INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

BLUE BOOK

VOLUME I – FASCICLE I.1

MINUTES AND REPORTS OF THE PLENARY ASSEMBLY

LIST OF STUDY GROUPS AND QUESTIONS UNDER STUDY

IXTH PLENARY ASSEMBLY
MELBOURNE, 14-25 NOVEMBER 1988

Geneva 1989

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LIST OF STUDY GROUPS, PLAN COMMITTEES AND SPECIAL AUTONOMOUS GROUPS

LIST OF QUESTIONS AND ASSIGNMENT OF THESE QUESTIONS

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STUDY GROUPS

Designation		Title	Chairman	Vice-Chairmen
COM I	Study Group I	*Services*	M. ISRAEL (CAN)	A.K. CABRERA (AUS) R. RUGGEBERG (D) J. HAMEL (F) Y. NISHIZAWA (J) P.A. WENGER (SUI) R. SMITH (USA)
COM II	Study Group II	*Network operation*	G. GOSZTONY (HNG)	T. OHTA (J) I.N. KNIGHT (USA) A. LEWIS (CAN) F. DANNEELS (BEL) M. READ (G)
COM III	Study Group III	*Tariff and accounting principles*	B. ROUXEVILLE (F)	J. O'BOYLE (USA) E.J. EXTON (CAN) H. HELLING (S) T. MATSUDAIRA (J) H. TRAORE (Mme) (MLI) J.F.H. PAYMANS (HOL)
COM IV	Study Group IV	*Maintenance*	J. SHRIMPTON (USA)	P. PIGNAL (F) T. DE ANGELIS (I) M. MATSUSHITA (J) L.B. VAN DER LEM (HOL) B. HUTT (G) A. ROJDESTVENSKY (URS)

STUDY GROUPS

Designation		Title	Chairman	Vice-Chairmen
COM V	Study Group V	*Protection against electromagnetic effects*	H. LORKE (DDR)	S. GUZIK (CAN) G. MEINERI (I) R. THARBY (G) G. VARJU (HNG)
COM VI	Study Group VI	*Outside plant*	K. NIKOLSKY (URS)	LI YUANPENG (CHN) L. MOLLEDA SUSAETA (E) J. AFSHARI (IRN)
COM VII	Study Group VII	*Data communications networks*	J.O. WEDLAKE (G)	L. LAVANDERA SANCHEZ (E) H.V. BERTINE (USA) P.G. BOWIE (CAN) S. TOMITA (J) R. PARODI (I) J. PARK (AUS) P. PUGES (F)
COM VIII	Study Group VIII	*Terminals for telematic services*	W. STAUDINGER (D)	B. MARTI (F) A. PUGH (G) V. SIVAKOV (URS) A. MACCHIONI (I) Y. YAMAZAKI (J)
COM IX	Study Group IX	*Telegraph networks and telegraph terminal equipment*	M. MATSUBARA (J)	B. KOROP (URS) B. KUBIN (TCH) H. FOURNIER (CAN) W. FAY (IRL)

Designation		Title	Chairman	Vice-Chairmen
COM X	Study Group X	*Languages for telecommunication applications*	C. CARRELLI (I)	K. SCHULZ (D) O.F. FAERGEMAND (DNK) B. LINDBERG (S)
COM XI	Study Group XI	*Switching and signalling*	J.S. RYAN (USA)	S. KANO (J) P. COLLET (F) P. STERNDORFF (DNK) W. LANGE (D) R. DAVID (BEL) H. APPENZELLER (CAN)
COM XII	Study Group XII	*Transmission performance of telephone networks and terminals*	P. LORAND (F)	N. GLEISS (S) J. BARNES (G) G. LAJTHA (HNG) J. ROSENBERGER (USA)
COM XV	Study Group XV	*Transmission systems and equipment*	A.M. NOURI (ARS)	M. YAMASHITA (J) W. BARJASZ (POL) G.K. HELDER (USA) P. WERY (CAN) F. TOSCO (I) F. HOFMAN (HOL) D. FISHER (G) P.A. PROBST (SUI)
COM XVII	Study Group XVII	*Data transmission over the telephone network*	K. KERN (D)	R.P. BRANDT (USA) A. PALAMIDESSI (I)

STUDY GROUPS

Designation		Title	Chairman	Vice-Chairmen
COM XVIII	Study Group XVIII	*ISDN*	H.K. PFYFFER (SUI)	V. JOHANNES (USA) F. LUCAS (F) J.C. LUETCHFORD (CAN) B.W. MOORE (G) J. CLAUS (D) A. DAY (AUS) G. PELLEGRINI (I) K. ASATANI (J)
		Terminology	M. M. THUE (F)[1]	

[1] Chairman of the Coordination Committee

REGIONAL TAFIFF GROUPS OF STUDY GROUP III

Designation		Title	Chairman	Vice-Chairmen
	GR TAF	*Tariffs (Africa)*	M. HAILE (ETH)	F. BACHABI (BEN) M. BAKO (BFA) J.M. SAKILA (CAF) A.H.J. MARIJANI (TZA) M. NYEMECK (CME)
	GR TAL	*Tariffs (Latin America)*	F. RODRIGUEZ ACOSTA (CUB)	(CHL) (CLM) (URG)
	GR TAS	*Tariff (Asia and Oceania)*	N. VIRATA (PHL)	A. LOTFI-KAZEMI (IRN) H. KOESOEBIJONO (INS)
	GR TEUREM	*Tariffs (Europe and the Mediterranean Basin)*	G. REPICI (I)	U. JACKOWSKA (Mme) (POL) J. MARTORY (F) S. SYPERDA (HOL) N.B. RIHAN (LBN)

JOINT STUDY GROUP

Designation		Title	Chairman	Vice-Chairmen
CMTT	CCIR/CCITT Joint Study Group	*Television and sound transmission*	W.G. SIMPSON (G)	G. ZEDLER (D)

PLAN COMMITTEES

(Joint CCITT/CCIR Committees administered by the CCITT)

Designation		Title	Chairman	Vice-Chairmen
WORLD PLAN	World Plan Committee	*General Plan for the development of the International telecommunication Network*	C.R. CRUMP (USA) L. TEROL MILLER (E) Chairman designate	 SAGOE KOW (CTI) P. GONIN (F) Y. KAWASUMI* (J)
PLAN AF	Plan Committee for Africa	*General Plan for the development of the Regional Telecommuniation Network in Africa*	E. KAMDEM-KAMGA (CME)	M.M. KEITA (MLI) J.C. KOUNKOU* (CAF) S.J. NJAGAH* (KEN) Cheik T. MBAYE* (SEN) A.S. DLAMINI* (SWZ)
PLAN AL	Plan Committee for Latin America	*General Plan for the development of the Regional Telecommunication Netowrk in Latin America*	A.F. GARCIA (ARG)	R. PEDROSA PEREZ (CUB) J.S. POLLONI (CHL) J.R. NEEDE (SUR) F. CASTRO ROJAS* (CLM)
PLAN AS	Plan Committee for Asia and Oceania	*General Plan for the development of the Regional Telecommunication Network in Asia and Oceania*	J.L. PARAPAK (INS)	H. MAHYAR* (IRN) A.A. AL-FEHAID* (ARS) HAN SONGLING* (CHN)
PLAN EU	Plan Committee for Europe and the Mediterranean Basin	*General Plan for the development of the Regional Telecommunication Network in Europe and the Mediterranean Basin*	L. TEROL MILLER (E)	M. POPOVIC* (YUG) A. OLKKONEN* (FNL) A. FRANCHI* (I) A. AIDOUNI* (MRC) E. EID* (LBN)

*) Provisional appointment pending the XVIIth CCIR Plenary Assembly.

SPECIAL AUTONOMOUS GROUPS

Designation	Title	Chairman	Vice-Chairmen
GAS 7	*Rural telecommunications*	C. RUDILOSSO (I)	J. DOMINGUEZ SANZ (E) O. KURITA (J) A. NUGROHO (INS) S. SHADKAM (IRN) E.J. ANTARI (MRC) L. LOPEZ CELAYA (MEX) M. GOUDELIS (GRC) B. LENTCHOU KOUAYEB (CME) D. DIAKITE (MLI) M. MORRIS (CAN)
GAS 9	*Economic and technical aspects of transition from an analogue to a digital network*	M. GHAZAL[1)] (LBN)	M. HOSHI (J) G. HATZOPOULOS (GRC) P.D. LANSARD (F) J.H. BOBSIN (USA) P.G. TOURE (SEN) A. SANATI (IRN) A.S. ABU REZQ (KWT) N.O.O. ADJEBU (GHA) S. BIJAYENDRAYODHIN (THA) J. YONGORO (CAF) Cheik Sidi M. NIMAGA (MLI)

1) Senior Chairman for coordinating the activities of the GAS and the associated technical assistance questions including liaison with the Plan Committee in such matters.

Designation	Title	Chairman	Vice-Chairmen
GAS 12	*Strategy for the introduction of new non-voice telecommunication services*	J.B. PECRESSE (F)	K. BOUFARHAT (LBN) K. AYIKOE (TGO) C. MOTEGI (J) D. DE MAIO (I) K. SORO (CTI) M. LHOR (MRC) D. TOURE (MLI) J. KONDAOULE (CAF) H. SUROSO (INS) A. MOHSENZADEH (IRN)

LIST OF QUESTIONS TO BE STUDIED DURING THE STUDY PERIOD OF 1989-1992 AND THEIR ALLOCATION TO STUDY GROUPS

STUDY GROUP I

Question	Short title
1/I	Regulatory provisions
2/I	Official service documents
3/I	Terminology
4/I	Telegram service
5/I	Phototelegraph services
6/I	Telemessage service
7/I	Telex service
8/I	Mobile telephone, telegraph, telematic and data services
9/I	Teletex service
10/I	General service framework for document communication
11/I	A general service framework for inter-active modes to be used by telematic services with document transfer capabilities
12/I	Bureaufax service
13/I	Subscriber facsimile service
14/I	Facsimile store-and-forward services
15/I	Message handling services
16/I	International public directory services
17/I	Audiovisual services
18/I	Videotex service
19/I	International public data transmission services
20/I	International multi-destination telecommunication services via satellite
21/I	New services on the ISDN
22/I	Broadband services on the ISDN
23/I	Existing telematic and data transmission services on the ISDN

Question	Short title
24/I	Suitability of new services and facilities to meet the needs of users
25/I	"International telephone instructions" and operation of telephone relations
26/I	New international telecommunication services
27/I	Customer satisfaction and efficiency when using world-wide telecommunications
28/I	Symbols, pictograms and keypad layout
29/I	Customer control procedures in the PSTN and ISDN
30/I	User indications in the PSTN and the ISDN
31/I	Human factors aspects of access to voice and non-voice terminals using public terminals
32/I	Human factors issues of new telecommunications services
33/I	Computerized directory assistance for numbers in foreign countries
34/I	International telecommunication credit card service

STUDY GROUP II

Question	Short title
1/II and 2/II	(Spare numbers)
3/II	Network operational aspects of international telephone service
4/II	International interconnection of mobile services and the PSTN
5/II	Evolution of numbering and numbering plan interworking for ISDN era
6/II	Evolution of routing plan in the ISDN era
7/II	Non-voice aspects of networks during transition from PSTN to ISDN
8/II	Service quality of networks (PSTN/ISDN)
9/II	International network management
10/II	Traffic measurement requirements on telecommunications networks
11/II	Terms and definitions for QOS, dependability and traffic engineering
12/II	Traffic, operational and network planning objectives of common channel signalling networks
13/II	Design alternatives for telecommunication networks
14/II	Methods for forecasting international traffic
15/II	Traffic models and measurements for traffic offered to network and grade of service
16/II	Application of traffic measurements in telecommunication networks
17/II	Traffic reference models for ISDN traffic engineering
18/II	Grade of service during and after a total failure of network components or traffic peak conditions
19/II	Call oriented models for the serveability performance in networks
20/II	Serveability performance and service integrity of telecommunication services
21/II	CCITT Handbook(s) on application and implementation of Recommendations on quality of service

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Question	Short title
1/III	General principles for the lease of international private telecommunication circuits
2/III	Special conditions for the lease of *continental* telecommunication circuits for private service
3/III	Special conditions for the lease of *intercontinental* telecommunication circuits for private service
4/III	Tariff principles for the leasing of international transmission facilities intended for the transmission of data by digital techniques
5/III	Development of tariff principles for international telecommunication services to meet the specific requirements of certain categories of users
6/III	General tariff and accounting principles applicable to data communication on public data networks
7/III	Tariff principles and accounting arrangements for public data communication services on public packet-switched networks
8/III	Tariff principles and accounting arrangements applicable to public data communication services in public circuit-switched networks
9/III	General tariff and accounting principles for the different public data communication networks interworking options
10/III	Tariff principles in the international public telegram service
11/III	Tariff principles in the international public telemessage service
12/III	Tariff principles for the international telex service
13/III	Tariff principles for international public facsimile services
14/III	Tariff principles for the international Teletex service
15/III	Tariff and international accounting principles to be applied in the Videotex services
16/III	Charging and accounting principles in the international telephone service
17/III	Occasional provision of circuits for international sound and televition programme transmissions

Question	Short title
18/III	Leased international sound and television programme circuits
19/III	General tariff principles for mobile telecommunications services
20/III	Tariff and accounting principles for services not covered by specific Questions
21/III	Charging and accounting principles to be applied to the services offered by an integrated services digital network (ISDN)
22/III	General charging and accounting principles for non-voice services provided by interworking between the ISDN and existing public data networks
23/III	Tariff and accounting principles to be applied to permanent and reserved services within the ISDN
24/III	General charging and accounting principles to be applied to multi-point-to-point international telecommunication services via satellite
25/III	General charging and accounting principles to be applied to two-way multiple access international telecommunication services via satellite
26/III	General consideration of the tariff and accounting provisions of D-Series Recommendations in the light of the content of the new International Telecommunication Regulations adopted by the WATTC-88
27/III	Cost studies for determining the basic tariff components for telecommunication services
28/III	Cost studies for determining the basic tariff components for sound and television programme transmissions
29/III	Methodology to be followed for the determination of costs and the establishment of national tariffs
30/III	Terms and definitions for the Recommendations dealing with tariff and accounting principles
31/III	Amendments and additions to be made to Recommendation C.1 relating to telecommunication statistics

