section of IEEE, India. Through the pioneering efforts of Mr. K.B. Subramaniam who took over form Mr. Alak Ghose in 1974 as Chairman. The Calcutta Sub-Section was raised to the status of a full section in the year 1976. Because of the vastness of the area covered by this section, there were problems of communication and co-ordinated activities have been more or less confined to Calcutta and Kharagpur. This Section has now one Sub-Section at the Indian Institute of Technology, Kharagpur and 2 student branches, one at the Jadavpur University and the other of the Institute of Technology. On the average 2 lecture meetings, 6 seminars and 2 continuing education courses are held. The Section has always been represented at the Region 10 meetings. The present Chairman of the Section is Mr. Alak Ghose and the Secretary, Dr.(Mrs.) Shibani Das.

History of Electrical and Electronics Engineerig Developrhent in Calcutta

1. First Hydro-electric Power Station in India at Darjeeling.

2. First Thermal Power Station in India at Calcutta.

3. First street car in India at Calcutta.

4. First Steel Works (Tata Steel) in India at Jamshedpur.

5. First electrical fan manufacturing factory in India at Calcutta.

6. First Railway wagon Factory in India at Calcutta.

7. First Electrical Transformer Manufacturing Factory in India at Calcutta.

8. Internationally famous Scientists Sir Jagadish Ch.Bose and Sir C.V. Raman made major contribution to the scientific world through their work in Calcutta.

9. Internationally famous Scientist Professor Satyen Bose collaborated with Einstein in formulating some of his analytical work known as Bosons.

10. Sir P.C. Roy, known as the doyen of Chemistry in India spent all his life in Calcutta University.

11. Prof. P.N. Ghose founder father of teaching in applied science and technological education worked in Calcutta University.

12. First National Council of Educational for technical education was formed in Calcutta now know as Jadavpur University.

History of IEEE Tokyo Section

I. Major Events Before Establishment of Tokyo Section.

    1929   The World Engineering Congress was held in Tokyo.
                On that occasion,   Prof. Motoji Shibusawa   was
                elected an honorary member of the AIEE.

    1953   Prof. Hidetsugu Yagi was elected a Fellow of the
                IRE.

    1954   Prof. Yasujiro Niwa was elected a   Fellow of the
                IRE.

II. Establishment of IRE Tokyo Section.

    Oct. 20, 1955   By the recommendation and guidance of Dr. George
                     W. Bailey and Prof. Ernst Weber,   Dr. Fumio
                     Minozuma held a meeting to form a Tokyo Section
                     of the IRE. Then, a petition was submitted   to
                     the IRE with the signatures of 25 Japanese mem-
                     bers and approved by the Board of Directors   of
                     the IRE in December, 1955. Total members of Tokyo
                     Section was only 50.

    Feb. 6, 1956   First Section Executive Committee Meeting   was
                     held.

    April 4, 1956   First Section Meeting was held. Officers of Tokyo
                     Section were Prof. Hidetsugu Yagi   as   Chairman,
                     Prof. Yasujiro Niwa as Vice Chairman,   and   Dr.
                     Fumio Minozuma as Secretary/Treasurer.

III. Major Events After Establishment of Tokyo Section.

    1957   Prof. Y. Niwa was elected to the   Vice President
                 of the IRE.

    Nov. 1958   MTT Chapter was organized: this is   the first
                 chapter in Tokyo Section.

March 1959	"Denshi TOKYO" - bulletin of Tokyo Section was issued by the Publicity Committee established in June 1958.
1963	In connection with the integration of the IRE and the AIEE.to form the IEEE, Tokyo Section of the IRE was renamed to Tokyo Section of the IEEE.
Sept. 7-11, 1964	International Conference on Microwave, Circuit Theory and Information Theory (ICMCI) was held in Tokyo, Japan ; this is the first international conference sponsored by IEEE Tokyo Section.
1965	Dr. Hanzo Omi was appointed as a member of the IEEE Board of Directors (in charge of Region 9).
Feb. 1965	PE Chapter was established.
1966	Membership Directory of Tokyo Section was published.
1967	A special certificate from the President of the IEEE for having achieved the largest percentage net increase in the IEEE membership in the Region 10 during 1966 was delivered.
1967-68	Mr. Shigeo Shima was elected and served as Director of Region 10.
Feb. 1967	Computer Chapter was formed.
1968	Dr. Koji Kobayashi was appointed as a member of the Membership and Transfers Committee of the IEEE for the year.
March 1970	EMB Chapter was established.
1971-72	Mr. Tatsuji Nomura, Mr.Ichiro Tagoshima and Prof. Sakae Yamamura were appointed and served as Director, Secretary and SAC Chairman of Region 10, respectively.
1971	ED, CT(CAS) and BTR(BCCE) Chapters were organized.
1972	AP Chapter was formed.

Chairman	Vice Chairman	Secretary/ Treasurer	Term
Hidetsugu Yagi	Yasujiro Niwa	Fumio Minozuma	1956
Yasujiro Niwa	Issac Koga	Fumio Minozuma	1957-59
Issac Koga	Miyaji Tomota	Fumio Minozuma	1960-61
Miyaji Tomota	Kiyoshi Morita	Fumio Minozuma	1962-63
Kiyoshi Morita	Miyaji Tomota	Takashi Okada	1964-65
Koji Kobayashi	Takashi Ohtsuki	Yukimatsu Takeda	1966-68
Tatsuji Nomura	Osamu Nishino	Ichiro Tagoshima	1969-70
Hiroshi Shinkawa	Sakae Yamamura	Shintaro Oshima	1971-72
Shigeo Shima	Sogo Okamura	Tetsuo Tsukamoto	1973-74
Toshifusa Sakamoto	Kenji Kakizaki	Takashi Nakagawa	1975-76
Noboru Takagi	Toshihiko Kubo	Tadamasa Hirai	1977-78
Satoshi Kojima	Zen'ichi Kitamura	Kaneyuki Kurokawa	1979-80
Eizi Sugata	Takashi Kitsuregawa	Hiroshi Yokohama	1981-82
Kenji Ogata	Michiyuki Uenohara	Yoshio Miyagi	1983

July 1972	Tokyo Section Bylaws were enforced.
Aug. 31 - Sept. 1, 1973	3rd Region 10 Meeting was held in Tokyo.
1973	COM, IA and IM Chapters were established.
1974	SMC and EI Chapters were formed.
1975	PHP (CHMT) Chapter was formed.
1975-76	Dr. Hiroshi Shinkawa and Mr.Takashi Nakagawa were elected and served as Director and Secretary/ Treasurer of Region 10, respectively.
1977	MAG Chapter was formed.
1977-79	Prof. Masaharu Okochi was appointed as a member of the Membership Development Committee of the IEEE, and also served as Chairman, MDC of Region 10.
1979	VT Chapter was established.
1980	EMC Chapter was organized.
1981	IT, E, NPS and CS Chapters were established.
1981-1982	Prof. Hiroichi Fujita was appointed and served as Chairman, EAC of Region 10.
1982	GRS, ASSP and IE Chapters were formed.
1983	SIT, SU and R Chapters were established.

	TOTAL	HM	F	SM	M	A	St
1955	50						
1956	72						
1958	230						
1959	315				252		63
1963	573		6	84	252	90	141
1964	666	1	8	105	302	99	151
1965	694	1	10	110	333	98	142
1966	780	1	11	116	407	108	137
1967	870	1	14	127	466	100	162
1968	974	1	16	135	559	95	168
1969	1106	1	18	140	642	107	198
1970	1179	1	21	145	735	109	168
1971	1207	1	25	153	791	112	125
1972	1359	1	28	156	910	109	155
1973	1501	1	33	160	1011	110	186
1974	1717	1	39	167	1262	101	147
1975	1915	0	46	173	1400	99	197
1976	2095	0	51	182	1557	100	205
1977	2184	0	56	190	1684	99	155
1978	2459	0	63	202	1878	115	201
1979	2671	0	72	222	2027	116	234
1980	2844	0	79	242	2206	131	186
1981	3106	0	91	245	2453	128	189
1982	3372	0	100	259	2666	118	229
1983	3664	0	115	292	2900	117	240

HM = Honorary Member,   F = Fellow
SM = Senior Member,   M = Member
A = Associate Member,   St = Student Member

	Chapter	Established	Organizer
1.	MTT	Nov. 1958	K. Tomiyasu
2.	PE	Feb. 27, 1965	Takashi Ohtsuki
3.	C	Feb. 1967	Masaharu Okochi
4.	EMB	March 10, 1970	Toshifusa Sakamoto
5.	ED	1971	Jun-ichi Nishizawa
6.	CAS (originally CT)	April 21, 1971	Yoshio Moriwaki
7.	BCCE (originally BTR)	Oct. 14, 1971	Gentaro Miyazaki
8.	AP	May 15, 1972	Yasuto Mushiake
9.	COM	April 6, 1973	Yasuo Taki
10.	IM	1973	Osamu Nishino
11.	IA	1973	Senichi Masuda
12.	SMC	Aug. 1974	Masaharu Okochi
13.	EI	Nov. 1974	Hideo Okamoto
14.	CHMT (originally PHP)	Jan. 1975	Hajime Sasaki
15.	MAG	June 20, 1977	Yoshifumi Sakurai
16.	VT	July 17, 1979	Morio Akiyama
17.	EMC	June 16, 1980	Risaburo Sato
18.	IT	April 8, 1981	Yasuo Taki
19.	E	July 1, 1981	Hiroshi Kogo
20.	NPS	July 20, 1981	Shiro Hohki
21.	CS	Sept. 18, 1981	Shinzo Kodama
22.	GRS	July 7, 1982	Sadao Fujimura
23.	ASSP	Nov. 19, 1982	Hiroya Fujisaki

	Chapter	Established	Organizer
24.	IE	Nov. 19, 1982	Tung Hai Chin
25.	SIT	Aug. 5, 1983	Hisao Kimura
26.	SU	Aug. 5, 1983	Nobuo Mikoshiba
27.	R	NOV. 14, 1983	Noboru Takagi