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2/IV	Use of the CCITT Man-Machine Language for maintenance
4/IV	Maintenance of mobile telecommunications systems
5/IV	Standardized information exchange between administrations
6/IV	Maintenance philosophy, principles and strategy for networks and services
7/IV	Keeping Volume IV of the CCITT Book up to date
8/IV	Assessment of network performance and exchange of information for maintenance purposes
9/IV	Restoration of failed international exchanges, transmission systems, path, etc.
10/IV	Measuring instrument specifications
11/IV	Transmission measuring equipment and associated maintenance test access lines
12/IV	Maintenance of international sound-programme circuits
13/IV	Maintenance of international television circuits
14/IV	General maintenance organization
15/IV	Maintenance of international videoconference circuits
16/IV	Maintenance of digital blocks, sections and paths; mixed analogue/digital systems, and analogue groups, supergroups etc.
17/IV	Designation of international circuits, groups, blocks etc. and related information
18/IV	Maintenance of telephone type circuits (other than leased or special circuits)
19/IV	Maintenance of leased and special circuits with analogue presentation at the users premises
20/IV	Maintenance aspects of data transmission systems, leased and special circuits with digital presentation at the users premises
21/IV	Maintenance of ISDNs
23/IV	Telecommunication Management Networks (TMNs) and their relationship to associated network elements

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Question	Short title
1/V	Arrangement and purpose of protective components fitted at main distribution frames and other connection points
5/V	Protection policy against over-voltages
6/V	Coordinated protection schemes for telecommunication cables
7/V	Characteristics and testing of protective components and assemblies
8/V	Interference testing and measurement
11/V	Disturbance to telecommunications circuits from power-line carrier systems
13/V	Unbalance of telephone installations
15/V	Magnitudes of harmonics in power and traction lines and methods to reduce their effects
16/V	Levels of voltages and currents related to disturbances from power and traction installations
17/V	Electromagnetic compatibility (EMC) of telecommunications networks and equipment
18/V	Radiated radio frequency interference and telecommunications equipment and systems
19/V	Conducted radio frequency interference on telecommunication equipment and systems
20/V	Survey on provisions intended to mitigate adverse effects (danger and disturbance) of electromagnetic origin
21/V	Test to be carried out on repeaters or regenerators to check the efficiency of protection from external interference with local or remote power feeding
22/V	Protection of telecommunication lines and installations against lightning
24/V	Earthing in telecommunication systems
26/V	Directives concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines

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Question	Short title
1/VI	Conductive plastic materials as protective covering for metal cable sheaths
2/VI	Fire safety of telecommunication installation
3/VI	Application of computers and micro-processors to the construction, installation and protection of telecommunication cables
4/VI	Coordinated protection schemes for telecommunication cables
5/VI	Amendments and additions to the Handbook "Outside plant technologies for public networks"
6/VI	Copper networks for ISDN services
7/VI	Optical fibre cable installation
8/VI	Optical fibre cable restoration
9/VI	Optical fibre cable construction
10/VI	Performance tests for optical fibre cables and associated hardware
11/VI	Optical fibre cables inside buildings
12/VI	Optical fibre cable distribution network
13/VI	Passive optical components

STUDY GROUP VII

Question	Short title
1/VII	Standardization of the technical characteristics of user classes of service, international data transmission services and optional user facilities in public data networks (PDNs) and ISDNs and the categories of access for DTEs to such services
2/VII	Call progress signals
3/VII	Technical characteristics of connectionless services in public networks
4/VII	Network performance and Quality of Service in Data Communications Networks
5/VII	Testing and verification of data communication protocols
6/VII	Further study on Recommendations for DTE/DCE interfaces for circuit switched service (X.20, X.20 *bis*, X.21, X.21 *bis*, X.22) and study on access to the CSPDN through telephone networks
7/VII	Further study of DTE/DCE interfaces for terminals operating in the packet mode
8/VII	Study of DTE/DCE interface procedures for dissimilar terminal interworking
9/VII	Principles of maintenance in user-network interfaces for public data networks
10/VII	General technical principles for interworking between public networks or between public networks and other networks for the provision of data services
11/VII	Arrangements generic to different interworking (circuit and packet modes) between public networks or between public networks and other networks, for the provision of data services
12/VII	Management aspects of interworking between public networks, and between public networks and other networks when involved in the provision of data services
13/VII	Interworking between public data networks (circuit switched and packet switched) and ISDNs and between ISDNs, for the provision of data services
14/VII	Interworking between public data networks and the telex network
15/VII	Arrangements for interworking between networks other than ISDNs and telex, for the provision of data services

Question	Short title
16/VII	Packet mode signalling between public networks providing data transmission services
17/VII	Arrangements for CSPDNs interworking and associated inter-network signalling
18/VII	Message handling systems
19/VII	Framework for support of distributed applications
20/VII	Directory systems
21/VII	Numbering plan for public data networks
22/VII	Routing principles for public data networks
23/VII	Open Systems Interconnection (OSI) Architecture
24/VII	Open Systems Interconnection (OSI) Management
25/VII	Open Systems Interconnection (OSI) Application Layer
26/VII	Open Systems Interconnection (OSI) Presentation and Session Layers
27/VII	Open Systems Interconnection (OSI) Transport and Network Layers
28/VII	Open Systems Interconnection (OSI) Data Link and Physical Layers
29/VII	Application of formal description techniques to X-Series Recommendations
30/VII	Support of X-Series interfaces in an ISDN and new interface aspects for data services in ISDNs
31/VII	Requirements and arrangements for the provision of data services in ISDNs
32/VII	Continue the preparation of definitions which arise during the study of all Questions entrusted to Study Group VII
33/VII	Revision of Recommendations

STUDY GROUP VIII

Question	Short title
1/VIII	Revision of Recommendations
2/VIII	Definitions
3/VIII	Study of telephone-type circuit dependent problems in facsimile transmission
4/VIII	Group 4 facsimile apparatus
5/VIII	Choice of modulation techniques to be used with Telematic services connected to the PSTN
6/VIII	Terminal characteristics for Mixed Mode and Processable Mode
7/VIII	Digital phototelegraphy equipment
8/VIII	Coding of alphanumeric characters and associated control functions for Telematic services
9/VIII	Protocols for Interactive audiovisual services
10/VIII	Terminal characteristics and standardized options for the Teletex terminals
11/VIII	Conversion
12/VIII	Telematic interworking
13/VIII	Development of conformance procedures to ensure the international compatibility of Teletex
14/VIII	Syntax aspects of interactive Videotex
15/VIII	Protocol aspects of interactive Videotex
16/VIII	Common components for image communications
17/VIII	Terminal characteristics and protocols for Telematic services on ISDN
18/VIII	Group 3 facsimile apparatus
19/VIII	Operational structure application profiles
20/VIII	Imaging conversion rules interworking between different facsimile apparatus groups
21/VIII	Development of session control procedures for Telematic services
22/VIII	Network independent basic transport protocol for Telematic application

Question	Short title
23/VIII	Equipment characteristics and protocols for audiographic conferencing
24/VIII	Communication Application Profiles
25/VIII	Enhancement to the application rules to physical, data link and network layer protocols for Telematic applications
26/VIII	Document Application profiles for Teletex, Facsimile Group 4 and message handling services
27/VIII	Document architecture, Transfer and Manipulation

STUDY GROUP IX

Question	Short title
1/IX	Revision of Recommendations
2/IX	Mobile (-satellite) service transmission standards and the interconnection of mobile (-satellite) telegraph and telematic services with the international telex network
3/IX	Quality, reliability and availability of telegraph transmission
4/IX	Transmission standards for terminal equipment using modulation rates up to 300 bauds
7/IX	Automatic maintenance tests of telegraph circuits
8/IX	Technical aspects of the store and forward service for telex subscribers
9/IX	Standardization of modems for telegraph TDM system in the R-Series Recommendations
10/IX	TDM systems for telegraphy employing a new technique of multiplexing
11/IX	Definitions concerning telegraph networks and terminals
12/IX	Statistical muldexes and muldexes/concentrators
14/IX	Code and speed dependent TDM systems
15/IX	Interworking between the telex and Teletex services
16/IX	Further standardization of signalling systems
17/IX	Integration of the telex network with other networks that use common channel signalling, particularly ISDN
18/IX	Use of data networks for provision of the international telex service
19/IX	Network plans for telegraph networks
20/IX	Interworking between telex and services provided on other networks
21/IX	Various telex network facilities to be provided in real time
22/IX	Unavailability of telex terminals/store and forward units/non-telex terminals
23/IX	Expanded coding techniques for text transmission over the international telex networks
24/IX	Transmission aspects of data communication networks
25/IX	Numbering plan for telex networks

STUDY GROUP X

Question	Short title
1/X	Reorganization and extension of existing Recommendations Z.311 to Z.323
2/X	New Recommendations and maintenance of existing Recommendations to account for centralized environments
3/X	Supplementing international standardization work to enhance the use of CCITT MML in interfacing to telecommunication networks
4/X	Improved methodology to specify Human-Machine Interface (HMI)
5/X	Specification of the Human-Machine Interface to support the management of telecommunication networks
6/X	Support environment for telecommunication systems through their lifetime
7/X	Software quality, software testing and verification for telecommunication systems
8/X	Maintenance of SDL
9/X	Specification and description techniques needed for telecommunication systems
10/X	Quality assurance, testing and verification for telecommunications specifications
11/X	Harmonization of the use of SDL and CHILL
12/X	Maintenance, training, compliance and promotion aspects of CHILL

STUDY GROUP XI

Question	Short title
1/XI	New switching and signalling techniques
2/XI	Signalling and OAM protocol architecture
3/XI	Switching functions and signalling information flows for implementation of basic and supplementary services
4/XI	Switching functions and signalling information flows for implementation of OAM functions
5/XI	Application of the Stage 2 Recommendations to the signalling protocols for services
6/XI	Application of the Stage 2 Recommendations to the signalling protocols for OAM
7/XI	Updating of Q-Series Recommendations
8/XI	Structure and use of Signalling System No.7 networks
9/XI	Common channel Signalling System No.7 - Signalling Connection Control Part
10/XI	Evolution of the ISDN User Part
11/XI	Call control and bearer control protocols in Signalling System No.7 for the full range of ISDN telecommunication services
12/XI	Transaction capabilities
13/XI	Signalling System No.7 Operation, Maintenance, and Administration Part (OMAP)
14/XI	Signalling System No.7 protocol testing and test specification
15/XI	Guidelines for implementing Signalling System No.7 in national networks
16/XI	Interworking of Signalling Systems
17/XI	Signalling for existing and future land mobile networks
18/XI	Interworking with mobile satellite networks
19/XI	Signalling requirements for new transmission equipments
20/XI	Updating and enhancements of ISDN user-network interface call control protocol
21/XI	Updating and enhancements of ISDN user-network interface data link layer protocol

Question	Short title
22/XI	ISDN user-network protocol (DSS 1) conformance
23/XI	Common channel Signalling System No.7 - Message Transfer Part
24/XI	Enhancement and extension of the Q.500-Q.544 series of Recommendations on digital exchanges
25/XI	Protocols for remote operation of specific OAM applications
26/XI	Definitions for switching and signalling

STUDY GROUP XII

Question	Short title
1/XII	Future programme of work
2/XII	Hands-free telephony
3/XII	Definitions in the field of telephonometry and of characteristics of international connections and circuits
4/XII	Updating of the CCITT telephonometric and transmission planning Handbooks
5/XII	Speech synthesis/recognition systems
6/XII	Harmonization of G.100-Series of Recommendations
7/XII	Models for predicting transmission quality from objective measurements
8/XII	Improvement of the methods for the determination of loudness ratings
9/XII	Sidetone
10/XII	Speech transmission characteristics for digital handset telephones
11/XII	Transmission degradation introduced by interaction between voice operated devices
12/XII	Artifical mouths and ears
13/XII	Methods for the evaluation of non-linear distortions
14/XII	Application for the artificial voice
15/XII	Loudness rating, algorithm and application rules
16/XII	Impedance strategy in the local network
17/XII	Actual and preferred speech levels in telephone connections
18/XII	Transmission performance of digital systems
19/XII	Recommended values for loudness ratings
20/XII	Wideband telephony
21/XII	Relative level at the boundary between national systems and the international chain
22/XII	International telephone conference
23/XII	Coupling of hearing aids to telephone receivers
24/XII	Integration of mobile systems into the public switched network

Question	Short title
25/XII	Transmission impairments in the evolving mixed analogue/digital and ISDN networks
26/XII	Setting objectives for mixed analogue/digital circuits
27/XII	Talker echo, propagation time and stability in telephone networks, ISDN and interconnection with ISDN
28/XII	Listener echo (receive and echo) in the public switched telephone networks
29/XII	Transmission plan aspects of the interworking between PSTN and ISDN in the evolving network
30/XII	Methods for evaluating the transmission performance of digital telephone sets

STUDY GROUP XV

Question	Short title
1/XV	Characteristics of equipment for the digital transmission of sound programme signals
2/XV	Characteristics of equipment for the digital transmission of television signals
3/XV	Visual telephone systems including videoconferencing and videophone
4/XV	Harmonization of audiovisual systems
5/XV	Characteristics of direct transmission restoration systems of the 1+1 and N+M type (link protection switching)
6/XV	Characteristics of automatic rerouting systems for the restoration of transmission links (Network protection switching)
7/XV	Characteristics of network echo control equipment
8/XV	Characteristics of acoustic echo control equipment
9/XV	Operations, Administration and Maintenance (OAM) interfaces for transmission equipment intended for connection to a Telecommunication Management Network (TMN)
10/XV	Characteristics of Digital Circuit Multiplication Equipment (DCME) and Systems (DCMS)
11/XV	Characteristics and test methods for single-mode optical fibre cables
12/XV	Characteristics and test methods for multi-mode optical fibre cables
13/XV	Characteristics for submarine optical fibre cables and systems
14/XV	Characteristics of optical cables for local networks
15/XV	Characteristics of line systems on optical fibre cables
16/XV	Characteristics of digital line systems for use in local networks, including narrow-band and broadband ISDN access
17/XV	Characteristics of coding (e.g. PCM, ADPCM) and digital multiplexing equipment for use in local networks, including narrow-band and broadband ISDN access
18/XV	Availability and reliability of line systems on optical fibres
19/XV	Characteristics of digital multiplexing equipment for the new synchronous hierarchy

Question	Short title
20/XV	Characteristics of digital cross-connect equipment
21/XV	16 kbit/s speech signal encoding and extension to other bandwidths and bit rates
22/XV	Encoding of stored digitized voice signals
23/XV	Encoding of speech signals into bit rates of less than 16 kbit/s
24/XV	Speech packetization systems
25/XV	Characteristics of monitoring points on digital transmission equipments and systems
26/XV	Harmonization and update of the texts in Recommendations in Volume III of the Blue Book insofar as they relate to transmission equipment metallic cables and systems
27/XV	Terminology for transmission equipment, media and systems
28/XV	Characteristics of new multiplexing equipment for the digital hierarchy as given in G.702
29/XV	Characteristics of digital systems on optical fibre cables for the synchronous hierarchy
30/XV	Performance characteristics of PCM and ADPCM channels at voice frequencies
31/XV	Guide for the application of new technologies in local networks
32/XV	Enhancement and extension of the Q.550-Series of Recommendations on the transmission performance of digital exchanges

STUDY GROUP XVII

Question	Short title
1/XVII	Supplement to the vocabulary for data transmissions
2/XVII	Measurements on telephone-type circuits used for data transmission between subscribers
3/XVII	Modems for the transmission of data and other digital signals on the General Switched Telephone Network (GSTN) and on two-wire telephone-type leased circuits
4/XVII	Modems for the transmission of data and other digital signals on four-wire telephone-type leased circuits
5/XVII	Error control in modems
6/XVII	Characteristics of a device used to interface a DTE to digital channels other than ISDN
8/XVII	Measuring criteria for telephone-type circuits appropriate to their use for transmission of data signals
9/XVII	Network management
11/XVII	Support of DTEs (TE2) with V-Series type interfaces on an ISDN, and interworking of DTEs with modems on PSTNs with TE2s and TE1s on ISDNs
12/XVII	Comparative tests of data communication equipments for use over telephone-type circuits
13/XVII	Interchange circuits
14/XVII	Refinement and extension of Recommendation V.25 *bis* functions and protocols
15/XVII	Data transmission over intercontinental switched telephone connections
18/XVII	Revision of the existing Series-V Recommendations
22/XVII	Digital performance of data transmission services using V-Series modems over the telephone network
23/XVII	General data communication interface

STUDY GROUP XVIII

Question	Short title
1/XVIII	General aspects of ISDN
2/XVIII	Asynchronous Transfer Mode (ATM)
3/XVIII	Network aspects of digital hierarchies
4/XVIII	Network application of Synchronous Digital Hierarchy with reference to the Network Node Interface (NNI)
5/XVIII	General aspects of Quality of Service and network performance in digital networks including ISDNs
6/XVIII	Network performance objectives for ISDN circuit mode information transfer
7/XVIII	Performance objectives for timing and controlled slips (synchronization), filter, wander and propagation delay
8/XVIII	Network performance objectives for ISDN connection, processing and packet mode information transfer
9/XVIII	Performance objectives for ISDN availability
10/XVIII	Impact of signal processing on ISDN
11/XVIII	Interworking of ISDNs with other networks, including compatibility checking and terminal selection
12/XVIII	Interworking between networks using different digital hierarchies - Layer 1 functionality
13/XVIII	Network capabilities for the support of broadband services in ISDNs
14/XVIII	ISDN network capabilities for the support of additional and/or new services
15/XVIII	ISDN packet mode bearer services - services and user-network interface aspects
16/XVIII	ISDN architecture and functional principles, characterization methods and reference configurations (including user-network interfaces)
17/XVIII	ISDN Protocol Reference Model
18/XVIII	ISDN Connection Types
19/XVIII	Network capabilities for the integration of mobile network services into the ISDN

Question	Short title
20/XVIII	Layer 1 characteristics of ISDN interfaces and ISDN access
21/XVIII	Vocabulary for ISDNs
22/XVIII	Broadband ISDN influence on principles for video encoding
23/XVIII	Guidelines for implementing ISDN field trials in developing countries

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ORGANIZATION AND WORK OF THE IXth PLENARY ASSEMBLY

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1 - ORGANIZATION OF THE IXth PLENARY ASSEMBLY OF THE CCITT

1.1 The IXth Plenary Assembly of the International Telegraph and Telephone Consultative Committee met in Melbourne (Australia) from Monday, 14 November to Friday, 25 November 1988. The meetings were held at the Town Hall in Melbourne.

84 countries Members of the ITU, represented by 84 Administrations and 13 recognized private operating agencies, took part in the proceedings. 15 international organizations sent observers. A total of 475 participants attended the meetings.

1.2 Chairman and Vice-Chairmen of the Plenary Assembly

Chairman:	Mr. M.K. Ward (Australia)
Vice-Chairmen:	Mr. P.G. Mbengue (Senegal) Mr. A.F. Garcia (Argentina) Mr. C. Rudilosso (Italy) Mr. Ju. A. Tolmachev (USSR) Mr. E.S. Barbely (United States)

Secretary of the Plenary Assembly: Mr. M. Malek Asghar

1.3 Working Party of the Plenary Assembly

1.3.1 PL1 - CCITT Book

Chairman:	Mr. B.W. Moore (United Kingdom)
Vice-Chairman:	Mr. HE Jian-Qiang (China)
Secretary:	Mr. G. Turnbull

1.4 Committees of the Plenary Assembly

1.4.1 Committee A - Organization and working methods of the CCITT

Chairman:	Mr. P. Tarjanne (Finland)
Vice-Chairmen: (Chairmen WP)	Mr. H.K. Pfyffer (Switzerland) Mr. G. Lajtha (Hungary)
Secretary:	Mr. S. Novikov, assisted by Messrs. R. Baillod and M. Betancourt

1.4.2 Committee B - Work Programme of Study Groups

Chairman:	Mr. M. Israel (Canada)
Vice-Chairman:	Mr. S. Kano (Japan)
Secretary:	Mr. J. Lepesqueur, assisted by Messrs. F. Bigi, Y. Senuma and H. Zhao

1.4.3 Committee C - Budget control

Chairman:	Mr. A.M. Nouri (Saudi Arabia)
Secretary:	Mr. R. Prélaz

1.4.4 Committee D - CCITT Technical Assistance

Chairman:	Mr. M. Ghazal (Lebanon)
Vice-Chairman:	Mr. S.J. Njagah (Kenya)
Secretaries:	Messrs. A Lefort, E. Pierre and Z.J. Tar

1.4.5 Editorial Committee:

Chairman:	Mr. P. Gonin (France) Mr. J. Mills (United Kingdom) Mr. V. Rubio Carretón (Spain)
Secretary:	Mr. G. Turnbull

Committees A and D held three meetings each, Committee B four and Committee C two.

2 - MINUTES OF THE PLENARY MEETINGS

Chairman: Mr. M.K. WARD (Australia)

INAUGURAL MEETING

(Minutes approved at the fifth Plenary Meeting)

Monday, 14 November 1988, at 1130 hrs

Subjects discussed:

1 Opening of the assembly and address by the Director of the CCITT.

2 Address by the Minister for Telecommunications and Aviation support.

3 Election of the Chairman of the Plenary Assembly.

4 Election of Vice-Chairmen of the Plenary Assembly and Chairmen and Vice-Chairmen of Committees.

5 Address by the Director of the CCIR.

6 Address by the Secretary-General of the ITU.

1 Opening of the Assembly and address by the Director of the CCITT

1.1 *Mr. Th. Irmer,* Director of the CCITT, delivered the opening address reproduced in Annex A.

2 Address by the Minister for Telecommunications and Aviation Support

2.1 The *Hon. Mr. Punch,* Minister for Telecommunications and Aviation Support, delivered the address reproduced in Annex B.

2.2 The *Director of the CCITT* thanked the Minister for his welcome and the kind words expressed with regard to the CCITT, which would certainly be taken to heart when the Assembly discussed the work for the forthcoming study period.

3 Election of the Chairman of the Plenary Assembly

3.1 The *Director of the CCITT* announced that the Heads of Delegations, meeting earlier that morning, had proposed the appointment of Mr. M.K. Ward of the Australian Administration as Chairman of the Plenary Assembly.

That proposal was *endorsed* by acclamation and Mr. Ward took his place on the rostrum and delivered the address reproduced in Annex C.

4 Election of Vice-Chairmen of the Plenary Assembly and Chairmen and Vice-Chairmen of Committees

4.1 The *Director of the CCITT* announced that the meeting of Heads of Delegations had proposed the following appointments:

Vice-Chairmen of the Plenary Assembly:		Mr. P.G. Mbengue (Senegal) Mr. A.F. García (Argentina) Mr. C. Rudilosso (Italy) Mr. Ju. A. Tolmachev (USSR) Mr. E.S. Barbely (United States)
Committee A (Organization and Working methods of CCITT)	Chairman: Vice-Chairmen:	Mr. P. Tarjanne (Finland) Mr. H.K. Pfyffer (Switzerland) Mr. G. Lajtha (Hungary)
Committee B (Work Programme of Study Groups Committee)	Chairman: Vice-Chairman:	Mr. M. Israel (Canada) Mr. S. Kano (Japan)
Committee C (Budget Control)	Chairman:	Mr. A.M. Nouri (Saudi Arabia)
Committee D (CCITT Technical Assistance)	Chairman: Vice-Chairman:	Mr. M. Ghazal (Lebanon) Mr. S.J. Njagah (Kenya)
Working Party PL1 (CCITT Book)	Chairman: Vice-Chairman:	Mr. B.W. Moore (United Kingdom) Mr. HE Jian-Qiang (People's Republic of China)
Editorial Committee	Chairman: Vice-Chairmen:	Mr. P. Gonin (France) Mr. J. Mills (United Kingdom) Mr. V. Rubio Carretón (Spain)

The above proposals were *endorsed* by the Assembly and the *Director of the CCITT* congratulated all those elected, wishing them every success in their work.

5 Address by the Director of the CCIR

5.1 *Mr. R.C. Kirby,* Director of the CCIR, delivered the address reproduced in Annex D.

6 Address by the Secretary-General of the ITU

6.1 *Mr. R.E. Bulter,* Secretary-General of the ITU, delivered the opening address reproduced in Annex E.

The meeting rose at 1215 hours.

ANNEX A

Opening address by Mr. Th. Irmer, Director of the CCITT

"Honourable Minister,
Distinguished Members of the Australian Government,

On behalf of all delegates, let me first of all express our sincere thanks and gratitude to the Australian Government for their kindness to invite, at the occasion of the Australian bicentenary, this IXth Plenary Assembly to Melbourne. You, Mr. Minister and your staff have certainly spared no efforts to make our stay as pleasant as possible, and I would like to thank you for all your preparatory and organizational work which will be the basis of a smooth running of our Plenary Assembly in the next days to come.

Distinguished Delegates, Dear Colleagues,
Ladies and Gentlemen,

I am pleased that so many of you are attending this IXth Plenary Assembly, thus testifying to your interest in CCITT's work. I am most grateful for this and I wish all of you a most cordial welcome to Melbourne.

With us in this Assembly are also many representatives of international and regional organizations participating in CCITT's work. Let me greet all these representatives, and especially those who represent their particular organization for the first time at a Plenary Assembly.

I furthermore extend a warm welcome to delegates of other standardization bodies, and here I would like to address in particular ISO and IEC with whom we have worked extremely successully during the current study period.

Last but not least, I am pleased to welcome all my colleagues from the ITU Headquarters in Geneva who will join us during this Plenary Assembly, and I will still be relying on their assistance just as during the preparation phase to this Plenary Assembly.

We are presenting to this IXth Plenary Assembly an unprecedented number of amended and new draft Recommendations, as well as many new Handbooks and Manuals, all reflecting the dramatic progress in all fields of telecommunications. CCITT can be proud of this result to which many people contributed. Let me therefore thank all delegates, Special Rapporteurs, Vice-Chairmen and Chairmen who shouldered, in their respective groups, an enormous work-load during this study period which will be examined in more detail during the next few days.

The results of work done during the current study period will be presented to this Plenary Assembly, as well as the proposals for the forthcoming study period. From February to July 1988, our Study Groups held their final meetings for the 1985-1988 study period, and in September 1988 we mailed the last batch of documents. During these few months, about 16,000 pages in each of the three working languages had to be processed, translated, typed, reproduced and mailed. This was only possible through the efficient and excellent cooperation between *all* Departments involved at ITU Headquarters, in particular the Common Services Department. Without the devotion and skills of *all* ITU staff involved we would never have been able to produce these 16,000 pages per working language within the given time, which was quite adequate years ago when only a few thousands of pages had to be processed in about the same time.

However, we should have no illusions: the fact that - despite again an increase of more than 80% over the last Plenary Assembly - we managed to cope with this excessive work-load does *not* mean that this rising trend can be absorbed continuously. In the production of documentation for this Plenary Assembly as well as in many other areas we have now reached critical levels and limits. The traditional CCITT working methods, once quite appropriate and in use for many years, are now no longer adequate. They threaten to slow down and even suffocate our work; therefore, it is more than necessary to bring them in line with requirements and needs prevailing now and in the near future.

We are currently witnessing dramatic changes in telecommunications everywhere. Our Members are already in the process of responding to these changes: Administrations are undergoing fundamental technical, structural and regulatory reorganization; similar reactions and changes can be noticed in the manufacturing industry which will also structure the industry anew in order to cope with present and future challenges. In addition, more and more players are appearing on the telecommunications scene: not only new network and service providers and new industries, but also new standardization organizations are emerging, thus challenging CCITT's up-to-now virtual monopoly in the field of standardization. Moreover, user organizations are also appearing on the scene to voice their claims and requirements; these new interest groups are participating in CCITT activities as well.

All these dramatic changes so far seem to have been virtually unnoticed by CCITT; our basic structure and working methods are almost the same as in 1956 when CCITT was created by merging CCIT and CCIF. Of course, many attempts have been made to better adapt CCITT to the evolving needs - particularly during the current study period. However, speaking in medical terms, up to now only the symptoms could be cured, while the root causes of many shortcomings still remain as they were.

If our Member organizations would like CCITT to function well also in the future as a world-wide international telecommunication standardization body and carry out effectively its tasks in this changing environment, the IXth Plenary Assembly is the right place and competent body to take urgently needed decisions. In so doing, this Plenary Assembly will pave the way towards more changes to be implemented during the forthcoming Plenipotentiary Conference in Nice which will be held in just a few months.