1953	Hidetsugu Yagi	1971	Kenzo Nagai
			Tatsuji Nomura
1954	Yasujiro Niwa		Michiyuki Uenohara
1957	Issac Koga	1972	Ichiro Hano
			Masaru Ibuka
1959	Yasushi Watanabe		Toshifusa Sakamoto
			Yokimatsu Takeda
1960	Shogo Namba		Hitoshi Watanabe
1961	Miyaji Tomota	1973	Tamaki Ipponmatsu
			Osamu Nishino
1962	Yoshiro Oono		Sogo Okamura
			Eizi Sugata
1964	Fumio Minozuma		Yasuo Taki
	Kanichi Ohashi		
		1974	Kaneyuki Kurokawa
1965	Kiyoshi Ishikawa		Akio Matsumoto
			Minoru Okada
1966	Hanzo Omi		Shigebumi Saito
	Daigoro Yasukawa		Norikazu Sawazaki
			Hidenari Uchida
1967	Kiyoshi Morita		Sakae Yamamura
	Takashi Ohtsuki		
		1975	Shiro Hohki
1968	Koji Kobayashi		Tadao Kasami
	Shigeo Shima		Hisao Kimura
			Satoshi Kojima
1969	Jun-ichi Nishizawa		Yoshio Moriwaki
	Keiji Suzuki		Juro Oizumi
	Shigeru Yonezawa		Tonau Osatake
			Hiroshi Ozaki
1970	Kazue Kitagawa		Hikotaro Takeuchi
	Hiroshi Shinkawa		
	Shintaro Uda		

1976	Masanao Aoki		Tatsuo Udo
	Izuo Hayashi		Masanobu Wada
	Zen'ichi Kitamura		
	Takashi Kitsuregawa	1981	Koosuke Harada
	Yasuto Mushiake		Tatsuya Harada
	Shintaro Oshima		Hisashi Kaneko
	Hideo Seki		Yoshihiro Konishi
	Tadahiro Sekimoto		Nobuaki Kumagai
			Jin-ichi Nagumo
1977	Kenji Kakizaki		Hiroshi Sakai
	Masasuke Morita		Yasuji Sekine
	Bun-ichi Oguchi		Noboru Takagi
	Risaburo Sato		Susumu Yoshida
	Hisayoshi Yanai		
		1982	Hiroshi Hirayama
1978	Morio Akiyama		Kazuo Iwama
	Hiroshi Inose		Hoshihiro Matsumoto
	Senichi Masuda		Koh-ichi Miyaji
	Kunio Nakanishi		Kiyoshi Nagai
	Kenji Ogata		Atsuyoshi Ouchi
	Yukio Saito		Noriaki Sato
	Isao Someya		Yasuo Tamura
			Toshio Utsunomiya
1979	Toshio Fujisawa		Mitsuyoshi Yamamoto
	Toshihiko Kubo		
	Yukio Nakagome	1983	Suguru Arimoto
	Hideo Okamoto		Takeshi Kawahashi
	Morio Onoe		Nobutoshi Kihara
	Shoichi Saba		Makoto Kikuchi
	Ikuo Tanaka		Genya Kishi
	Teruhiro Umezu		Kunio Mano
			Toru Maruhashi
1980	Noboru Izeki		Tsuneo Nakahara
	Seiichi Kagaya		Akio Ohkoshi
	Shota Miyairi		Takanori Okoshi
	Yoshiei Nakano		Hajime Sasaki
	Masaharu Okochi		Tadashi Sekiguchi
	Yasuharu Suematsu		Takuo Sugano
	Yoshihiro Tohma		Takashi Sugiyama

Shigenobu Wada

Chiyoe C. Yamanaka

1984   Saburo Adachi

George M. Hatoyama

Shigeru Hayakawa

Shun-ichi Iwasaki

Makoto Kanno

Shoei Kataoka

Masao Kawashima

Hiroshi Kikuchi

Hiroshi Kogo

Tadayuki Matsuo

Senri Miyaoka

Hitoshi Mochizuki

Tatsuo Ohtsuki

Gentei Sato

Kunihiro Suetake

Toshifumi Sunahara

Kouzo Suzuki

Muneyuki Udo

Eikichi Yamashita

I. Major Annual Medals.

Founders Medal

. 1972   Masaru Ibuka

. 1979   Hanzo Omi

. 1982   Shigeru Yonezawa

. 1984   Koji Kobayashi

II. Field Awards.

IEEE Award in International Communication

. 1982   Hiroshi Inose

Morris N. Liebmann Memorial Award

. 1961   Leo Esaki

Jack A. Morton Award

. 1983   Jun-ichi Nishizawa

Frederik Philips Award

. 1976   Koji Kobayashi

David Sarnoff Award

. 1982   Nobutoshi Kihara

Nikola Tesla Award

. 1982   Sakae Yamamura

Vladimir K. Zworykin Prize Award

. 1967   Keiji Suzuki

. 1974   Senri Miyaoka

. 1981   Naohiro Goto

. 1984   Yasuharu Kubota and Takehiro Kakizaki

III. Prize Paper Awards.

W.R.G. Baker Prize Award

. 1969   Toshiro Koga

Browder J. Thompson Memorial Prize Award

. 1961   Eiichi Goto

IV. Other IEEE Awards.

Region 10 Student prize Paper Award

. 1968   Yoichi Okabe, Hiroshi Yasuda
          Seiichi Namba   (First Prize)

. 1970   Lin Min Sheng

. 1971   Koichi Ijichi   (2nd Prize)

. 1977   Norio Fujimaki   (Post Graduate Paper)

Region 10 Undergraduate Papers Competition.

. 1968   Hung Chi Lai

. 1973   Toshihiro Miyahara   (2nd Prize)

. 1973   Masaharu Ogata   (3rd Prize)

William B. Tuller Memorial Award.

. 1968   Hideo Ichimura, Akira Kakimoto and
          Bunjiro Ichijo

C.B. Sawyer Memorial Award.

. 1970   Issac Koga

Power Engineering Society Prize Paper Award.

. 1970   Tatsuo Kawamura, Frank C. Creed and
          Gerald Newi

G-IGA Prize Paper Award.

. 1971   Bunjiro Ichijo and Tadanao Ohishi

Communication Society Edwin Howard Armstrong Achievement Award.

        1982   Tadahiro Sekimoto

Communication Society Second Honorable Mention Prize Paper Award

        .1973   Kosho Shibata, Henning F. Harmuth and
                          C. Andrews

Consumer Electronics Group Outstanding Papers Award.

        . 1977   Nobutoshi Kihara, Fumio Kohno and
                          Yoshio Ishigaki

        . 1977   Ryozo Takeuchi, Hiroshi Sawada, Elichi
                          Yanagihara, Kazuo Fujita, Mitsuharu Akatsu
                          and Takeshi Ishizuka

        . 1978   Takeshi Murakami, Yoshihiko Noro and
                          Hiroaki Nabeyama

Vehicular Technology Group Outstanding Papers Award.

        .1976   Noriaki Yoshikawa and Takuya Nomura

History of IEEE Korea Section

Jun. 22, 1974 - Initiation committee has a meeting to form IEEE Korea Section, upon recommendation of IEEE Region 10 Director Dr. F.C. Kohli.

Feb. 26, 1976 - IEEE Korea Section has its inaugural meeting, and passes the bylaws. Dr. Chung H. Lee is elected as Chairman, and Dr. Song B. Park as Vice Chairman.

May. 29, 1976 - First technical meeting organized by IEEE Korea Section (5 papers presented).

Jul. 11-16 - First Summer Short Course sponsored by IEEE.

Aug. 4-7,1978 - First Joint Conference cosponsored by Korea Institute of Electrical Engineers, Korea Institute of Electronics Engineers, and IEEE Korea Section.

May. 9, 1980 - First publication of IEEE Korea Section Newsletter.

Mar. 31, 1982 - A seminar, "How does IEEE help electrical electronics professionals throughout the world?" delivered by the IEEE President, Dr. R.E. Larson.

Jul. 20, 1982 - First Social Meeting.

1885   -   First raiload transportation service and telegram service between Seoul and Inchon.

1887   -   First electric illumination and power generation.

1897   -   First commercial electrical company is established.

1899   -   Introduction of street-car.

1902   -   Intracity and intercity telephone service begins.

1925   -   First commercial broadcasting (during the Japanese domination).

1929   -   First hydraulic power station built (during the Japanese domination).

1956   -   First commercial black and white TV broadcasting.

1959   -   Mass production of commercial radio receiver. Production of automatic telephone exchange system.

1966   -   Mass production of black and white TV receiver.

1976   -   First nuclear power plant is built.

1979   -   Electronic switching system introduced.

1980   -   Color TV broadcasting begins.

        The Yi dynasty (1392-1910) established the Telegram Bureau and began the first telegram service in Korea, between Seoul and Inchon in 1885. In the same year the telegram system linking Seoul and Eujoo (a city in the northwest part of Korea, adjacent to China) was built with the technical assistance of the United States. Two years later, the telegram service was extended from Seoul to Busan (a port city in the southeast part of Korea) with the technical assistance of a British engineer Mr. Halifax. In 1902 the intracity

telephone service began in Seoul and the intercity telephone service began in Seoul and the intercity telephone service between Seoul and Inchon followed it. The production of automatic telephone exchange system began in 1959. And modern electronic switching system is being introduced nationwide since 1979. The advent of electricity in Korea was in 1887, when two arc light bulbs shone the palace of Yi dynasty. It was 8 years after the first invetion of light bulb by Thomas Edison. The Yi dynasty sent a special envoy to the U.S.A. and made a contact with the Edison Electric Corporation. The Edison Electric Company installed two 3 KW steam power generators in the palace. To meet the increasing demend for electricity, the first hydraulic power station at Bujon dam was built in 1929 (during the Japanese domination). The division of the South and North Korea after the World War II, and the Korean War brought extreme shortage of electric power in the South. The electrification of the whole area of the nation is made possible in 1970's. The ever-increasing demand for electricity and the oil shock accelerated the construction of the first nuclear power plant at Kori in 1976. More nuclear power plants are scheduled for construction.