Let me address a few words to the Chairman of this Plenary Assembly. Mr. Chairman, during this IXth Plenary Assembly we will be examining many proposals which were submitted with a view to restructuring and reorganizing CCITT's structure and working methods. My colleagues at ITU Headquarters and I are confident that under your leadership favourable attention will be given to these proposals. If all these changes are implemented, this Plenary Assembly will be a turning point in CCITT history, marking the start of a new era.

Let us not lose precious time any longer. True, there are many problems - but there are solutions as well. Concerted decisions, rather than further study of well-known problems, are needed at this Plenary Assembly. Let us make those decisions, and let us turn CCITT into an efficient organization truly serving today's needs of our Members, both in developing and developed countries around the world. We, my colleagues and myself, are ready to contribute our share to this challenge.

May I invite you now, Honourable Minister, to address and open the Plenary Assembly."

ANNEX B

Address by the Hon. Gary Punch, MP, Minister for Telecommunications and Aviation Support

"Director of the CCITT,
Secretary-General,
National Delegates,
Distinguished guests,

On behalf of the Government of Australia it is my privilege to welcome you to Australia. We are particularly delighted that this major ITU Conference is being held in Melbourne in Australia's bicentennial year and, given that it is an important year in our history, it is fitting that I start from a historical perspective.

Australian involvement in international telecommunications dates back to colonial times. Before the six separate colonies joined in Federation in 1901, several colonies were separately involved in the International Telegraph Union.

As you might expect, the individual Governments responsible for telegraphic services at that time imposed a layer of political and economic regulation upon the basic technical services provided by the telegraph.

In those days, telegrams transmitted from one Australian colony to another were sometimes stopped and decoded at the colonial border by one telegraph operator who would then pass the hand-written telegram across a table to the telegraph operator for the neighbouring colony's service. This operator would then retransmit the telegram to its destination.

Such inefficiencies disappeared with Federation, however it is worth remembering such tales to ensure that a 20th century vision of the problem does not arise in the international sphere.

Technology in the world of telecommunications continues to present a challenge for National administrators as technological change forces the pace for international standards and agreements.

We have learned from experience that we must participate in international forums if we are to meet our national communication needs effectively. Australia has a strong commitment to the multilateral approach to setting standards for telecommunications. That is why we look forward to this gathering and to the WATTC which follows it.

I am sure that as you travelled here, many of you would have been struck by the long distances that separate this country from most of its neighbours. You probably also appreciate the long distances to be covered within Australia, for example nearly 4,000 km between Darwin and Melbourne.

Faced as we are by what one of our historians has called "the tyranny of distance", Australians have a keen interest in ensuring that systems for communications at a distance ("telecommunications") are effective, efficient and economical. This applies both nationally and internationally.

Consequently, we support the work of the CCITT, which is a remarkably open organization in which national regulatory authorities, network operators, international telecommunications carriers, international standard organizations, communication companies and others have a long history of productive and cooperative achievement.

Although Australian cities along our extensive coastline are similar to modern cities in many other parts of the world, our less densely populated areas face many of the problems of developing countries.

Our national satellite system (AUSSAT) began operating in 1985. When the system was being planned in the early 1980s, people living in remote parts of Australia were asked what communication services they most needed. I am told they wanted 3 things above all:

- FIRST, they wanted a telephone

- SECOND, they wanted a telephone that worked, and

- THIRD, they wanted a telephone that worked all the time.

That, I am sure, is a theme that is familiar to many countries represented here. The CCITT has an important role to play in both enhancing the effectiveness and efficiency of basic services as well as giving a world focus to the newly emerging technologies typified by the integrated switched digital network or ISDN.

As members of the world community, we in Australia want to play our part in providing the diversity of services that people need - the educational, business, financial, scientific and cultural links and facilities that benefit us all.

Over the next two weeks you face the challenge of a huge volume of work. It is to the credit of the CCITT that we all expect that you will be able to complete your agenda within the consensus decision-making process which is the hallmark of the technical work of the ITU.

I and our Government have every confidence that you will strive to maintain and strengthen the role of the CCITT as you review the work and the processes for accomplishing it at this Plenary Assembly. As you have the benefit of participation by innovators and regulators from around the world, from organizations large and small, I also have every confidence that you will maintain and encourage the widest support for the multilateral work of the CCITT to the benefit of all member countries.

Therefore, it gives me great pleasure to open this IXth Plenary Assembly of the International Telegraph and Telephone Consultative Committee."

ANNEX C

Address by Mr. M.K. Ward, Chairman of the Plenary Assembly

"Mr. Minister,
Mr. Secretary-General of the ITU,
Directors of the CCITT and CCIR,
Ladies and Gentlemen,

It was a singular honour for Australia in its bicentennial year that its invitation to host the IXth CCITT Plenary should have been accepted by the ITU Membership. It is a personal honour for me to have been appointed as Chairman of the Plenary. You may be assured that it will, with your cooperation and the skill and professionalism of the ITU officials make every effort to bring the Plenary to a most successful conclusion. In that way we would, of course, have prepared the path for the work of the Study Groups for the important study period ahead.

I might take a moment of the Plenary's time to note that Australia's involvement in international conferences dates back to 1878 when the State of South Australia joined the International Telegraph Union. The other states followed progressively until by 1896 all six States were members and entitled to one vote each. With hindsight that was quite a voting edge which Australia, on paper at least, enjoyed. However, as we all know, the heart and strength of the ITU and CCITT is based on respect and consensus between participants and voting is seldom a factor.

Australia has been an active participant in meetings and conferences of the ITU almost since its inception. We value greatly the benefits to be gained from the exchange of views and experience with experts of other Administrations at ITU meetings.

The standards and practices developed in the CCITT have had a significant influence on the Australian networks.

At the same time, Australia with its own particular experience, has been able to make its own contributions to the development of technical and operational standards.

I look forward, over the next two weeks, to progressing the important work of the CCITT. I seek your assistance and expertise in dealing with the numerous questions and issues which will inevitably arise. I am confident that in the spirit of cooperation that is a trademark of ITU affairs that together we can produce a most satisfactory result for the Union and its Members.

Finally, may I welcome all delegates to this beautiful city of Melbourne and trust that in between your deliberations you will have time to enjoy its many attractions and to share the friendship of the Australian people."

ANNEX D

Address by Mr. R.C. Kirby, Director of the CCIR

"The international telecommunication family is privileged to meet in Australia. The unique geography and culture of this young nation are a fascination for people everywhere. Australia's example, influence, and contributions to world security, belie its youth and extend well beyond its Southwest Pacific Region.

Australian scientists and engineers have contributed fundamentally to radio science and communication technology over many years, clearly evident in CCIR's work on satellite communications, microwave radio relay, broadcasting, and radio wave propagations. Its pioneering work in radio astronomy contributes not only significant physical understanding of space and of our universe, but also important advances in receiver and antenna technology. For many years, CCIR was fortunate to have Eric Craig of Telecom Australia as eminent Chairman of satellite communications studies, until his untimely death in 1983.

Although most of CCIR work, about two-thirds, deals with radio frequency spectrum utilization, the remainder concerns radio system characteristics for communications, mobile radio, broadcasting, radiodetermination, and a wide variety of radio services identified in the Radio Regulations. Some of these are radio links forming part of public telecommunications networks and require liaison with CCITT. Besides two joint CCIR/CCITT Study Groups, on network transmission of broadcasting signals, and on telecommunications vocabulary, about 6% of CCIR Recommendations involve liaison with CCITT.

Satellite communications, radio-relay, and mobile radio are the main topics. Recommendations on interface, and link performance in the network, are studied in close cooperation with the relevant CCITT Study Groups. Digital satellite link performance has been shown capable of fully compatible performance in ISDNs. Advances in microwave radio technology assure 140 Mbit/s radio links fully compatible with wideband ISDNs. Future public land mobile radio systems are being studied, including spectrum requirements; and proposals are being made for a well defined interface, and a mode of cooperation with CCITT.

We are all here conscious of the important evolution and growth of telecommunications seen for some years, including the introduction of optical fibre trunks. A rapid evolution of *radio services* is also clear, both in public networks and private systems. We remember that besides communication and broadcasting, radio navigation and guidance systems, radars, radio meteorological sensing systems, and thirty other services using the radio spectrum are *telecommunications* as defined by the Convention and Radio Regulations. There are some 3,500 satellites in orbit today, about 350 of them in the geostationary satellite orbit. The number of satellites increases steadily, while their transmission capacity increases at a greater rate. Very small aperture terminals (VSATs), used for business communications in public networks and private systems, have seen dramatic growth: in North America from 4,000 VSATs in 1981 to more than 100,000 today, projected to 240,000 by 1992. A comparable projection for Europe is 80,000.

Phenomenal expansion of cellular mobile radio is well known. An even greater growth rate is seen for radio paging systems, as in the USA, from 1 million in 1980 to 6.5 million in 1987. Ship stations in the terrestrial maritime mobile service increased from 100,000 in 1980 to 200,000 today, reflecting mainly expansion of VHF radio in coastal waters. Satellite ship stations grew from 500 in 1980 to 7,000 today. On a global basis, the IFRB's count of entries in the Master Frequency List is 5 million today compared with 1.3 million in 1980. This would not include the vast majority of mobile and other short range applications not requiring international registration or protection.

It is clear that a vast array of radio services is growing with the information age. Work in the CCIs sharply reflects the evolution. CCIR's technical preparation for more than 15 World and Regional Administrative Radio Conferences held during the 1980s has been at an all time high level. The volume of Reports and Recommendations in CCIR's *regular* programme grew by 23% per study period, after deletion of many texts no longer required. Of necessity this was achieved without cost increase in the post 1982 period, by a number of measures including reduced duration and services for Study Group meetings. Adequate future CCIR support of the growing radio requirements will require even further attention to working methods and documentation.

I thank you for your kind attention and wish you a most successful meeting."

ANNEX E

Address by Mr. R.E. BUTLER, Secretary-General of the ITU

"Your Excellencies,
Mr. Chairman,
Ladies and Gentlemen,

Please accept on behalf of the ITU my warmest thanks for the organization of the IXth Plenary Assembly of the CCITT at Melbourne.

I know that I can speak for all of us here in saying how delighted we are to be here in Melbourne for these four weeks of conferences that in so many important ways will significantly shape the *Networks of the 90s*. The CCITT IXth Plenary Assembly, which will precede the World Administrative Telegraph and Telephone Conference, provides the concrete foundation for today's and tomorrow's telecommunication networks. Thus the ITU is honored that such major events in global cooperation are taking place as a contribution to the Australian bicentennial activities.

The Consultative Committee process of the Union today stands at the centre of worldwide telecommunication related activity - facilitating its innovation and growth. This activity has become the global node for exchanging information on countless characteristics of telecommunication networks, systems, and applications irrespective of the medium and for making critical decisions regarding planning, design, and provisioning throughout the telecommunication industry today. Indeed, the Union and its Organs have in reality become signalling transfer points for information availability necessary for many of the critical telecommunication decisions and activities worldwide.

Remarkable New Standards

The hundreds of remarkable new standards you have before you in the form of CCITT Recommendations stand to provide telecommunication facilities and services, and the applications they support with many fundamentally important if not revolutionary tools critical to implementation of the networks and systems of the 90s.

The very basis for improved operation of existing facilities, as well as many highly advanced signalling and switching systems, global electronic mail, open systems, and worldwide connectivity among diverse networks, applications, and equipment is contained in new ensembles of Recommendations. Indeed, every week now, the specialized trade press carry articles concerning these developments and how the telecommunication providers and users throughout the world are employing these standards to their advantage.

Judging from the new Questions awaiting adoption at this meeting, these developments are part of a continuum that would seem to stretch endlessly into the future and underscore the importance of this, the IXth Plenary Assembly, taking stock of the ability of the existing methods and structures to handle this ever-increasing volume of activities on a timely and efficient basis.

At the VIIIth Plenary Assembly, I flagged the importance of the Union's primordial role as the specialised United Nations intergovernmental body with its legislative and normative (standards) responsibilities with its universal representation. It was important to affirm basic responsibilities in meeting the requirements of Member States with the flexible relationships which we have with the recognised private operating agencies, industry users and other concerned authorities. More effective liaison became necessary with the other related organizations and in particular the ISO and the IEC, especially as a result of the onrush of digitalisation and the growing fusion of telecommunications and informatics. Clearly new systems and services have to be amenable to global use, with all the attendant advantages to users and for trade and commerce.

Yet, today, the rapid growth in technology and economic factors has driven us to national and regional standards activities to satisfy particular needs. If I perceive the organisation of these bodies clearly, their actions will be industry and user driven, and hence the importance for the Union to review its methods and assignments, as the pace of change is only likely to quicken.

Critical Improvements to the CCITT Process

For the Union, the challenge is the adaptation of the working of the Consultative Committees in the new technological and operational environments. One might ask, for example, if the conventional question and detailed studies approach over a four-year period that was fashioned in the mid-20s, is still adequate in the new environment? What kind of institutional and procedural changes will it take to make the international mechanisms more dynamic, yet not so unfettered that the process becomes unstable? Will the achievement of global standards suffer if the global international standards processes are not significantly improved, and accelerated in keeping with the changing environment and if the global bodies lag what are consequences in the wider economic issues? What will be the impact of the regional approach on interconnectivity in the global network?

For the networks of the 90s, a vast array of models are needed for network architectures, for performance, for service provisioning, for interfaces, for access to underlying functionalities, for interoperation with dedicated service and private networks, for terminal equipment, and for operation and maintenance; and all are receiving intense attention at national, regional, and international levels.

The changes in the environment will not only require new perspectives on international regulation and standardization, but are also likely to change the basic approach to the subject. I am sure you will wish to give very substantial consideration to this matter during the course of this Plenary Assembly. Critical decisions, that can no longer be deferred, must be made.

These avenues of international cooperation in the 1990s are likely to be major evolutionary advances, building on the best features of today's institutions to make them more responsive to he ever-increasing pace of change in telecommunications.

Thus I urge you also to consider all the world's telecommunication needs, and focus not only on the advanced technology, but also the means of improving the telecommunication networks, systems, and equipment that will serve worldwide needs. That is to say, the results must be responsive to the needs of the huge variety of users - be they in the developed or developing world, in large countries or small, in cities or in villages, at home, or in transit or in the office.

It is pragmatic, technology and operations based, consensual leadership that is the ITU's great strength - leadership toward standards, agreements, and goals that not only allow diverse networks and services to exist, but to grow and improve to meet the needs of all users in every corner of the globe."

FIRST PLENARY MEETING

(Minutes approved at the fifth Plenary Meeting)

Monday, 14 November 1988, at 1430 hrs

Subjects discussed:

1 Tribute to deceased delegates

2 Expression of appreciation to retired delegates

3 Establishment of Committees, election of Chairmen and Vice-Chairmen of Committees A-D and Working Group of the Plenary-1, and election of members of the Editorial Committee

4 Approval of the programme of meetings of the IXth Plenary Assembly

5 Working hours of the Assembly

6 Report by the Director on CCITT activities

7 Report by the Director on Plan Committees

8 Report by the Director on the CCITT Secretariat

1 Tribute to deceased delegates (Temporary Document 4/PLEN + Add.1)

1.1 The *Chairman* invited delegates to mark the passing of those former delegates to CCITT meetings who had died since the VIIIth Plenary Assembly.

The Assembly observed a minute of silence in memory of the deceased delegates.

2 Expression of appreciation to retired delegates (Temporary Document 5/PLEN + Add.1)

2.1 The *Chairman*, speaking on behalf of the Assembly, expressed appreciation for the contribution made to the work of the CCITT over the years by former delegates to its meetings whose retirement had been announced since the VIIIth Plenary Assembly.

3 Establishment of Committees, election of Chairmen and Vice-Chairmen of Committees A-D and Working Group PL/1, and election of members of the Editorial Committee

3.1 The *Chairman* drew attention to the decisions adopted at the inaugural meeting concerning the establishment of Committees, the election of Chairmen and Vice-Chairmen of Committees A-D and of Working Group PL1, and the election of members of the Editorial Committee. He also expressed his appreciation to those concerned for agreeing to take on their onerous tasks.

4 Approval of the programme of meetings of the IXth Plenary Assembly (Temporary Document 1/PLEN)

4.1 The *Chairman*, inviting comments on the scheduled programme of meetings, said that while the timetable represented a real challenge to the Assembly, all would agree that it had to be successfully completed if the Assembly's aims were to be met.

4.2 In response to the *Chairman of Committee D* who asked for meetings of Committees B and D not to be scheduled simultaneously, the *Director of the CCITT* said that every effort would be made to meet that request.

4.3 The *Chairman* took it that the Assembly approved the scheduled programme of meetings as a working document, subject to amendments in order to avoid simultaneous meetings of Committees B and D.

It was so *agreed*.

5 Working hours of the Assembly

The following working hours were *adopted*:

0900 - 1200 hours

1430 - 1730 hours.

6 Report by the Director on CCITT activities (Document AP IX-68)

6.1 The *Director of the CCITT*, introducing the report on the activities of the CCITT between the VIIIth and IXth Plenary Assemblies (Document AP IX-68), said that Part I provided a concise overview of the achievements of the fifteen Study Groups, which had been able to cope with their unprecedented work-load only by decentralizing tasks to Working Parties, Rapporteur Groups and individuals. Such decentralization had yielded good results and should be extended. Part I also reviewed the major achievements of the Preparatory Committee for WATTC-88 and of Special Group "S" which were covered in more detail in Documents AP IX-27 and AP IX-1, respectively.

6.2 The *Chairman of Committee D* asked when consideration of the report of Special Group "S" would begin, since it was essential to know as soon as possible if there was to be a new policy for the work of the CCITT.

6.3 The *Director of the CCITT* said that the report of Special Group "S" was to be presented to the first meeting of Committee A on the following day. Turning to the subject of the Special Autonomous Groups (GAS), he said it was worth noting that most of the Handbooks prepared by them during the report period were already in print or close to publication. In addition, steps taken to cut production costs through in-house printing had halved the price of such publications and encouraged hopes of promoting their sale. However, it was difficult to find good authors willing to contribute to such Handbooks.

6.4 The *Secretary-General* said that modernization in ITU had made it possible to reduce the price of Handbooks significantly. Following a recent review of publication policy, a document had been prepared for consideration by the Administrative Council which aimed to eliminate the subsidies which the publications budget bore for the regular activities of the Union, and to establish a more appropriate pricing policy for information which would be available in various forms. Another topic for consideration was the gain that might be achieved by making information available through electronic means. In some cases, the availability of access to information banks had to be foreseen. A third subject was the possibility of using secondary distribution points, which experience suggested might yield additional profits and income. All those aspects were covered by the document he had mentioned which would be submitted to the Administrative Council.

6.5 The *Chairman of Committee D*, speaking as Senior Chairman of the Special Autonomous Groups (GAS) and coordinator of their and other technical assistance activities provided by the CCITT, appealed to all Member countries for support in establishing a clear and concise programme of development assistance.

6.6 The *Chairman* said that the Assembly would wish to record its appreciation of the steps taken and the progress achieved in making Handbooks more readily available.

6.7 The *delegate of the United States of America* asked if the Secretary-General could comment on the use of receipts from sales of Handbooks to reduce deficits on technical cooperation activities.

6.8 The *Secretary-General* said that it was desirable to clarify terms. As a result of decisions taken by governments elsewhere in the United Nations system, the Administrative Council had to find sources of additional finance, such as from the Publications Account, to meet the Union's responsibilities to share the management costs of the technical cooperation activities. Sales of the Red Book and some other service publications of the General Secretariat, including secondary distribution by entrepreneurs, had produced profits which had been used in that way. The document prepared for the Administrative Council to which he had already referred recognized that existing policy inhibited making texts available by means of the electronic media, because of the possible impact on sales of printed copies. More appropriate pricing policy would avoid unauthorized copying. But there was the possibility of using copyright and royalties to produce further income and the Administrative Council could then decide what to do with any revenues from sources of publication sales.

6.9 The *Director of the CCITT* said that cooperation with the CCIR, the IEC, the ISO and UPU had developed successfully. Relations with many other international and regional organizations had also expanded and further progress was anticipated.

6.10 The *Chairman* said that acknowledgement should be made of the technical assistance provided by the Secretariat of the CCITT.

6.11 The *Director of the CCITT* illustrated by means of transparencies, the impact of the statistical information contained in Part II of Document AP IX-68. The first illustrated the evolution in the number of participating recognized private operating agencies, which had led to an increase in documentation and meeting facilities, since the number of delegates had increased correspondingly.

The second transparency showed that the policy of decentralization had permitted a reduction in the number of meeting days without any diminution in the volume of work carried out.

The third showed a breakdown of reports and contributions over the study period. The Director pointed out that, despite the apparently small increase in the number of reports, the amount of material contained was far higher.

The fourth concerned the rapid increases in mailing costs over the years as a proportion of the total CCITT budget. Despite the significant reduction from 1981 to 1983, resulting from the introduction of "one address mailing", costs had risen in 1984 as a result of the Plenary Assembly in that year and in 1986 because of higher postal charges. By 1987, that cost was 900,000 Swiss francs and in 1988 1.6 million Swiss francs (corresponding to 16,000 pages for the Plenary Assembly). Such measures as the use of a courier service had not achieved adequate reductions. Mailing costs, which had previously formed 15-20% of the total budget, were currently over 33% and for that reason, among others, the CCITT was proposing modifications to decrease expenditure.

The fifth transparency illustrated the fact that whereas the number of Recommendations had shown a linear increase, the number of pages had increased almost exponentially, since each Recommendation was more detailed, sometimes containing as many as 1,000 pages. The books produced by the CCITT were almost doubling in size every four years, as the sixth transparency showed. Over the last study period alone 150 million pages had been produced, which, as the seventh transparency illustrated, would reach a height of eight kilometres, the same as Mt. Everest, and weigh 400 tons.

The last transparency indicated changes in staff numbers, decreased by 10% as a result of a decision by the Plenipotentiary Conference in Nairobi. It was important that delegates should be made aware of the statistics he had adduced.

6.12 The *delegate of Lebanon* pointed out that the size of the Secretariat was limited by the size of the budget and urged that the Administrative Council be recommended to give careful consideration to the CCITT's future funding.

6.13 The *delegate of Spain* said that the growth in the amount of material produced was to be applauded, as demonstrating greater interest in the work of the CCITT. Although the efficiency of the CCITT itself was not to be impugned, he questioned whether better use might not be made of the Secretariat and suggested that further funds should be made available together with greater use of

modern technology. The whole question of publications was important and should be dealt with conclusively at the next Plenipotentiary Conference. Specific proposals to improve the situation should also be put forward by the Administrative Council.

6.14 That view was supported by the *delegate of Mexico*, who said that, since the problem lay in funding, new ways of storing and distributing information must be found.

6.15 The *delegate of the Federal Republic of Germany*, expressing his admiration of Document AP IX-68, urged the Administrative Council to use it as a basis in its preparation of the next Plenipotentiary Conference in order to show delegates the problems facing the CCITT over the next 5-10 years. At its session in January 1989 the Administrative Council should be made aware of the concerns expressed by the Assembly.

6.16 The *delegate of the United Kingdom* said that he was impressed with the Director's report and his efficiency in the use of manpower. In view of the striking statistics, he wished to know what conclusions were intended to be drawn. He sought the Director's own opinion of whether less material should be produced or more funding sought.

6.17 The *Chairman* said that the Director had deliberately posed questions without offering conclusions. Document AP IX-68 would be of great use in the deliberations of Committee A on efficiency and the correct use of technology.

6.18 The *Secretary-General* pointed out that the Director was not requesting an increase in staff nor had the budget ceilings been exceeded. The question was whether the CCITT could produce timely results. He reminded delegates that, while the CCITT Secretariat totalled 42, the main production work was carried out by the General Secretariat. Enlarging the CCITT Secretariat would therefore not solve the problems posed by the constant increase in material and the need for more rapid decisions. He wondered in fact whether delegates were able to absorb all the documentation produced. He warned that if the CCITT processes did not match technological changes, others in the standardization field would not wait and that would be to the detriment of global network considerations. Some matters concerning new working methods had to come before the Plenipotentiary Conference for agreement. Resolution No. 2 might have to be reconsidered in that connection.

6.19 The *Director of the CCITT* confirmed that he was not requesting an increase in staff or resources but wanted to create an awareness that the current explosion could not continue unchecked. It was a time for decisions as to how existing resources could be used more efficiently. He suggested that the Plenary Assembly might modify Resolution No. 1 without waiting for the Plenipotentiary Conference.

6.20 The *Chairman took note* of the correction requested by the delegate of Japan concerning Japanese participation in the Plan Committee for Africa.

He then suggested that further discussion be left to Committee A. He wished to express formally the appreciation of the Assembly for the work of the Secretariat and the Study Groups and to take formal note of the report, which would be referred to Committee A for its deliberations, and to the Administrative Council with the Director acting as Rapporteur.

It was so *agreed* and the report was *noted* by the Plenary on that understanding.

7 **Report by the Director on the Plan Committees** (Document AP IX-71)

7.1 The *Director of the CCITT* outlined the main features of his report on the Plan Committees, including their structure, the activities of the Regional Plan Committees and the meeting of the World Plan Committee in Lisbon-Estoril in February 1988. He drew attention to § 4.4 concerning direct access to the ITU data base: after a report by an ad hoc Study Group, five Administrations were using that facility on a trial basis with encouraging results; and to §§ 4.6 (CCI network planning and development studies of particular interest to developing countries), 4.7 (Questions to be submitted to the CCIs) and 4.9.1 (Future activities of the Committees) which would be discussed further in connection with the Special Study Group "S" report.

7.2 The *delegate of the United States of America* regretted that there was only a passing reference to the World Plan Committee meeting held in Washington in 1985.

7.3 The *delegate of France* suggested that access to the ITU data base discussed in § 4.4 could be the answer to some of the concerns raised earlier in connection with Document AP IX-68.

7.4 The *Secretary-General* concurred, stressing the need for decisions on publications, whereby the information base would be more widely available to Members, with a consequent saving on paper and postage. Trials were also proceeding with direct access to Maritime Services Operational Information.

7.5 The *Chairman* formally expressed the Assembly's appreciation of the Secretariat and the Plan Committees. Note would be taken of future developments and the report would be referred to the Administrative Council.

It was so *decided*.

8 Report by the Director on the CCITT Secretariat (Document AP IX-67)

8.1 The *Director of the CCITT* gave a brief description of his report on the CCITT Secretariat. Its structure was intended to increase efficiency. Since his appointment, he had introduced a greater spread of grades. He drew attention to Annexes 1 and 2 containing manning tables and to § 3 of the document listing officials who had retired during the 1984-1988 study period.

8.2 The *Chairman* expressed his appreciation of the services rendered by those retired officials.

The Plenary *took note* of the report for transmission to the Administrative Council through the Director.

The meeting rose at 1730 hours.

SECOND PLENARY MEETING

(Minutes approved at the fifth Plenary Meeting)

Tuesday, 15 November 1988, at 0905 hrs

Subjects discussed:

1 Report of Study Group I

2 Report of Study Group II

3 Report of Study Group III

1 **Report of Study Group I** (Documents AP IX-81, 82, 83, 84, 153, 157; AP IX-155; Temporary Document 17/PLEN)

1.1 The *Chairman of Study Group I* (Mr. Israël, Canada) said that the final report of Study Group I to the IXth Plenary Assembly was contained in Documents AP IX-81, 82, 83 and 84.

Document AP IX-81 gave a general summary of activities. The cooperation and liaison within the CCITT and with other organizations, (particularly with the UPU), had been very fruitful, as noted in Part I, section 3. With regard to the results summarized in section 4, good progress had been made in enhancing the existing telex and mobile services; some progress - perhaps less than might have been hoped - had also been achieved in simplifying the telegram service. In three new and important areas - message handling services, international public directory services and multi-destination satellite services - substantial progress had been recorded. The activities of the CCPS/CCITT Contact Committee, referred to in sub-section 4.6, had been most fruitful; it was hoped, therefore, that Resolution No. 11 would be maintained unchanged.

As noted in section 5 of Part I, adoption by the Plenary Assembly of the proposals to restructure CCITT Study Groups would have a major impact on Study Group I's terms of reference and scope of work. It was hoped, therefore, that the Plenary Assembly would be judicious in considering the proposals to be submitted by COM "S" and by Administrations.

With regard to the general issues noted in Part II, it would be seen that draft Recommendation F.73 was the subject of reservations by France, shown in Document AP IX-157 and Temporary Document 17/PLEN. As could be seen from sub-section 2.1 of Part II, Study Group I proposed that the modifications to Recommendations F.1, F.42, F.60, F.61 and F.110 could enter into force on 1 January 1989, and that those Recommendations should all be classified as "instructions" in accordance with Recommendation C.3.