The first test signal for radio broadcasting was aired in 1924 (during the Japanese domination), and next year the commercial broadcasting began. As for the television, RCA Corporation demonstrated the CCTV in Seoul for the first time in 1954. Two years later, the first commercial TV broadcating station using NTSC system aired its program. The production of radio receiver by the Korean industry began in 1959 and that of TV receiver (black and white) in 1966. The color television broadcating had been delayed until 1980, while the color TV receiver had been produced for export in the nation before that. Now 90% of the households in Korea possess the TV receiver.

The railroad transportation service began with the telegraph service in 1885, linking Seoul and a port city, Inchon. The facilities for street-car was built in 1989 by requesting the technical assistance of Japan, and next year they were open to the public

service. To ease the severe traffic congestion,   The first subway
system across the metropolitan area of Seoul was built in 1975. Three
subway lines are under construction.

History of IEEE New Zealand Section and History of Electrical and Electronics Engineering Development in New Zealand

The colonization of the country of New Zealand by British settlers began in earnest about 1850. The history of growth of use of technology which follows coincides therefore with the development of the nation from its beginnings. Present population, about 3 million.

1872 — Telegraphic communication established between the provinces of New Zealand. (Hereafter abbreviated NZ)

1876 — Telegraphic cable communication established between NZ, Australia and the United Kingdom.

1881 — Manual telephone exchange service began in Auckland with just 17 subscribers.

1882 — Private house in Auckland, owned by Moss Davis, is lit by electricity.

1886 — First public supply of electricity to a NZ town (Reefton).

1891 — Public performance in NZ of Edison phonograph.

1895 — First commercial film screening in NZ of motion pictures.

1902 — Cable communication opened between NZ and Canada. Electric street car (tram) service in Auckland began operation.

(In 1907 the colony of New Zealand became a self governing Dominion)

1907 — First wireless communication between NZ and Australia. Opening of coal burning steam driven electric power generating station serving Auckland City.

1910 — Coin in the slot public telephone booth introduced in NZ.

1914 — First hydroelectric generating station operating at Lake Coleridge, transmitting electric power to Christchurch.

Ship to shore radio telegraph service began operation. First high frequency communication link between Australia and NZ (AWA) and Europe (Marconi).

1919 - First installation of an automatic telephone exchange in NZ. First manufacture of power transformers and cables.

1925 - First regular radio broadcast service began in Auckland. First manufacture of radio receivers by NZ industry.

1928 - Two way radio conversation between Dunedin NZ and New York U.S.A. (by Admiral Byrd).

1937 - Suburban electric railway service introduced in Wellington.

1939 - First manufacture in NZ of communications transmitting equipment, radar and radio telephones.

(From 1939 to about 1952 World War II and the post war recovery programme intervened).

1957 - First commercial electric power generated by a geothermal plant at Wairakei, second only in the world.

1958 - First precision approach radar in the world in operation at Wellington airport. Commencement of experimental television transmission in Auckland.

1959 - Electric home appliance manufacture reaches 300,000 units annually, radio receivers 140,000 units. Beginnings of development of industrial electronics and first manufacture of television sets and television equipment.

1960 - First regular daily telecast of television programmes in Auckland.

1964 - Commissioning of electric power transmission link between North and South Islands of NZ by HVDC submarine cable and terminal DC/AC converters (supplied by ASEA).

1971   -   Commissioning at Auckland of an earth   satellite   station
            (supplied by NEC), expanding overseas communication links.

1973 to present

        - Commercial and industrial impact of computer technology.

        What is perhaps not self evident from the   above   100 year
sketch chronology of events is the fact that   New Zealand has long had
a well developed infrastructure of education, transport, telecommuni-
cations and energy services.   Wealth,   as a leading food producing
country,   made possible acquisition of necessary technology from the
advanced technological nations.

        In recent years, affected by world economic change,   New
Zealand has had to embark on development of high technology industries,
suited to its skills and resources, and which include   electronics.
Interest and progress is in specialised   industrial electronics pro-
ducts, as well as applications in the fields of agriculture and medi-
cine.

        To add a human touch to this NZ chronology,   biographical
sketches follow of three persons of distinction having links with NZ,
and who have benefited or contributed to the IEEE at large.

        Earnest Rutherford.   In the year the IEEE   was   founded,
Rutherford was a schoolboy in Nelson New Zealand. He entered Cambridge
University England in 1895 and researched with J.J. Thompson the cha-
racteristics of the conduction of electricity through gases.   His
crowning achievement was the development of the nuclear   theory   of
atoms and the explanation of the structure of the atom. He was awarded
the Nobel Prize for Physics in 1908 and is the father of electronics
as we know it in the science of electrical and electronics engineering.

        L.M. Hancock was the founding architect of the system of
hydro electric generating stations on the rivers and lakes of New Zea-
land. These supply about 80 per cent of the total annual energy con-
sumption of about 25,000 GWh.   Hancock was a far sighted Californian
electrical engineer who visited NZ in 1904   and with a NZ   government

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engineer P.S. Hay surveyed the country for hydro potential.   The national hydro generating system of today has followed substantially the reports of these two men.

W.H. Pickering,   a Fellow of the IEEE and Member of the US National Academy of Engineering was born in NZ in 1910.   He emigrated to the U.S.A. as a youth and studied at the California Institute of Technology.   In 1954 he became Director of the Jet Propulsion Laboratory in California, initiating early satellite projects including Explorer and later, for NASA, the unmanned exploration of the moon and planets by use of guided space vehicles,   a programme which reached its zenith with the Viking mission to Mars in 1976.   Now retired, he visits NZ occasionally and maintains contacts with technical interest groups.

Returning to the historical sketch,   in the past 15 to 20 years there has been a marked increase in trade and industrial   co - operation between countries of the Asia-Pacific region.   Growth of membership in the IEEE has been a result.   New Zealand is a small remote country of the region and historically has always had   close and traditional ties with the United Kingdom.   On a comparison with other countries the NZ contribution has been slower to   develop but this does not lessen the importance of the progress   that has been made, and prospects for the future.

A New Zealand Section of the IEEE, initially with just 50 members, was established early in 1968 following an earlier formation of a Tokyo Section in Japan.   Many of the 50 members,one was the late Sir John Allum a benefactor and former mayor of Auckland,   had been members of either the AIEE or IRE, the two societies which merged to form the IEEE a few years before.

The petition organizer for the new Section in NZ,   Robert Adams, had no easy task in filling the petition,   because when first contemplated the number of members resident in NZ   was   below   the necessary 50.   Also, because members had addresses scattered throughout NZ, circulating a petition for signature was an   exercise in it-

self. The regional director appointee at the time of seccessful section establishment was Dr. Shigeo Shima of Tokyo, formerly with NHK and for some time now executive adviser with the Sony Corporation. In a congratulatory letter he expressed his delight at having another IEEE Section in his care.

The founding officers of the New Zealand Section were, Robert Adams Chairman, Earnest Davenport Vice Chairman, David Joseph Treasurer, David Hutt Secretary.

The technical meetings in Auckland which followed were on occasions held conjointly with other technical and scientific interest groups and newsletters were introduced to keep contact with members remotely situated, which included the South Island of New Zealand.

The NZ IEEE Section became a co-sponsor of the annual national electronics conference (NELCON) in 1969 and supported the idea of a standing joint committee of participating societies for the purpose of planning the conference from year to year, an arrangement which still stands. A very successful joint electronics conference was held in 1970 with the Prime Minister visiting an IEEE exhibit which had been arranged to promote membership interest, and to promote co-operation with other societies.

Earlier hopes of like participation in a national power conference have not eventuated, this is a less vigorous technology.

The first visit by an IEEE President, namely Robert Tanner, took place in June 1972. He met IEEE members in Auckland and in Christchurch and meetings were arranged between Mr. Tanner and the officers of kindred societies for the purpose of extending cooperation and understanding.

In 1974 the first technical chapter was formed, namely that of the Industry Applications Society.

In 1975 Robin Harrington of Christchurch approached the executive of the NZ IEEE Section with a proposal that a South Island

NZ Section of the IEEE be established. The proposal could not proceed at the time because there were fewer than 50 members in the South Island. At a subsequent election of officers Robin Harrington became Vice Chairman of the existing New Zealand Section.

In 1978 he put forward a first petition for a South Island Section. This petition was finally approved in 1979 after a boundary adjustment which divided the New Zealand membership into two sections, namely.

a New Zealand North Section
and a New Zealand South Section

In 1980 approval was granted by the IEEE for the establishment of a Council encompassing the two Sections.

The founding officers of the NZ IEEE Council were, David Hutt Chairman, Peter Hartill Vice Chairman, Robin Harrington Secretary - Treasurer, Marray Johns.

Since 1970 Sections have been instrumental in arranging visits to New Zealand of several distinguished speakers in the computer, medical and communications fields of interest.

Council and Section officers have been pleased to receive visits by IEEE Presidents in 1972, 1976, 1978, 1981 and 1983.

Sections have made an arrangement with the national engineering society IPENZ whereby they share participation in regular monthly electrotechnology meetings.

ILLUSTRATIONS

1. Photograph of Earnest Rutherford.

2. Photograph of William Pickering.

3. Panoramic View of Wairakei Geothermal Power Station when first commissioned in 1958.

    This station, now 25 year old and rated at 140 megawatt, generates nearly 5 per cent of all the power generated in New Zealand.   The station is still in perfect working order with no fall off in the available geothermal energy. It is the sixth largest generating station in a country which depends mainly on hydro electric sources.

4. Photograph of New Zealand IEEE Section Promotional Exhibit taken in 1970 with two founding officers of the Section present.