It would also be seen, from sub-section 2.2, that a new Note 4 was proposed, in the "Introductory notes" to Recommendation F.1, in order to reflect the UPU request to make 1 July 1990 the date of entry into force of certain modifications relating to POSTFIN telegrams, in order to align with the entry into force of the new UPU Acts following the UPU Congress in November, 1989. Section 3 contained three draft new Recommendations and a revision of Recommendation B.11, submitted for the Plenary Assembly's approval.

1.2 The *Secretary-General* said that although the subject matter of draft Recommendations C.2 and C.3 was of great interest, he doubted whether such texts, as currently worded, could be published in the Blue Book. For example, the proposal reflected in *recommends* 3 of draft Recommendation C.2 seemed contrary to established orders of procedure and were matters for decision by WATTC. That section of Study Group I's report should be forwarded, through his office, to the forthcoming WATTC, which in any case was the competent organ on the scope of reciprocal exchange of information and periodicity of publications.

With regard to draft Recommendation C.3, the concept of "instructions" had been a key factor in the negotiations in WATTC 73 and he welcomed its promotion. He greatly appreciated the unanimous concern for allowing ample time for the introduction of modifications, and the Chairman of Study Group I had mentioned the need for coordination with the UPU. On the other hand, the date of 1 January, 1989 for entry into force of the F-Series Recommendations pursuant to draft Recommendation C.3 seemed unduly short, despite the indication given in the ITU Operational Bulletin of 27 October 1988, especially for the roughly 100 Administrations not participating in Study Group I's activities. The Blue Book should be confined to the definitive texts adopted at the Plenary Assembly.

In his view, therefore, draft Recommendation C.2 should be passed as information to WATTC-88 and C.3 should be editorially amended and then action could be pursued during the next study period.

1.3 The *Chairman of Study Group I* said that perhaps the texts should be brought to the WATTC's attention before publication in the Blue Book. The Secretary-General's remarks about the interval between adoption and entry into force of new and amended provisions would be noted in future.

1.4 The *delegate of Lebanon* thought that the Plenary Assembly should refrain from adopting the relevant part of Study Group I's report until the Administrative Conference could rule on the proposals concerned.

1.5 The *Secretary-General* agreed in general with that view. The point of issue was agreement among the Union's Members on mutual exchange of information, and responsibility rested ultimately with a competent conference or the Administrative Council - a point not reflected in the texts concerned.

1.6 The *delegate of Mexico* supported the view that the texts should be put to the WATTC.

1.7 The *Chairman of Study Group I*, replying to a question by the *delegate of Australia*, said that draft Recommendation A.30 was not in question; the problems being discussed related to draft Recommendations C.2 and C.3. He agreed that delay in adopting the latter would have implications for draft Recommendations F.2 and F.79.

1.8 The *Secretary-General* thought that draft Recommendations C.2 and C.3 both required editorial amendment, particularly to *considering* (c) and (d) of the latter text. In response to an observation by the *delegate of the United Kingdom*, he felt that the wording used in the Final Acts of the WATTC (Geneva, 1973) and his own comments on the same subject at the VIIIth Plenary Assembly did indeed suggest that "entry into force" was deemed too strong a term to use in regard to non-binding texts such as instructions.

1.9 The *delegate of Spain* agreed that the text of draft Recommendation C.3 should be revised.

It was *agreed*, on a proposal by the *Chairman*, that a Working Group should be convened, including the delegates of Australia, Spain and the United Kingdom, to redraft the text of draft Recommendation C.3, taking into account the various points raised during the current meeting.

1.10 The *delegate of France* briefly recapitulated his Administration's reservations, set forth in Document AP IX-157 and Temporary Document 17/PLEN, in respect of draft Recommendation F.73.

1.11 The *delegate of the Federal Republic of Germany* associated his Administration with those reservations, which he proposed should be recorded in the text.

1.12 The *Chairman of Study Group I* said, in response to an observation by the *delegate of Lebanon*, that the Group had striven to reach a consensus on the matter. The French Administration's reservations had valid grounds and could perhaps have been more clearly voiced earlier. The paragraphs which gave rise to the difficulty would be reviewed very early in the next study period, and a satisfactory solution would doubtless be found.

It was *agreed*, on a proposal by the *Chairman*, that draft Recommendation F.73 should be approved, the French Administration's reservations being recorded in the Blue Book and discussed further during the next study period; the matter of referencing referred to in 4.4.2.1 would be corrected prior to publication.

It was also *agreed* to maintain Resolution No. 11 unchanged, and to take note of Document AP IX-84 for transmission to Committee B.

Subject to the considerations mentioned, the Assembly *took note* of the report of Study Group I.

1.13 The *representative of the Universal Postal Union (UPU)* thanked the CCITT for having invited his organization to participate in the meeting. The UPU had been pleased to participate in the work of Study Group I and was encouraged by the results of the cooperation between the UPU's Consultative Council for Postal Studies (CCPS) and the CCITT. He expressed his organization's thanks to the Secretary-General, the Director of the CCITT and the Chairman of Study Group I for their support and encouragement during the last four years. The CCPS/CCITT Contact Committee was not a committee that met frequently and that was one of its chief attractions. Its existence over the past four years had allowed the two organizations to meet on an "as-needed" basis. The UPU strongly supported the continued existence of the Committee and was pleased that the Plenary Assembly had agreed that it should continue to exist. In closing, he congratulated the Chairman and the members of Study Group I on the work accomplished to date and also congratulated the Chairman of the Plenary Assembly on his election and the way in which he was performing his role.

2 Report of Study Group II (Documents AP IX-14, 15, 16, 17)

2.1 The *Chairman of Study Group II* (Mr. Gosztony, Hungarian People's Republic) summarized, with the aid of transparencies, the activities of the Study Group and its six Working Parties, described in Documents AP IX-14-17. Thirty-seven new Recommendations had been drafted, 37 existing Recommendations revised and 28 new Questions proposed for study. Important results had been achieved in all six Working Parties. Working Party II/1 had dealt with automated credit cards and credit card validation, international freephone service, field trials on computerized directory assistance for operators in foreign countries, the definition of ISDN services and technical guidance for the WATTC. Working Party II/2 had studied the human factor aspects of ISDN, as well as operating procedures for cardphones, and agreement had been achieved with ISO on the use of keypads with 1-2-3 on the top layout. Working Party II/3 had dealt with call routing in the ISDN area, the overview of modern routing principles, the introduction of ISDN numbering (Time "T"), numbering plan interworking and non-voice applications on the public switched telephone network (PSTN). Working Party II/4 had carried out a great deal of work on network planning, market research-based forecasting for new services, traffic measurement methods and ISDN traffic engineering. Working Party II/5 had dealt with matters concerning service quality on connection retention, telephone/ISDN numbering plan and selection procedures for the INMARSAT system, as well as network management and quality of service issues, the latter in quasi-independent groups. Working Party II/6 had achieved important results concerning speech loss due to transmission interruptions shorter than 10 seconds, field data collection and evaluation (CCITT-IEC Group), and a first step had been taken in the economic evaluation of dependability for network planning which could serve as a performance model for different services.

After describing briefly the working methods of the Study Group and noting that interregnum work was still continuing, the Chairman of Study Group II drew attention to some general problems. Within the CCITT cooperation requirements had increased, but liaison practice had not improved. In some organizations there was a lack of internal coordination of CCITT work. Continuous streamlining of CCITT methods was desirable and, although he agreed with the opening presentation of the Director of the CCITT, he believed that a given amount of resources, even if perfectly organized and utilized, had a natural performance limit and that overload would lead to breakdown. Today, the CCITT played an important role in coordinating research and development activities and in the future there would be a certain amount of competition in telecommunications standardization. The basic question was not one of better or worse results, but of survival. There were also some special difficulties such as the lack of enthusiasm of those interested in ISDN, who possibly felt that it was too early to deal with the profit-making area of network operation. The operational problems of different services had been and would continue to be studied separately. New technologies could only be profitable if the

corresponding services were offered worldwide, i.e. in a network-oriented manner. Network operations had to fit the new technologies and Administrations, RPOAs and manufacturers would not tolerate Recommendations on network operations that were lagging behind requirements. Direct input from experts in new technologies was therefore necessary for drafting the relevant Recommendations and it was desirable that the CCITT undertake more network operational studies more quickly. He concluded that the main results had been achieved in the fields covering automated credit cards, the human factors aspects of ISDN, time "T" and numbering plan interworking, ISDN traffic engineering, numbering plan and selection procedures for the INMARSAT system and the economic evaluation of dependability, and expressed his thanks to all who had supported the work of Study Group II.

2.2 The *Chairman* said that the comments on working methods would be noted by Committee A and new Questions referred to Committee B.

2.3 In response to the *representative of Brazil*, the *Chairman of Study Group II* confirmed that with respect to the work done on automated credit cards, all relevant ISO standards had been taken into account.

2.4 The *representative of Greece* enquired as to the procedure to be followed for Recommendation E.141 (Document AP IX-14) in view of that already decided for Study Group I's draft Recommendation C.3; he asked in particular whether the latter Recommendation also covered Recommendation E.141 (Instructions for the international telephone service), and expressed the view that all the Recommendations, whether revised or new, which were classified as "Instructions" should come into force on 1 October 1989 to enable Administrations to make the necessary adaptations. The *Chairman of Study Group I* confirmed that since Recommendation E.141 appeared in Table 1 of draft Recommendation C.3 it would be treated appropriately when draft Recommendation C.3 was amended by the Working Group set up for that purpose (see also the Minutes of the tenth Plenary Meeting, §§ 5.4 and 5.5).

2.5 The *Chairman* thanked the Chairman and members of Study Group II for the work they had carried out over the last four years and suggested that the Assembly take note of the Study Group's report and Recommendations.

It was so *decided*.

3 Report of Study Group III (Documents AP IX-77, 78, 79, 80, 153; Temporary Documents 15/PLEN, 16/PLEN).

3.1 The *Chairman of Study Group III* (Mr. Rouxeville, France), introducing the Study Group report, pointed out that Study Group III was different from others in that it dealt mainly with financial problems via the study of the tariff and accounting problems assigned to it by the Plenary Assembly. The regulatory changes which had taken place in recent years in numerous countries were making it increasingly difficult to reach agreements on tariff matters.

The results of the work carried out during study period 1985-88 were described in Section 5 of Document AP IX-77. That work had resulted in the preparation of twenty-five draft new Recommendations and the revision of existing Recommendations as well as the modification of Supplement No. 1 to Fascicle II/1 of the Red Book. A new Supplement No. 3, to be included in the fascicle, had also been prepared.

In order to carry out its work, Study Group III had set up eight Working Parties and appointed two Special Rapporteurs. Mention also had to be made of the four Regional Tariff Groups (TAF, TAL, TAS, TEUREM), which were attached to Study Group III but which carried out their work independently. The contributions made by the various groups or Special Rapporteurs could be summed up as follows:

- Working Party III/1 had prepared draft new Recommendation D.8 relating to the tariff principles for international digital leased circuits for private service. It had also revised certain provisions of Recommendations D.1, D.2, D.3 and D.4. It would however be necessary in the course of the coming study period to undertake a thorough revision of Recommendation D.1 in order to take into

account technological developments and the changing needs of customers, which called for a substantial adaptation of the present regulatory framework. The same also applied to Recommendation D.6 and also to Recommendations D.2 and D.3 in view of the fact that the progressive digitalization of networks made it imperative to change the tariff structures of analogue leased circuits.

Working Party III/2 had performed a considerable amount of work by preparing three draft new Recommendations relating to general tariff and accounting principles for non-voice services provided by interworking between public data networks, tariff principles for short transaction transmissions on public packet-switched networks and general charging and accounting principles in the international public interpersonal messaging (IPM) service.

Valuable work had also been done by Working Party III/3, which had drawn up a set of proposals concerning the transfer of the tariff provisions from the F-Series Recommendations to the D-Series Recommendations and had prepared a number of draft new Recommendations including one relating to the charging and accounting principles for the international telemessage service.

Working Party III/4 had concentrated in particular on tariff principles and accounting in the international freephone service (IFS) and credit card telephone calls, and had prepared two draft new Recommendations in that connection.

Working Party III/5 had made considerable progress by preparing draft Article 6 of the future International Telecommunication Regulations in liaison with PC/WATTC-88. It had also prepared draft new Recommendation D.193 relating to tariff principles for privilege telecommunications.

Extremely important results had been obtained by Working Party III/6, which had been responsible for studying tariffs and accounting for the services offered on the ISDN. Seven draft new Recommendations had been prepared in that connection.

Working Party III/7 had prepared a first version of what would subsequently become a Handbook on the methodology for determining costs and establishing national tariffs. The document in question was contained in Supplement No. 3 to Fascicle II.1 of Volume II.

Finally, Working Party III/8, which had been responsible for studying the tariff and accounting principles for all the mobile services, had prepared two draft new Recommendations.

As for the Regional Tariff Groups, TAF and TAS had not been able to complete the cost studies undertaken at the beginning of the study period but results were anticipated for the period 1989-92. On the other hand, the TEUREM group, in addition to revising a number of Recommendations in the D.300 R-Series, had prepared two draft new Recommendations, one relating to the remuneration of public packet-switched data transmission networks and the other the remuneration of digital systems and channels. Reservations had been made in connection with the two draft Recommendations by Belgium on one hand and by the Netherlands and United Kingdom on the other.

In conclusion, it was extremely important that Study Group III should be able to continue to prepare precise Recommendations in the field of tariffs despite the highly changeable international environment. If it did not, it was to be feared that the CCITT would lose the initiative in favour of regional organizations or bilateral agreements.

3.2 The *Secretary-General*, making a general comment concerning the Regional Tariffs Groups, stressed the importance of maintaining a close relationship with regional organizations such as the Pan African Telecommunication Union and the Asia Pacific Union which were now responsible for, and indeed, engaged in, such studies.

3.3 The *delegate of India* said that at the Study Group's final meeting his Delegation had expressed reservations concerning Recommendations D.60 and D.155. On further consideration however, it had come to the conclusion that the matters involved went beyond the purview of the CCITT and should be taken up at the forthcoming WATTC. Accordingly, while maintaining its reservations, his Delegation did not wish them to be debated at the present Plenary Assembly.