    At left :   David Hutt Secretary 1968

    At right: Robert Adams Chairman 1968

1. Photograph of <u>Earnest Rutherford</u>
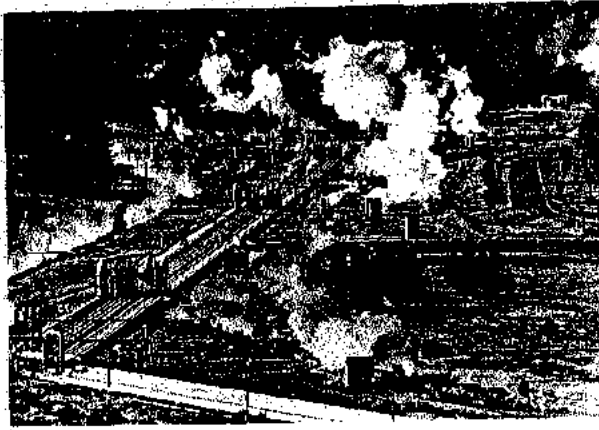
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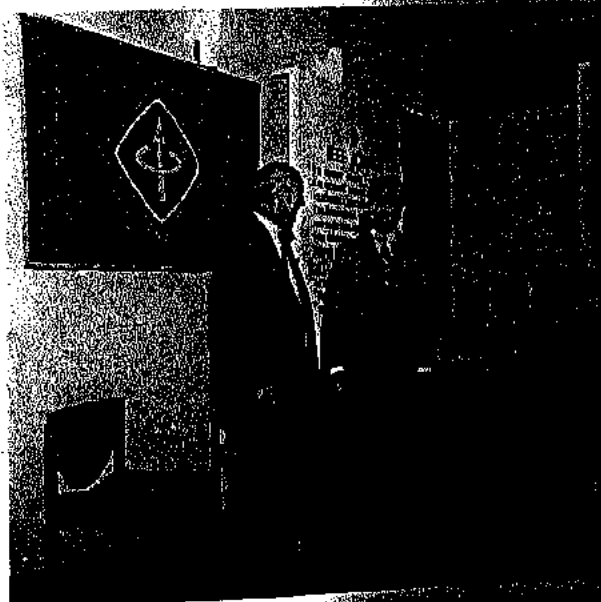
History of IEEE Pakistan Section

Since 1947when Pakistan was created, with two wings, East & West Pakistan, there were a couple of members of IEEE located in this area.

Upto 1968 there were more than one hundred members residing in both East & West Pakistan. More in West Pakistan especially in the town of Lahore, the capital of West Pakistan, a central place of Electrical activities. Lahore is also the Head Office of Water and Power Development Authority, the biggest utility company of the country. The IEEE members residing in Lahore felt the need of having a common forum for arranging technical meetings and seminars to increase their technical knowledge.

In accordance with IEEE by-laws collection of petitions for establishing a Pakistan Section was taken in hand. Since members of IEEE were scattered all over the country it took quite some time to collect the requisite member of petitions from IEEE members. The entire process of collecting of petitions and submitting them to Head Office was carried out for a couple of months by WAPDA's Director Mr. I.D. Arshad and an American expatriate engineer Mr. Larner, who later on became Fellow of the IEEE. Therefore a special resolution was approved for the establishment of Pakistan Section in 1968. Then Mr. I.D. Arshad was appointed as Chairman of the Section on adhoc basis to conduct elections for the officers of the Section. As a result of elections Mr. S.M. Akbari became the first Chairman of the Section for the year 1969.

Framing of the constitution of Pakistan Section was then taken up which was approved by the Regional Director and IEEE Executive Committee in 1970. With the establishment of the Section in this country many benefits started accruing to the members living in this area. Technical meetings were regularly held almost every month at which papers were contributed by prominent engineering and IEEE members. To encourage the enrolement of new members it was resolved by the Pakistan Section for allowing them the facility of payment of a

part of their dues in rupees - IEEE Headquarters agreed to accept but 10% of the annual dues in local currency. This amount was used in turn by the local section to meet with the expenses of arranging technical meetings, seminars and for conducting membership publicity campaign.

Incidently Pakistan Section became one of the pioneer Section in Region-10.

Mr. S.M. Akbari remained Chairman of the Section upto 1972.

In 1973, Mr. S.M. Vehra was elected Chairman to succeed Mr. Akbari who remained in this position for about six years after repeated elections. The Region-10 Committee proposed an amendment to the PAKISTAN Section Constitution restricting the tenure of office of the Section to a maximum of three years which amendment was accepted by Pakistan Section and provided as such in the Constitution.

During this period members residing in Karachi, a big port city of Pakistan petitioned to form a sub-section which was accepted.

In 1978, Mr. I.D. Arshad was elected Chairman of the Section when the total membership of the Section was increased to 135. This number had gone much below 100th mark after the separation of East Pakistan in early seventies when Bangla-desh was created. Due to extra efforts put in by the officers of the Section and active support given by Director Region-10 the membership compaign was further speeded up. It was in late seventies that Karachi became a fulfledged section. Karachi as aforesaid is the biggest port town of Pakistan, situated some 1000 km from Lahore. Now Pakistan has two sections one in Lahore and one in Karachi.

Due to untiring efforts and dedication of Mian S. Hasan, previous Vice-Chairman, Secretary and Treasurer of Pakistan Section, Karachi sub-section was raised to Section level in 1982 when Dr. R.E. Larson the President of IEEE formally inaugurated. A student branch at the University of Engineering and Technolog Lahore was also inaugurated by him in 1982. In Dr. Larson's remarks, he rightly mentioned Mr. Hasan as godfather of Karachi and Pakistan Section.

Mian Saleem Hasan the present Section Chairman was elected to this post in 1982 and was re-elected in 1983. Due to his efforts and his colleagues working in the section Executive Committee a chapter of IEEE has been set up in the local University of Engineering. More than sixty students member have been enrolled and the overall membership of IEEE in the country has crossed the 200 mark.

Both Karachi and Pakistan Sections are actively engaged in the engineering profession and are collaborating with other national professional institutions in arranging symposium, technical lectures and seminars of national importance.

History of Electrical and Electronics Engineering Development in Pakistan

Pakistan consists of four provinces namely Punjab, Sind, North West Frontier and Baluchistan and has an area of 310,403 square miles which is surrounded in the north by the Himalayan Range and a narrow area of Afghanistan separates Pakistan from Russia.The southern territory of Sinkiang and Tibet border Kashmir in the north and east. On the west, low dry hills separate Pakistan from Afghanistan and to the south in Baluchistan it has a long common frontier with Iran. On the east are the Indian states of Punjab and Rajasthan and the Arabian Sea Lies in the south of the country. Basically Pakistan is an agricultural country and possesses one of the most developed irrigation systems in the world.

At the time of independence in 1947 there was little activity in the field of engineering industry in Pakistan. In the field of power, important towns were fed with local DC diesel generators. The first hydroelectric power station of 20 MW capacity was commissioned in 1948 at Malakand-Dargai in the north West Frontier. The first 132 KV transmission line was commissioned in 1952.

In order to meet the magnitude of work required for the development of country's water and power resources on a multipurpose basis, an organisation called the Water and Power Development Authority (WAPDA) was set up in 1958. The Charter of Duties of WAPDA included the generation, transmission and distribution of power, irrigation and reclamation of water logged and saline lands and flood control and inland navigation.

One of the largest rock fill dams in the world i.e., Mangla Dam, was built in 1967 having a live storage capacity of 5.34 MAF. Built across the mighty river Indus, Tarbela Dam world's largest earth fill dam was built in 1975 having a gross storage capacity of 11.3 MAF. Pakistan now has an installed capacity of more than 4000 MW. being managed by WAPDA and Karachi Electric Supply Company. Pakistan today is the only country in Asia outside Japan to have a 500 KV extra

high voltage transmission line in use to transfer cheap hydel power generated in the north to make consumption centres in the south. The first link was commissioned in 1976.

Electronics both as a science and as a technology has in Pakistan remained a neglected subject before Independence. The subject of electronics was not taught in any college or university. The courses of electronics were introduced in the universities in 1954 and a regular electronic engineering degree is now being awarded by two engineering universities. Engineering universities now offer M.Sc courses in electronics as well as in computer and control engineering in addition to power engineering. From 1974 admission to Ph.D. courses has also been started at the Lahore Engineering University.

In the Telecommunications sector, Telephone Industry of Pakistan and Carrier Telephone Industry was established in 1954 and in 1970 for the manufacture of telephone equipment and carrier equipment respectively. The first microwave link between Karachi and Islamabad was commissioned in early sometimes. The present capacity of 200,000 telephone lines is being extended in the Sixth Five Year Plan when many electronic exchanges will be introduced in the country. The Government of Pakistan has established National Radio and Telecommunication Corporation as well as National Institute of Electronics responsible for R & D research. In the private sector some firms have established to produce electronic components for radio and allied industries in Pakistan.

Pakistan made her debut in the world of nuclear power generation by commissioning 137 MW Karachi nuclear power station in 1972. The second nuclear power station of 600 MV capacity is proposed to be installed by 1968. Because of present poor domestic oil production and very large import bill for fuel it is essential to use nuclear energy technology for the overall development of Pakistan.

The Government of Pakistan has made up a colossal plan to electrify rural areas and villages during Sixth Five Year Plan. More than 22 thousand villages have been planned to provide electricity in the Plan

In the field of manufacture of electrical equipment, the Pakistani industry is confined to the manufacture of conductors,transformers, switchgears and control gears, electricity meters,PVC cables, insulators, generators and electric motors and has achieved self-sufficiency in many branches.

In the field of fertilisers and cement industry there are more than 20 plants working all over Pakistan producing various types of fertilisers and cement. Five different organisations are manufacturing and assembling various type of tractors in Pakistan. In the field of transportation, cycles, motorcycles and small cars are being manufactured and assembled in Pakistan.

There are more than 17 radio stations working in Pakistan for which nearly 90% of the equipment has been manufactured in Pakistan. Colour television transmission is covering more than 90 % area of Pakistan. The first television station was commissioned in 1963.

Pakistan is also manufacturing small ships upto capacity of 5000 tons at the Karachi Ship Yard. One of the largest Steel Mills in Asia has also been commissioned recently near Karachi with the assistance of Russian Goverment.

For the tourist attraction, a Karakoram High-Way has been constructed between the borders of China and Pakistan reaching the height of more than 14000 feet at many places, in the northern areas of Pakistan. This is considered to be one of the most important engineering feat of twentieth century.

History of IEEE Singapore Section

The IEEE Singapore Section was officially formed on June 8, 1978 and the first Annual General Meeting was held on September 9, 1978. At its time of formation, there were a total of 153 members. This figure grew by leaps and bounds to peak at 799 at the end of 1982. For this impressive membership growth, it was recorded in the annals of IEEE that the Singapore Section registered the largest growth in Region 10 for the period September 1 to December 31, 1982. and was ranked seventh in the world.

Papers contributed by the Singapore Section for the Region 10 student paper contest clinched the top spot in the undergraduate section in 1982 and the second place in the graduate section in 1983.

In November, 1982, a student branch of the Section was set up at the National University of Singapore to look after the interests of the electrical engineering students at this premier institute of higher learning in Singapore. At the end of 1983 a Computer Chapter was approved.

Among the activities undertaken and organised by the Section were:

(a) Publication of a quarterly newsletter, "Smoke Signals", the first issue of which was launched in September 1980.

(b) Educational visits to industrial sites and installations of interest to electrical engineers (e.g. Hewlett Packard factory, Communications Satellite Earth Station, Flight Simulation Centre).

(c) Continuing education programmes (e.g. courses on microprocessor applications, lightwave communications).

(d)　Lectures and seminars by invited speakers from　over-
　　　seas.

(e)　Membership development.

　　　The Section is presently involved in the preparations for
TENCON '84 which is to be held in Singapore from April 17-19, 1984.

History of IEEE Thailand Section

In 1977, Mr. Soonthorn Chengpiphat initiated of the setting up the IEEE Thailand Section by gathering the signatures from IEEE members in Thailand and forwarded to IEEE Headoffice for approval. IEEE approved the petition in November 1977.

In 1978, Dr. Ivan Getting contacted Mr. Jack Bailhe and Mr. Sanay Sridaranop to follow up the formation of the IEEE Thailand Section, and they have got in touch with Mr. Kamthon Sindhvananda who is a senior member to proceed the establishment of IEEE Thailand Section. In the same year, Mr. Paul Carroll, the Director of IEEE, visited Bangkok to assist the formation of the Section. The informal meeting was held between Mr Jack bailhe, Mr. Kamthon Sindhvananda, Mr. Surasak Senawong, Mr. Sanay Sridaranop, Mr. Soonthorn Chengpiphat and Mr. Charmon Suthiphongchai.

In April 1979, the eighteen persons from thirteen different organizations and institutes attended the meeting at Erawan Hotel, and Mr. Kamthon Sindhvananda expressed his intention to promote the membership in order to support the activities of IEEE Thailand Section when it is set up. In May 1979, Mr. Charmon Suthiphongchai made a business trip to U.S.A. and was asked by Mr. Kamthon Sindhvananda to visit IEEE Headoffice to discuss the procedures and activities of the Section.

During September 11-12, 1979 the President of IEEE, Dr. Jerome J. Suran and Executive Director and General Manager, Mr. Eric Herz visited Bangkok. And Dr. Jerome J. Suran made a presentation on "A Perspective on Modern Integrated Electronics" on September 12,1979.

Temporary Chairman of IEEE Thailand Section, Mr. Kamthon Sindhvananda, joined the IEEE Region 10 Committee Meeting held in Penang during 14-15 September 1979.

On 26 November 1979, the first General Meeting of IEEE Thailand Section was held and Mr. Kamthon Sindhvananda was elected as the Chairman, Mr. Prayong Ansusinha - Vice Chairman , and Mr. Charmon

Suthiphongchai - Secretary/Treasurer to be Section Officers for the year 1980.

Thailand Section By-laws were prepared by the Executive Committee and approved by the Region 10 Director in 1980.

During 1980, eight technical meetings and one social meeting were arranged. Most technical meetings were co-operated with Faculty of Engineering, Chulalongkorn University.

On May 16, 1980, the IEEE Thailand Section's library was set up at the Faculty of Engineering, Chulalongkorn University.

1981 Officers, Mr. Kamthon Sindhvananda, Mr. Prayong Ansusinha, Mr. Charmon Suthiphongchai were re-elected to be Chairman, Vice-Chairman and Secretary respectively, and Mr. Vigrom Chaisilthop was elected to be the Treasurer.

A full program of technical meetings was arranged in co-operation with the Engineering Institute of Thailand and Faculty of Engineering, Chulalongkorn University.

On March 20-21, 1981, Dr.V.P. Kodali, the Director of IEEE Region 10, paid a visit to Thailand Section and he discussed with officers and some executive committee members concerning the arrangement of the Regional Committee Meeting.

Region-10 Committee meeting was held on September 19 - 20, 1981 in Bangkok. The IEEE President, Dr. Richard W. Damon and Executive Director, Mr. Eric Herz and Dr. James Owens attended this meeting. About thirty members from India, Australia, New Zealand, Pakistan, Hong Kong, Japan, Korea, Malaysia, Philippines, Singapore and Taiwan joined the Committee Meeting.

1982 officers were the same as the year 1981 and eight technical presentations were arranged by Program Committee.

Dr. Robert E. Larson, President of IEEE paid a visit to Thailand during July 30 - August 1, 1982.

Mr. Kamthon Sindhvananda retired at the end of 1982 and the elected Chairman for 1983 was Mr. Amnuay Udomsilpa, the Vice-Chairman was Mr. Suarsak Senawongse, Secretary was Mr. Kasem Kularbkaew and Treasurer was Mr. Bhisit Anantasanta. The officers continued at the same position for the year 1984.

The activities of the Thailand Section during the past four years were active eventhough the IEEE members are only one hundred and thirty. The Section is trying to promote the number of members and it is gradually increasing.

History of Electrical and Electronics Engineering Development in Thailand

1875 - Simple Morse System Telegraph Service was established for the first time in Thailand, with connection between Bangkok and Saigon in Indochina.

SINGLE-CURRENT DUPLEX.
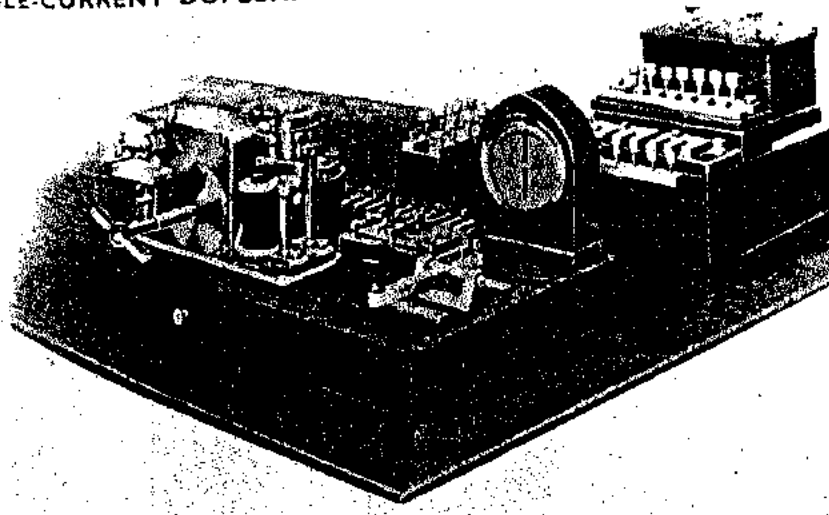
Simple Morse System Telegraph

1881 - Magneto telephone service was introduced and operated between Bangkok and the seaboard province of Samutprakarn.

1883 - Telegraph service was publicly opened, with connection between Bangkok and Moulmein in Burma.

1890 - Electric lighting was first started in Bangkok by a Siamese nobleman.

1897 - Bangkok Electric Light Syndicate was granted a concession for public streetlighting.
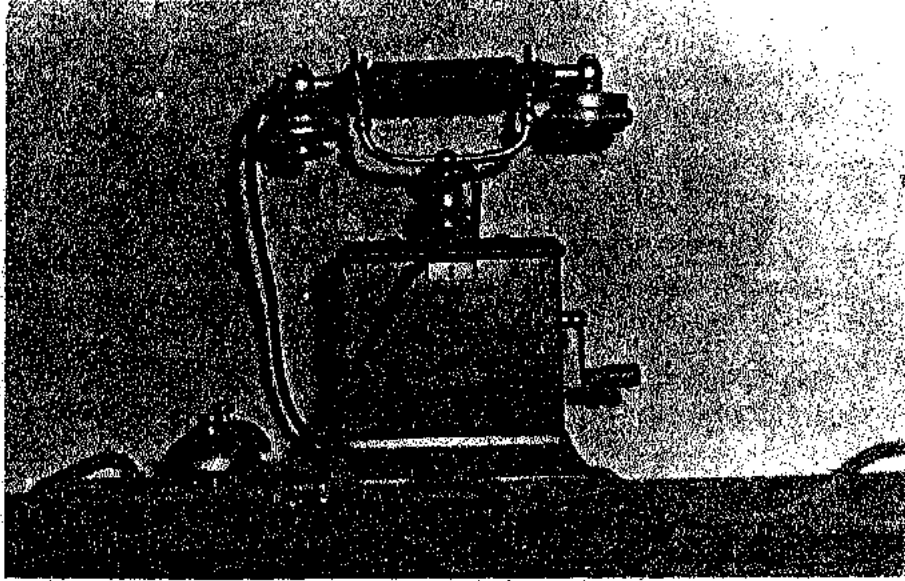
Magneto Telephone

1901   -   Siam Electricity Co., Ltd.   set up a power station at   Wat
           Lieb, using paddy husk as main fuel,   probucing three-phase
           50 - Hz 3600 - volt alternating current,   The transmission
           of electricity was by high tension   overhead   lines   with
           transformers to transform the high voltage to 100 volts for
           lighting purpose and 175 volts 3 - phase for power.

1902   -   Facsimile was developed and radio service inaugurated.

1912   -   Public telephone service was made available. Morse Code for
           the Thai language was completed.

1913   -   Radiotelegraph service came into existence.

1914   -   The government-run Samsen Power Station was commissioned.

1927   -   Public Radio Station was set up.