3.4 The *delegate of Cuba*, referring to the draft revised version of Recommendation D.2 set out on page 11 of Document AP IX-79, said that it was surely premature to adopt the European network as a basis for determining equivalent numbers of minutes. Recommendations D.1, D.2 and D.3 should receive further in-depth study during the next study period.

3.5 The *delegate of the Federal Republic of Germany* pointed out that, in the words of the preamble to Recommendation D.2, the European network could "serve as a guide to other Administrations with comparable networks"; there was no suggestion of its being imposed as a model.

3.6 The *Chairman* assured the delegate of Cuba that the point he had raised would be given full consideration during the next study period.

3.7 The *delegate of Senegal* said that the results of the work of the TAF Regional Group gave grounds for concern. A new approach in line with the network situation in the countries concerned was clearly called for. He endorsed the Secretary-General's remarks concerning the importance of cooperation between the Regional Tariff Groups and Sub-Regional organizations in the telecommunications field.

3.8 The *delegate of the United Kingdom* said that the definition of "accounting rate" appearing in the draft revised version of Recommendation D.000 (Document AP IX-79, page 5) contained the words "per traffic unit(s)" which did not appear in the original 1973 text. His Delegation intended to submit a proposal on the issue at the forthcoming WATTC, and he accordingly suggested that no decision on the definition of "accounting rate" should be taken at the Plenary Assembly.

It was so *agreed*.

3.9 The *delegate of Spain* introduced the proposals in Temporary Documents 15 and 16 relating to Recommendation D.193 (Document AP IX-78, pages 45 and 46).

3.10 The *delegate of the Federal Republic of Germany*, referring to the proposal in Temporary Document 15, remarked that in view of the heavy deficit at which telegraph services were operated, it was quite appropriate that privilege telegrams should be allowed only in the absence of facilities for privilege telephone calls.

After discussion, it was *agreed* that the Chairman of Study Group III should review the text of Recommendation D.193 in the light of the Spanish proposal and re-submit it before the end of the present Plenary Assembly.

3.11 In reply to a question by the *delegate of Greece*, the *Chairman of Study Group III* said that it was envisaged that all revised or new Recommendations with a bearing on tariff matters should enter into force on 1 January 1989.

3.12 The *delegate of Netherlands* drew attention to his Administration's proposal contained in Document AP IX-153.

The *delegate of the Federal Republic of Germany* referring to this footnote, remarked that an Administration* requesting a minimum accounting rate share for a number of words different from the number recommended would automatically entitle the other terminal Administration* to account for the same minimum number of words.

The *Chairman* asked the Assembly whether it would agree to insert the footnote in the appropriate Recommendation, D.42. The request gave rise to a number of objections on the part of several delegations, which stated that they could not accept such a reservation. After discussions between those delegations and the delegate of the Netherlands, the latter withdrew his proposal (Document AP IX-153). However, he asked that the following statement be included in the minutes of the meeting:

> "The Netherlands Administration reserved the right to apply a minimum of 25 chargeable words for international accounting purposes in relations with countries where specific delivery arrangements for telegrammes have been abolished, resulting in excessive delays in delivery."*

Subject to review of Recommendation D.193 and on the understanding that no decision had been taken concerning Recommendation D.000 pending the forthcoming WATTC, the Plenary Assembly *took note* of the report of Study Group III.

The meeting rose at 1240 hours.

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*) *Note by the Secretary of the Plenary Assembly* - This statement was received by the CCITT Secretariat in a letter from The Hague dated 14 December 1988 (see also the Minutes of the 10th Plenary session).

THIRD PLENARY MEETING

(Minutes approved at the tenth Plenary Meeting)

Wednesday, 16 November 1988, at 1430 hrs

Subjects discussed:

1 Report of Study Group IV

2 Report of Study Group V

3 Report of Study Group VI

4 Report of Study Group VII

5 Report of Study Group VIII
Relations between the CCITT and the IEC and ISO

- Coordination ISO/IEC-CCITT
- Resolution No. 8

6 Report of Study Group XI

7 Report of Study Group XII
Report on the CCITT Laboratory

1 Report of Study Group IV (Documents AP IX-29, 31, 32, 33)

1.1 The *Chairman of Study Group IV* (Mr. Marchese, United States of America), introducing the documents, detailed the activities of the Study Group in four distinct areas of maintenance work and in the specification of measuring equipment. The Group had also produced a new Recommendation on maintenance terminology and definitions. As a result of its work in the 1985-1988 Study Period, the Group had produced 22 new Recommendations and five new supplements to Volume IV of the Red Book, and had updated 72 Recommendations and the existing supplements to Volume IV.

The Study Group had made excellent progress in providing maintenance support Recommendations in line with the expansion of telecommunications technology. He thanked the Director and Secretariat of the CCITT for their support and the members of the Study Group and its Special Rapporteurs for their great cooperation in achieving that progress.

In conclusion, he requested the Plenary Assembly to approve the report of Study Group IV in Document AP IX-29 and its proposed new and revised Recommendations in the M-, N- and O-Series set out in Documents AP IX-31, 32 and 33.

1.2 The *delegate of the United Kingdom* pointed out that where Administrations implemented revised Recommendation M.140 prior to 1990, it was important that the agreement of receiving Administrations should first be obtained and that both Layer 1 (circuit designation details) and Layer 2 (circuit provisioning details) be provided.

1.3 The *Chairman* indicated that although the point concerned implementation, it would be noted. On behalf of the Plenary Assembly, he thanked the Chairman and members of Study Group IV for all their efforts.

The report of Study Group IV was *adopted*.

2 Report of Study Group V (Documents AP IX-85, 86; Temporary Document 13/PLEN)

2.1 The *Vice-Chairman of Study Group V* (Mr. Lorke, German Democratic Republic) conveyed the regrets of its Chairman (Mr. Gratta, Italy) for his inability to present the report for reasons of health.

In the Chairman's absence, the Vice-Chairman reported that the main result of the Group's work during the study period had been the completion of a new 1988 edition of "Directives concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines", in nine self-contained volumes. The Directives had been drafted in close cooperation with CIGRE and UIC.

In connection with the proposed international seminar to promote those Directives, the French Administration had submitted a request in Temporary Document 13/PLEN that the Director of the CCITT arrange for their text to be published simultaneously in the three working languages of ITU some time in advance of the seminar. He believed that request to be acceptable, subject to some relaxation of the notion of simultaneity to avoid unnecessary delays in publication. However, the Secretariat should endeavour to have all three language versions available as nearly as possible at the same time.

Other results of the Group's work included the six new Recommendations and five revisions of existing Recommendations in the K-Series set out in Document AP IX-86. The Group had cooperated closely with other international organizations, in particular CIGRE and UIC, throughout the study period.

In conclusion, he thanked all members of the Study Group, especially its Special Rapporteurs, and the Director and Secretariat of the CCITT, for their excellent support.

2.2 The *delegate of France* agreed to the proposed relaxation of the terms of his Administration's draft request to the Director of the CCITT in Temporary Document 13/PLEN.

2.3 The *Chairman*, noting the achievement of Study Group V in completing the new Directives and its close liaison with other international bodies, paid tribute to the great contribution made by its Chairman, whose absence he regretted.

2.4 The *representative of CIGRE* expressed appreciation for the close cooperation between the CCITT and his organization and looked forward to even closer relations with Study Group V.

The report of Study Group V was *adopted*.

3 Report of Study Group VI (Documents AP IX-63, 64)

3.1 The *Chairman of Study Group VI* (Mr. Nikolsky, USSR), introducing the report, said that much had been accomplished during the study period, including completion of 14 of the 19 Questions allocated to the Group. But its fundamental achievement had been the preparation of the Handbooks on "Outside plant technologies for public networks" and "Construction, installation, jointing and protection of optical fibre cables". As compared with earlier periods, the Study Group's main attention had now switched from concern with protection against corrosion to the development of optical fibre cable technology. In that and other fields, generally, the Group was taking careful account of the long experience of Administrations and other organizations and of the latest technical trends. In addition to the Handbooks, three new Recommendations and three revisions of existing Recommendations in the L-Series had also been prepared.

The Study Group had been greatly assisted in its work by the appointment of Special Rapporteurs for all subjects and by Working Party meetings organized in cooperation with the Secretariat. The number and quality of contributions to the Group's work and the growing number of its participants had reflected the increasing interest of Administrations in its activities. The volume of work completed was attributable in large part to the assistance of the Director and Secretariat of the CCITT and to the many Special Rapporteurs, to whom particular thanks were due.

In conclusion, he requested the Plenary Assembly to approve the report and proposals contained in Documents AP IX-63 and 64.

3.2 The *Chairman*, on behalf of the Plenary Assembly, congratulated all concerned with the work of Study Group VI on their innovative approach and their achievements, in particular the two valuable Handbooks completed during the study period.

The report of Study Group VI was *adopted*.

4 **Report of Study Group VII** (Documents AP IX-39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56).

4.1 The *Chairman of Study Group VII* (Mr. Wedlake, United Kingdom), introducing the report, said that work had been intense throughout the study period, resulting in the preparation of 46 new draft Recommendations and the revision of 43 existing ones. The many contributions received and the larger number of Administrations represented at Study Group meetings reflected the growing importance of public data networks and the value set by Administrations on the development of Recommendations in their regard. It was encouraging that the Recommendations covering the operation of circuit switched and packet switched networks were no longer undergoing major changes, and that countries were now seeking stability and completeness to encourage confidence in existing networks.

Other areas of the Study Group's activities, such as the layered model, message handling and interworking between networks and the services carried on them, were at a less advanced stage, but significant progress had been made. Interworking with ISDN was of particular interest and the access Recommendations developed during the previous study period had been refined and extended to ensure their compatiblity with the relevant Q-Series Recommendations.

Having detailed the achievements of the Group's five Working Parties and of its Special Rapporteur Group on ISDN issues, he reported that there had been excellent collaboration between Study Group VII and the relevant committees of ISO and IEC. As a result, the final texts produced by the CCITT and those organizations were fully aligned. Study Group VII had also endorsed the draft Recommendation on "Collaboration with other international organizations on information technology" produced by Special Study Group "S", subject to the Plenary Assembly's attention being drawn to the reservations expressed in the note contained in paragraph 5(b) of its Report R 30 (Document AP IX-39).

The Study Group wished to acknowledge the excellent support received from the Secretariat of the CCITT and to pay particular tribute to two of its members now retired, Mr. Hummell and Mr. Okabe, whose dedicated efforts had contributed greatly to the Group's success.

In conclusion, he requested the Plenary Assembly to approve the report of Study Group VII and its draft new and revised Recommendations in Documents AP IX-39 to 56.

4.2 The *Chairman* congratulated the Chairman and members of Study Group VII on their achievements in the rapidly developing area of data networks and message handling, and on their close cooperation with other bodies in producing fully aligned texts that would assist Administrations throughout the world.

The report of Study Group VII was *adopted*.

5 **Report of Study Group VIII** (Documents AP IX-18, 19, 20, 21, 22, 23, 24, 25, 26)

5.1 The *Chairman of Study Group VIII* (Mr. Staudinger, Federal Republic of Germany), introducing that Group's report dealing with telematic terminal characteristics and the related higher level protocols, said that the Group's structure reflected the trend towards integration, in the sense both of multi-functions in terminals and of the ISDN network. Made up of two Working Parties and two Special Rapporteurs, two of which reported directly to the Study Group Plenary, the Group had studied thirty Questions, which had resulted in 36 proposed new Recommendations, 13 proposed revised Recommendations some of which had undergone the accelerated approval procedure, and three Recommendations to be suppressed.

Recommendations T.503, T.521 and T.563 described facsimile terminal characteristics within the structure of Document Architecture. As regarded Teletex, Telematic working and interworking, T.62 *bis* was intended as a bridge between existing Recommendation T.62 and the X-Series of Recommendations on the session layer. T.64, on conformance test procedures, had received accelerated approval since it was needed for compatibility within the Teletex environment. Recommendations T.501,

T.502, T.521 and T.522, dealing with the mixed and the processable modes of operation in the framework of Document Architecture, replaced T.72. Further work had been done on the interworking between Teletex and telex proposing T.390 as an enhanced version of the former T.90. T.91 was withdrawn. New Recommendations on Telematic interworking (T.300, T.330, T.351) were proposed. With regard to interactive Videotex, T.101, which concerned international interworking, had been revised and improved and the Annexes A, B, C and D brought up to date. Again in the framework of Document Architecture, T.504, T.523, T.541 on Videotex interworking and T.564 on the Videotex Gateway Characteristics were proposed.

Draft Recommendations were also proposed on the application of computerized communication terminals in a Telematic environment, T.65, and on the international applications of telewriting, T.150. The latter contained two alternatives, but manufacturers had confirmed that the existence of the two options would not pose a major burden on the introduction of these terminals. Turning to one of the main issues during the past study period the Chairman of the Group introduced the T.400-Series of Recommendations on Document Architecture and the sections on Office Document Architecture (T.410-Series), Document Transfer and Manipulation (T.430-Series) and Document Architecture Operation (T.440-Series). The Chairman of the Group emphasized that the enormous work on the total number of 12 Recommendations of the T.400-Series was to a large extent due to the excellent cooperation with ISO (which also was fruitful in other studies of this Group) and the strong committment of the liaison representatives.

The Chairman of the Group also particularly drew the Assembly's attention to draft Recommendation T.90, which would enable the early introduction of ISDN in some countries, as far as the operation of ISDN terminals is concerned. Finally, concluding his report on the results of the Group, he emphasized the progress made on terminology, the importance of which should not be underestimated.

Summing up, he recalled that of the thirty Questions studied by the Group, two had been completely answered resulting in new Recommendations; work had been relinquished on another two, because of insufficient interest or adequate handling by other Groups; seven had been amalgamated with others and seven more would become new Questions for the next study period, bringing the total of new Questions to 26. The Group would continue to address the problems raised by rapid technological change.

5.2 The *delegate of France* raised a problem in connection with the reports of Study Groups VII and VIII, the documentation of which was extremely voluminous. There were 1,800 pages, 1,000 of them entirely new. They had become available only recently and were often ambiguous, not only in French, which might be due to editorial and translation difficulties, but also in English. He regretted the retirement of a former delegate, Mr. Brown, who had checked and questioned every detail of every Recommendation. The solution was for texts to be translated during the study period and not just before the Plenary Assembly.

5.3 The *Director of the CCITT* said that owing to the unprecedented number of draft Recommendations the ITU had had to mobilize additional services to get through the volume of work, an improvement was expected when the revision and editing now in progress was completed. He looked forward to the report of the Committee A Working Party on working methods.