1928   -   Radiotelegraph service was inaugurated between Bangkok   and
           Berlin.
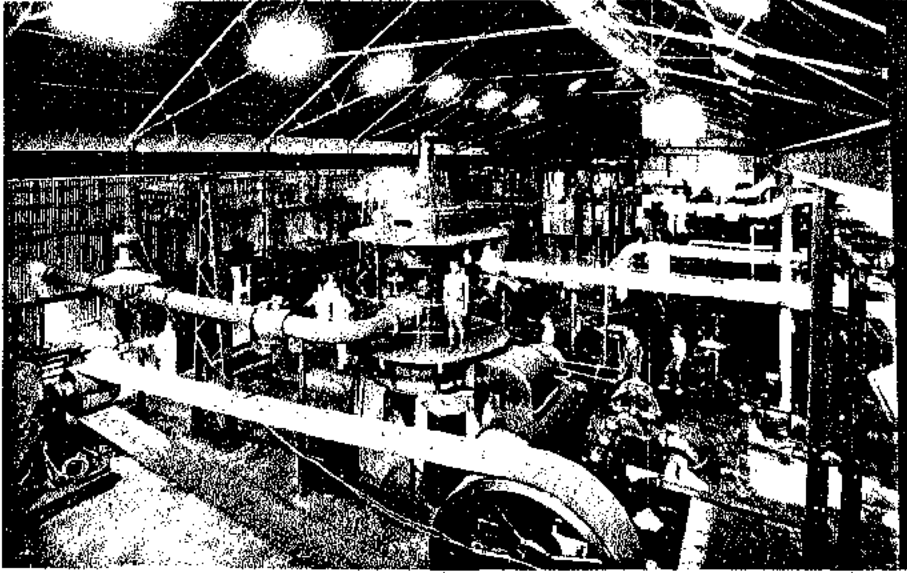
Wat Lieb Power Station
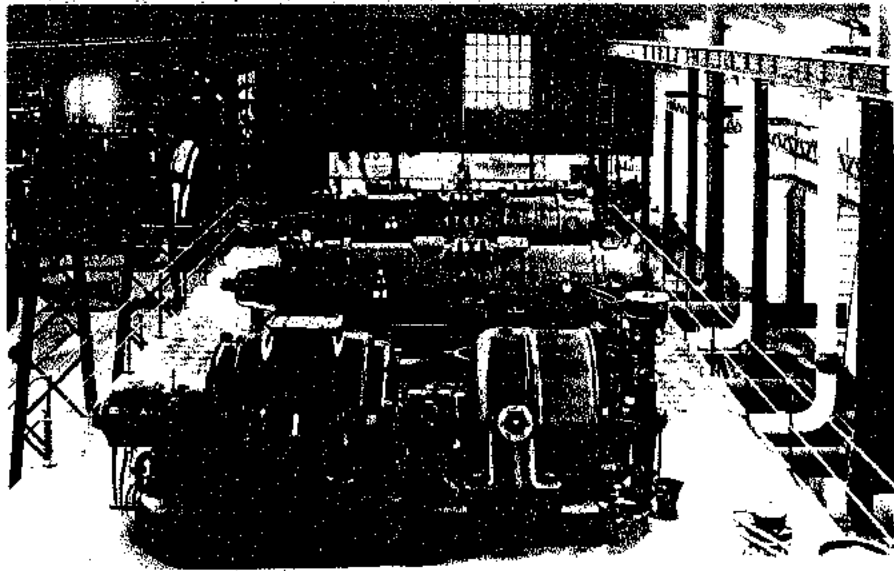
Wat Lieb Power Station

1930   -   Nakornpathom is the first provincial town that was electrified.

1931   -   First document facsimile service was inaugurated.

1937   -   First automatic dial telephone system service was inaugurated.
       -   First radio service commissioned.

1948   -   Unit record was used for census purposes.

1953   -   Thai teleprinter was invented by a Thai engineer,
          Mr. Smarn Punyaratabhandhu.

1954   -   Thai-Roman teleprinter was developed by a Thai engineer.
       -   Television, 525 lines, was first commissioned in Bangkok.

1957   -   The First 5 - Year Power Distribution System Improvement and Expansion Project was implemented, to increase the capacity from 80 MW to 250 MW for the Bangkok Metropolis.
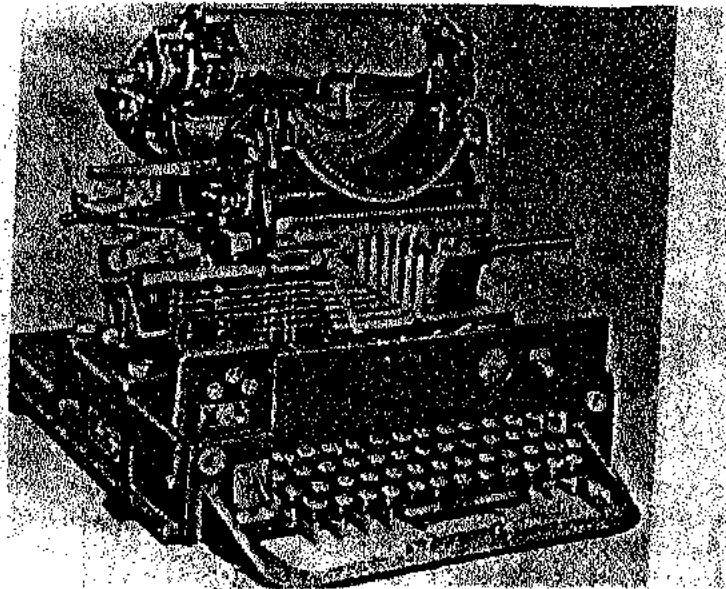
Thai Teleprinter

1958   -   Computers available for scientific use in Bangkok. Television, 625 lines, was commissioned.

1959   -   A 69/12 KV Distribution Substation was constructed, close to the load center. The old 3.5 KV primary feeders were replaced by 12 KV feeders.

1961   -   The first steam power plant, 75000 KW, at North Bangkok, was completed and commissioned. Two more generating sets of 75000 KW and 87500 KW were added to this plant in 1963 and 1968 respectively.

        -   Automatic Request (ARQ), Microwave with multiplex, Telex Exchange, Telex Service, and lease Telegraph Circuit were commissioned.

1962   -   Overseas telex service was inaugurated.
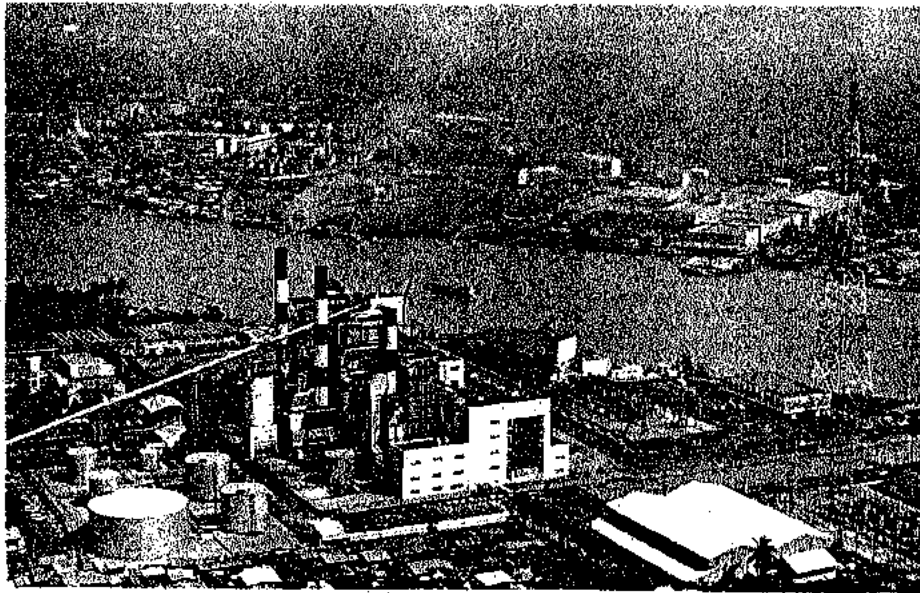
North Bangkok Power Plant

1963   – First phototelegraph service available.
        – Computers used for business undertaking.

1964   – The Bhumibol Dam, the first largest multi-purpose concrete-arch dam in South East Asia, was built across Mae Ping tributary in the northern province of Tak. The Hydro - Power Plant at the dam has seven generating sets with total capacity of 550,000 KW.

        – Voltage conversion from 110 V to 220 V was conducted in the metropolitan area for the purpose of reducing energy losses. The first 230,000 volts transmission lines were energized.
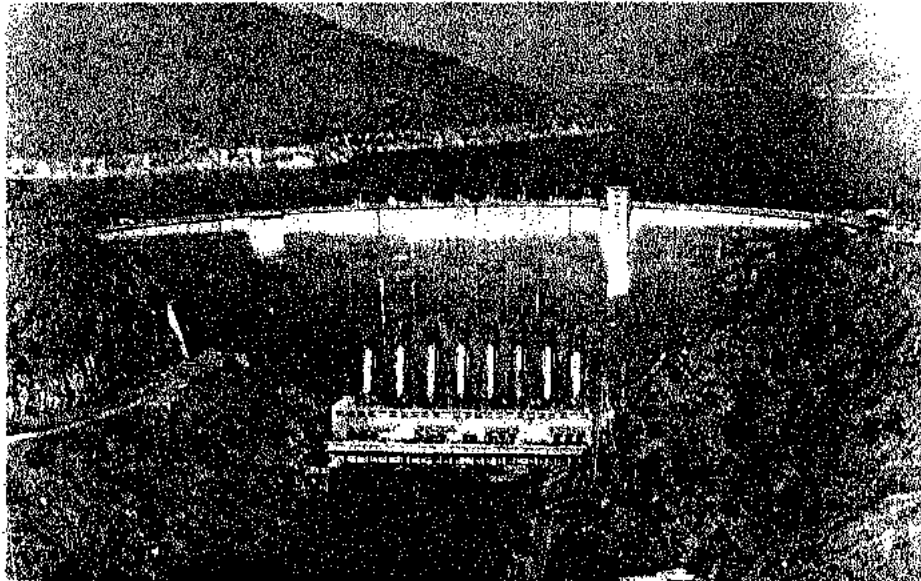
Bhumibol Dam

1966   – Single side band radio (high frequency) was commissioned.

1967   – Ground station (mobile) for satellite in service.

1968   – Ground station (stationary) for satellite commissioned.

- First gas-turbine generating set at South Bangkok Power plant in service.
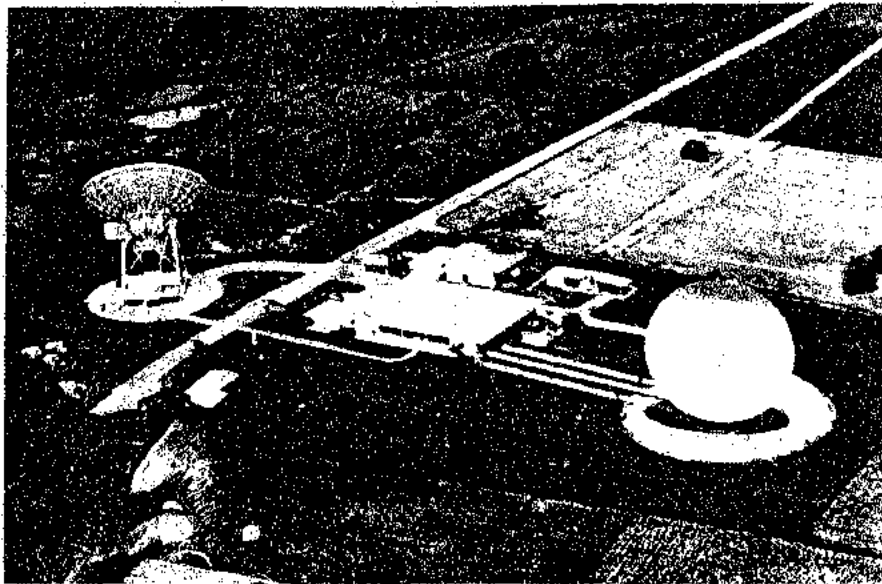

Ground Station for Satellite

1970 - A large steam power plant at South Bangkok was built, with five thermal units having total generating capacity of 1,300,000 KW. Two units of 200,000 KW and Three units of 300,000 KW each were commission in 1970, 1971, 1974, 1975 and 1977 respectively.

1971 - First crossbar switch for telephone exchange was commissioned.
- Radio paging service inaugurated.

1972 - Personal telephone mobile radio service inaugurated.

1973 - Data Transmission service inaugurated.

- Alternative voice and data service inaugurated.
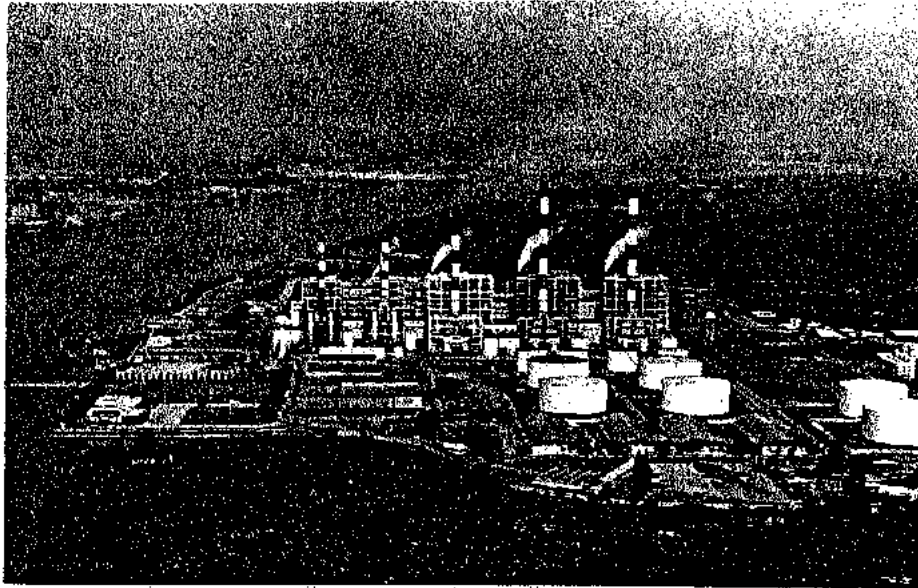
South Bangkok Power Plant

1975   -   First display terminal for Thai characters inaugurated.

1978   -   Computer-base message switching system for automatic message switching center (MSC) service inaugurated.   On-line system for Computer was used.

1981   -   230,000 volt Underground Oil Filled Cable in service.
        -   International subscriber dialing for telephone commissioned.

1982   -   Telex service, Multi-access, inaugurated.

1983   -   Telex service, Time Division Multiplex Access, inaugurated.

        -   Automatic Teller Machine inaugurated.

        -   The first Fiber Optic Transmission System was installed between Toong Song and Ranpibul in the southern part of Thailand, covering a distance of approximately 23 Km.

        -   Store Program Control Digital Switching System for Telephone was commissioned.

- A large combined cycle power plant was set up at Bang Pakong, Chachoengsao, about 11 Km from the Gulf of Thailand. The plant is equipped with eight 60,000 KW. gas - turbine units, two 120,000 KW steam turbine generating units combined cycle, and two 550,000 KW thermal units with overall installed capacity of 2,920,000 KW.
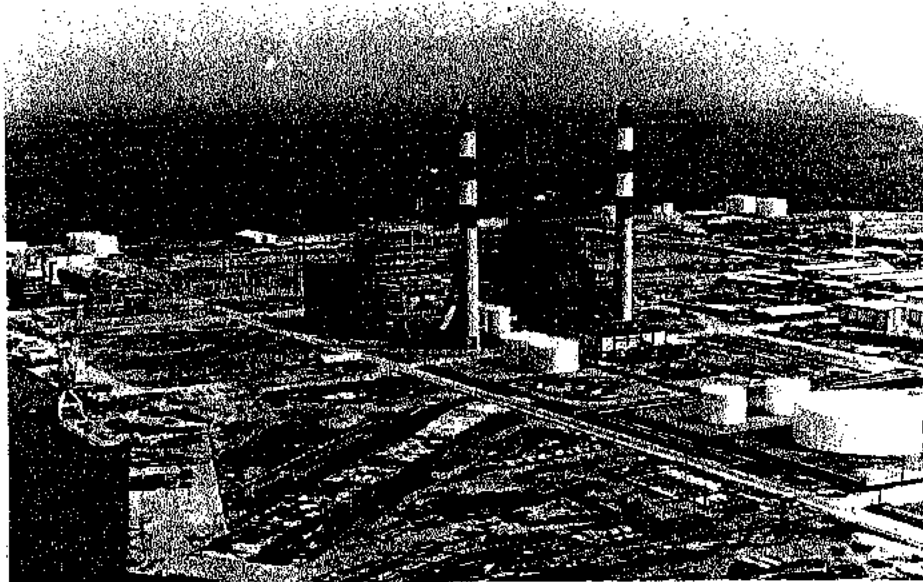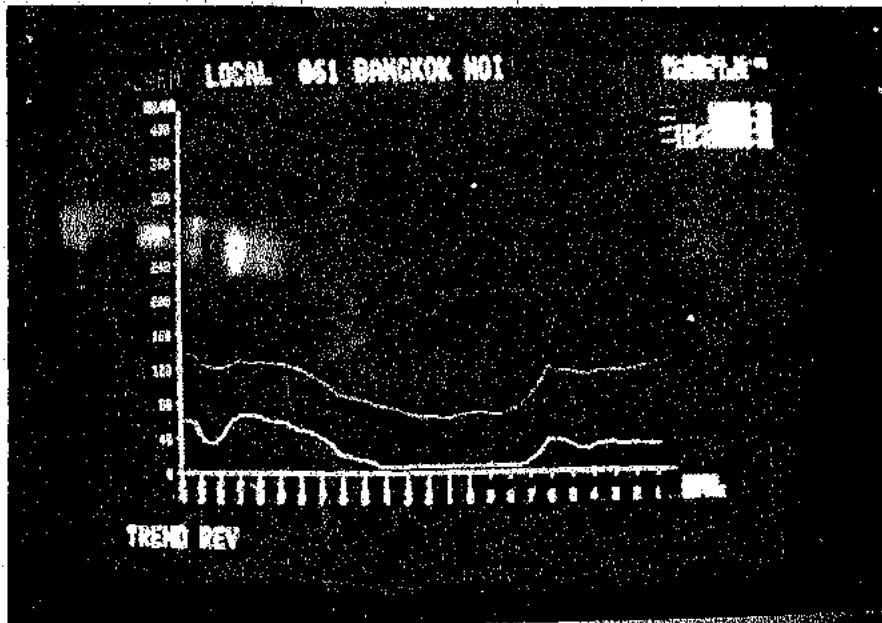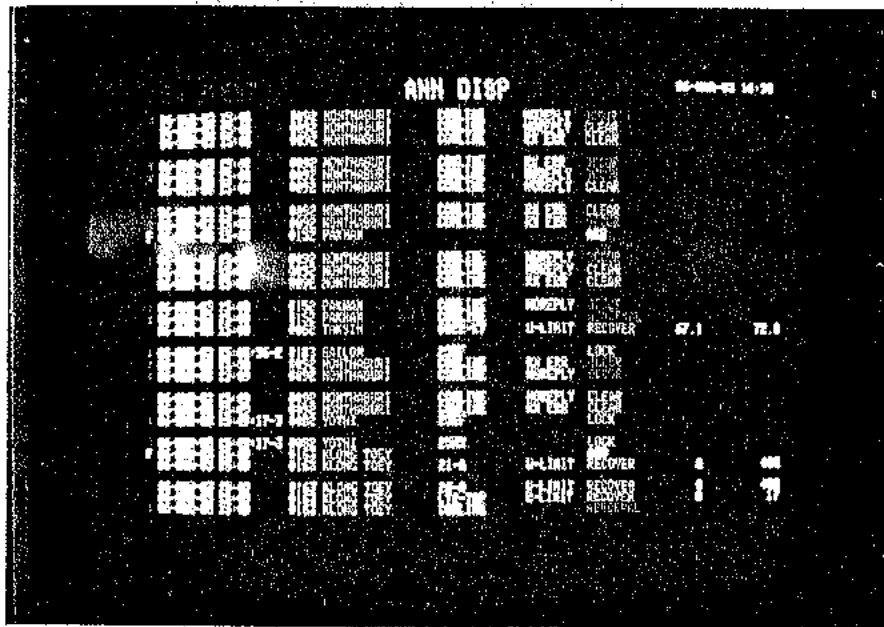

Bang Pakong Power Plant

- Supervisory control and data acquisition system (SCADA) was established, with the master station located at Chidlom Road. The master station, with appropriate modes of communication link, covers 47 outstations or remote units in the first stage and 80 outstations in the final stage.
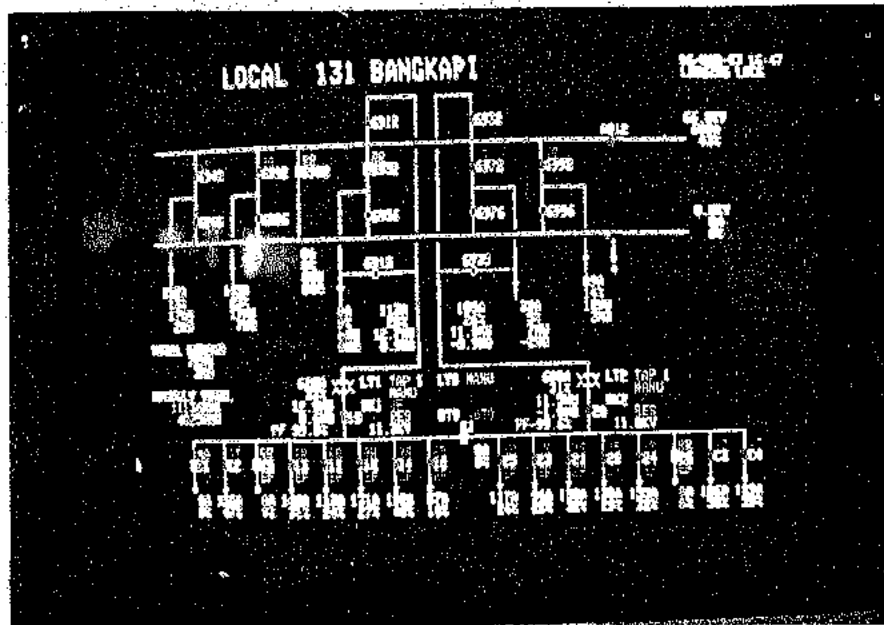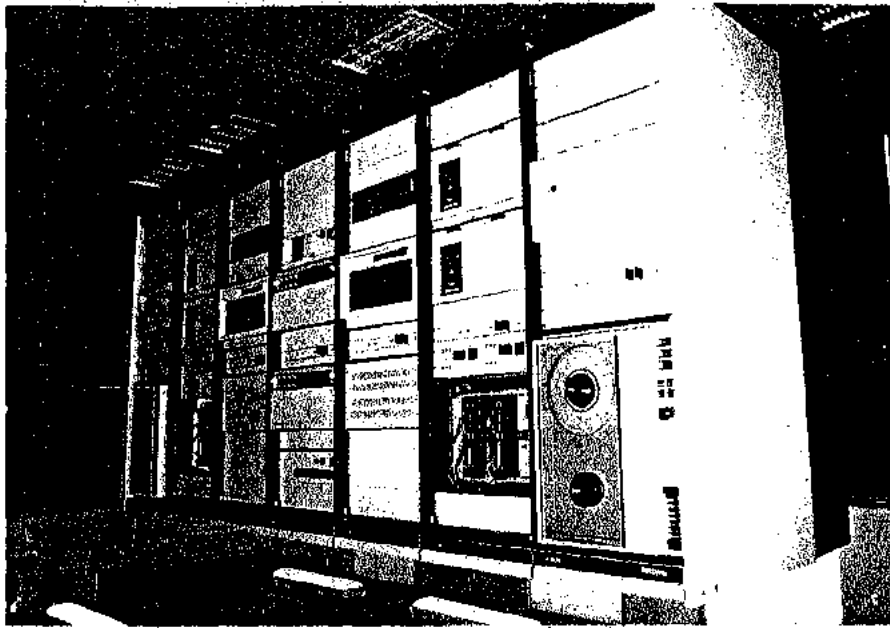
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SCADA Control Room

Visual Display (Power Trend)

Visual Display (Event Logging)

Visual Display (Power Supply Status)

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LIST OF CENTENNIAL MEDAL AWARDEES
WITHIN REGION

Australia Section

I.P. Bates
Louis W. Davies
R.H. Frater
Douglas G. Lampard
Hugo K. Messerle
Peter I. Somlo
A.W. Tyree
James J. Vasseleu

Bangalore Section

K.P.P. Nambiar
S.G. Ramachandra
H.N.R. Rao
R. Manick Vasagam

Bombay Section

T.V. Balan
F.C. Kohli
D.N. Purandare
Kirit J. Sheth
H.S. Sonawala

Calcutta Section

J.S. Chatterjee
S.D. Chatterjee
H.C. Guha

Delhi Section

R.K. Arora
Sanyam V. Juneja
V. Prasad Kodali
K.B. Subramanian

Hong Kong Section

Ramon C. Barquin
Tien-Chi Chen
Hak Ming Fung
Sing Yui King
Wai S. Leung
Ronnie K.L. Poon
Joshua S. Wong
Warner S.Y. Yeh

Karachi Section

Azmat Hussain
Shahmir Khan

Korea Section

Byung Chan Kim
Johng R. Kim
Myoung S. Ko
Chung H. Lee
Song B. Park

Maoras Section

Morarji V. Chauhan
V. Pappu
A. Srinivasan
R. Sundararaman

New zealand north Section

David R. Hutt
Henry A. Whale

New zealand south Section

Robin M. Harrington
Robert M. Hodgson
William Hughes

Pakistan Section

Mohammad I. Ud Din Arshad
Mian S. Hasan
Mohammad S. Vehra

Singkapore Section

Heng-Choon Chan
Chai-Heng Kam
Choo-Phui Lam
Ah-Choy Liew
Peter Pang

Taipei Section

Hien-Chee Fang
Irving. T. Ho
Ching-Chun Hsieh
Jih Chen Ma

Thailand Section

Kamthon Sindhvananda
Charmon Suthiphongchai
Amnuay Udomsilpa

Tokyo Section

Koji Kobayashi
Satoshi Kojima
Fumio Minozuma
Kiyoshi Morita
Tatsuji Nomura
Hanzo Omi
Toshifusa Sakamoto
Shigeo Shima
Hiroshi Shinkawa
Eizi Sugata
Noboru Takagi
Miyaji Tomota
Sakae Yamamura

The list does not include Region 10 awardees that will be receiving a Centennial Medal through another IEEE entity. (e.g. Society, Board of Directors)

History of Electrical and Electronics Engineering Development in HONG KONG

1871   -   The 1st British submarine telegraph cable laid into Hong Kong.

1882   -   The 1st manual telephone exchange opened on Hong Kong Island.

1889   -   The Hong Kong Electric Co., Ltd. (HEC) incorporated with authorized share capital of HK$ 300,000.-

1890   -   HEC Wanchai Power Station commissioned with installed capacity of 100 kw.

1901   -   The China Light & Power Co., Ltd. (CLP) incorporated with authorized share capital HK$ 200,000.-

1903   -   CLP Chatham Road Power Station commissioned with installed capacity of 225 kw.

1930   -   Telephone exchanges were replaced by an automatic system using Strowger electro-mechanical equipment.

1931   -   The first trunk cable was completed and telephone service to Canton opened.

1938   -   The Cable & Wireless (H.K.) Ltd. provided VHF and UHF service.

1950   -   The Cable & Wireless (H.K.) Ltd. provided HF service.

1963   -   The first computer, an NCR 315, was installed at China Light & Power Co., Ltd.

1965   -   The first commercial computer service bureau was established by NCR.

1965   -   The SEACOM submarine telephone cable opened for international telephone calls.

1967	–	Cable & Wireless (H.K.) Ltd. installed the Tropospheric Scatter System linking with Taiwan.
1969	–	First Satellite Earth Station HKI for Pacific Ocean Region
1970	–	The first semi-electronic telephone exchange was brought into service.
1971	–	The first minicomputer and microcomputer were installed by Dataprep (HK) Ltd.
1974	–	The first PCM microwave equipment was brought into service by the Hong Kong Telephone Co., Ltd.
1974	–	The Land Cable System with Guangzhou with capacity of 300 voice channels was brought into service by Cable & Wireless (H.K.) Ltd.
1975	–	Microwave system to Macau with 300 voice channels was installed by Cable & Wireless (H.K.) Ltd.
1975	–	The one millionth telephone was installed.
1976	–	International Direct Dialling (IDD) service was introduced
1981	–	The Hong Kong Telephone Co., Ltd. started the optical Fibre Function Programme.
1982	–	Viewdata and Datel Message Service were introduced by the Hong Kong Telephone Co., Ltd.
1983	–	A new Microwave System linking with Guangzhou with a maximum capacity of 2,700 voice channels was installed by Cable & Wireless (H.K.) Ltd.

OTHER USEFUL INFORMATION

(i) The Hong Kong Electric Co., Ltd. has an installed capacity of 1,685,000 kw with an additional power station commissioned with planned capacity of 1,800,000.-kw. The China Light & Power Co.,Ltd. has an installed capacity of 3,693,000 kw with an additional power station commissioned with planned capacity of 5,320,000.-kw.

(ii) Hong Kong has 4,000 km of underground optical fibre – the longest used by any city in South East Asia.

(iii) The growth rate of the Hong Kong electronics industry for the past 10 years averaged 25% at constant prices term with total domestic export registered some HK$ 18 billion in 1983.