5.4 The *delegate of Spain*, expressing his support for the French intervention, said that it was a question of the efficient and responsible use of resources at Headquarters.

5.5 The *Secretary-General* said that he agreed with the delegate of France. Texts should have been made available in the three languages during the study period. It was difficult to obtain enough qualified personnel during peak work-load periods. He sought the assistance of the three Administrations to assit in the editorial corrections and achievement of equivalence in the three languages in the preparation of the Blue Book.

5.6 The *delegate of Spain*, though willing to collaborate in such groups, was concerned that responsibility for drafting would devolve on the Study Groups; it was for the ITU to be responsible for drafting, which was a task to be carried out after the end of the IXth Plenary Assembly.

5.7 The *Chairman* said that, that being a practical rather than a theoretical problem, could be discussed by Committee A.

5.8 The *delegate of the United Kingdom* raised two general points. First, since CCITT Recommendations were used for type approval purposes by many Administrations, drafters had a special responsibility to ensure that Recommendations did not lay down excessively detailed requirements for implementation. Implementation might form the subject of separate Recommendations. Secondly, he suggested that Study Group VIII should always bear in mind, in specifiying parameters, that they should be objective and capable of verifications testing.

The Plenary Assembly *took note* of those points and the report of Study Group VIII was *adopted*, subject to the request for the revision of the French and Spanish texts.

5.9 In connection with the report of Study Group VIII, the *representative of the European Computer Manufacturing Association (ECMA)* (Mr. Schwarz) thanked the CCITT for the cooperation enjoyed over the last study period, particularly in the area of document interchange for the Telematic services. The results showed that unified international standards could be achieved by close cooperation between bodies like CCITT, ISO and ECMA. The next study period would see further work on office Document Architecture. Other topics of interest were the new Teletex Service, the new Image Communication Services and advanced document profiles for mixed mode, as well as the Teleconference Service, CCITT Services for international business applications, the Videotex Service and terminal characteristics and protocols for Telematic Services on ISDN. He expressed interest in a number of study Questions before the Plenary Assembly, mostly connected with data communications as studied by Study Groups I, VII, VIII, XI, XVII and XVIII. He looked forward to further fruitful cooperation.

5.10 The *representative of the ISO* said that Document AP IX-137 reflected the progress made in CCITT-ISO/IEC liaison activity, pursuant to Resolutions Nos. 7 and 8 of the VIIIth CCITT Plenary Assembly. The ISO and IEC had been harmonizing their work procedures and continued to enhance their collaborations with the CCITT, for example in aligning texts, and a number of CCITT documents had been adopted as ISO/IEC standards. Examples of the activities pursued in response to Resolutions Nos. 7 and 8 could be seen in Document AP IX-137, the common objective being to achieve coherent worldwide standards. To that end, cooperation must be constantly fostered and improved with a view to the speediest possible results in order to forestall any tendency towards regional measures and the risk of incompatibilities.

5.11 The *representative of the IEC* said that his organization had reiterated, at its recent meeting, its continued commitment to liaison with the CCITT and CCIR, especially in view of the rapid evolution of technology in so many fields. The IEC attached great importance to collaboration at the earliest possible stages of development; joint study prior to the commencement of tasks was a particularly welcome approach. It was imperative to promote the collective use of all scientific and technical resources.

5.12 The *delegate of the United Kingdom* said that his Administration warmly supported the cooperation reported. There was, of course, a certain "grey zone" between information technology and telecommunications. He understood IEC was considering work on PABX, an area in which CCITT was already active. Additional coordination was a burden to both sides. It was hoped that all approaches to such matters would heed the importance of interface management and take into account CCITT's existing expertise, so as to avoid duplication and enhance efficiency.

5.13 The *Chairman* thanked the Chairman of Study Group VIII for his introduction of the report and for the Group's efforts; he felt sure that the Assembly welcomed the common recognition of imperative aims voiced by all the speakers.

The report of the Study Group VIII was *adopted*.

6 Report of Study Group XI (Documents AP IX-92-99 and 101-134)

6.1 The *Chairman of Study Group XI*, Mr. J.S. Ryan (United States of America), introducing that Group's Report, said that Document AP IX-92 summarized the Group's activities during the past study period, in which 21 Questions had been dealt with; the new Questions should perhaps be considered by Committee B. Some 16,000 pages, have resulted in 45 new Recommendations, 34 major and 38 minor revisions. With regard to mobile services matters, work with the CCIR had been problem-free.

Some 20 new Recommendations had been produced, and further progress would doubtless be rapid during the next period. Work on Message Transfer Part (MTP) and Telephone User Part (TUP) of Signalling System No. 7 had resulted in a mature system, to which no major revisions were foreseen. With regard to digital switching, field trial guidelines had been prepared as requested by the VIIIth Plenary Assembly, the corresponding Handbook having been published by the ITU early in 1987. The Recommendations on digital switching had been revised, and no further major changes were foreseen. The Red Book entries relating to digital subscriber line signalling had been the basis for field trials aimed at enabling Administrations to make a start on ISDN. Because of certain difficulties, the Recommendations had been revised. A number of major revisions had been made in respect of Layer 3, but more remains to be done during the next study period. A Recommendation drafted by an ad hoc Expert Group addresses interworking between Signalling System No. 7, Integrated Services User Part (ISUP) and DSS No. 1.

Replying to a question by the *delegate of Mexico* with regard to the number of codes assigned to Administrations for switching centres, he said that there had only been enough time to allocate codes for immediate needs. If reserve codes were required for additional requirements, a written request should be addressed to the Director of the CCITT, who would assign further codes to the extent possible.

6.2 The *Chairman* said, in response to an observation by the *delegate of Senegal*, that a comprehensive set of field trial guidelines, referred to on page 34 of Document AP IX-92, was available. He felt sure that the Assembly was in full agreement about the need for the utmost support for the developing countries in meeting the challenges posed by rapid technological advances.

The report of Study Group XI was *adopted*.

7 Report of Study Group XII (Documents AP IX-3, 4, 5, 6, 7, 8, 75; Temporary Document 19/PLEN)

7.1 The *Chairman of Study Group XII*, Mr. P. Lorand, (France) introducing the report of that Group, recalled that the latter was an amalgamation, pursuant to the VIIIth Plenary Assembly, of former Study Groups XII and XVI. He summarized the work of the previous study period, with the help of a transparency presentation. The tasks had been shared among four Working Parties but four Questions had been dealt with in Plenary. The studies which had been carried out had produced proposals for new Recommendations (8 in the P-Series, 1 in the G-Series) and 37 modifications of existing Recommendations (17 in the P-Series, 20 in the G-Series). The Study Group was grateful to the Administrations, RPOAs and other organizations that had shared in the efforts. With regard to future work, Study Group XII proposed the study of 30 Questions, 5 of which were completely new. The Group was grateful to the Director of the CCITT and to the ITU Secretariat for their constant help. It was also grateful to the CCITT Laboratory. However, as could be seen from Document AP IX-75, it seemed that CCITT Member organizations no longer needed the Laboratory's services.

7.2 The *Director of the CCITT* said that very little work was now being done by the Laboratory for clients against payment, and there was little call for testing and measurement under the supervision of Working Party I of Study Group XII. It had been argued, independently of any consideration of economic viability, that the Laboratory was essential in order to ensure impartiality; but that argument was not borne out by the experience of testing elsewhere. In view of the situation outlined in Document AP IX-75, a decision would have to be taken about the Laboratory's future.

7.3 The *delegate of Spain* questioned whether a CCITT Plenary Assembly was competent to rule on the future of an institution established by the Union.

7.4 The *Secretary-General* said that any decision on the Laboratory's future had to be taken by a Plenipotentiary Conference. If the current Plenary Assembly decided that the Laboratory's services were no longer needed, it should request the Secretary-General to report to the Administrative Council with a view to a decision being taken at the next Plenipotentiary Conference.

7.5 The *delegate of Spain* agreed, and pointed out that the procedure might not necessarily entail an amendment to the Convention.

7.6 The *Chairman* suggested that the Assembly consider a motion that: "Considering the report by the Director of the CCITT on Laboratory usage, this Assembly decides that the Laboratory's services are no longer needed and requests the Secretary-General to report this to the Plenipotenary Conference and to examine the steps necessary to act on the Assembly's views".

It was so *agreed*.

The report of Study Group XII, including the additional footnote proposed by the Federal Republic of Germany in Temporary Document 19/PLEN, was *adopted*.

The meeting rose at 1835 hours.

FOURTH PLENARY MEETING

(Minites approved at the tenth Plenary Meeting)

Thursday, 17 November 1988, at 1545 hrs

Subjects discussed:

1 Report of Study Group IX

2 Report of Study Group X

3 Report of Study Group XV

4 Report of Study Group XVII

5 Report of Study Group XVIII

6 Report of the CMTT

7 Report of the CMV

1 **Report of Study Group IX** (Documents AP IX-10, 11, 12; Temporary Document 21/PLEN)

1.1 The *Chairman of Study Group IX* (Mr. Matsubara, Japan) introduced the report of Study Group IX dealing with telegraph networks and terminal equipment. The present area of the Study Group's activities had been decided at the VIIth Plenary Assembly; until then, studies on telegraph terminals, telegraph transmission and telegraph switching had been carried out in Study Groups VIII, IX and X, respectively. Accordingly, the present Study Group IX covered three series of Recommendations: R-Series (telegraph transmission), S-Series (telegraph services terminal equipment) and U-Series (telegraph switching). As indicated in section 2 of Document AP IX-10, four Working Parties had been established and Special Rapporteurs had been appointed for specific Questions requiring concentrated work throughout the study period. The system of Special Rapporteurs had worked very well, especially when the Question required liaison with other Study Groups. Some Special Rapporteurs' meetings had been held outside ITU Headquarters at the invitation of administrations and private operating agencies, to whom thanks were due, as they also were to the Special Rapporteurs and Working Party Chairmen and members whose efforts had ensured the satisfactory results achieved. He also wished to pay a tribute to the late Mr. Brown (Australia), former Study Group Chairman, who had died during the study period.

Highlighting some of the results of the Study Group's work, he referred to new Recommendations S.23 and S.2 in the field of terminals and customer facilities. New draft Recommendation S.23, which set the rules concerning the triggering of the calling terminal answerback, would be of great value to equipment manufacturers. A coding scheme using international telegraph alphabet No. 2 had been developed in order to provide capital and small letter printing; thanks to the active participation of the Arab Telecommunication Union (ATU), a Supplement to the Recommendation gave information on the ATU Arabic/Latin bilingual teleprinter. Other subjects deserving special mention were new Recommendations U.202, U.204 in the field of signalling and interworking, R.103, R.112 forming part of the study of TDM systems, and R.122, R.79 in the field of transmission standards.

The proposed study programme for the next study period contained 22 Questions. The Study Group's comments concerning the proposed Study Group J would be found in section 6 on page 6 of Document AP IX-10.

1.2 The *delegate of the Federal Republic of Germany*, introducing Temporary Document 10/PLEN concerning amendments to Recommendations S.2, S.4 and S.22, said that the problem involved was by no means a new one, having been debated extensively in Study Groups IX and I over the past two years.

Representatives of the service side in Study Group I had come to the conclusion that, for a number of technical reasons, S.2 coding should not be introduced within the telex service, and the decision had been duly transmitted to Study Group IX. As a general comment, he remarked that the telex service was the only telecommunication service available worldwide; it was perhaps comparable to a serviceable Volkswagen car. Trying to convert it into a Rolls Royce was hardly advisable at the present stage. In reply to an enquiry by the *Chairman*, he said that his Administration was asking for the outright rejection of Recommendation S.2; if that were not possible, however, it would be prepared to discuss the matter further.

1.3 The *Chairman of Study Group IX* said that the proposal was surprising as no formal opposition to the Recommendation had been registered at the final meeting. He invited the Plenary Assembly to approve the Recommendation.

1.4 The *delegate of Australia*, speaking as Chairman of Working Party I/1, emphasized that the Federal Republic of Germany's comments applied only to the telex service and not to other areas covered by Recommendation S.2.

1.5 The *Chairman* suggested that the Plenary Assembly should adopt Recommendations S.2, S.4 and S.22 noting the reservations expressed by the Federal Republic of Germany and on the understanding that the Recommendations' implications should be studied by Study Groups IX and I in the next study period.

It was so *agreed* and the report of Study Group IX was *adopted* without dissension.

2 Report of Study Group X (Documents AP IX-34, 35, 36, 37, 38)

2.1 The *Vice-Chairman of Study Group X* (Mr. Schulz, Federal Republic of Germany), introducing the report of the Study Group in the absence of its Chairman (Mr. Carelli, Italy), summarized the results of the work of the four Working Parties set up by the Study Group and dealing with, respectively, man-machine language; environment, software quality assurance and software reliability; specification and description language; and CCITT high level language (CHILL). The work on support environment is in an early stage of maturity. The results will be annexed to the new Question F/7 to continue in the next study period. Emphasis will be made on practical aspects.

The specification and description language definition is essentially complete. In the next study period effort should be applied to promote and maintain the SDL 1988. With regard to future work, he stressed the importance of continued close cooperation with ISO experts with a view to avoiding divergencies. Eleven Questions have been proposed for the next study period. The studies on the man-machine language and the support environment will be significantly expanded.

The *Vice-Chairman of Study Group X* expressed his appreciation to all those who had contributed and supported Study Group X's work.

The report of Study Group X was *adopted*.

2.2 The *Chairman* requested the Vice-Chairman of Study Group X to convey the Plenary Assembly's appreciation to Mr. Carelli for his efforts during the past study period.

3 Report of Study Group XV (Documents AP IX-58, 59, 60, 61, 62; Temporary Document 26/PLEN)

3.1 The *Chairman of Study Group XV* (Mr. Nouri, Saudi Arabia), introducing the Study Group's report, said that the study of the subject of transmission systems entrusted to the Study Group had involved the consideration of 32 Questions. The status of the Questions was summarized in Table 5 of Document AP IX-58. Plans for future work were summarized on pages 14 and 15 of the same document. Referring to Recommendation G.741, he drew attention to section 17 on page 132 of Document AP IX-60 indicating that it had been proposed to delete that Recommendation, but that one

Administration, which had contributed to the proposal contained in Annex B had been unable to agree to such a deletion. It was for the Plenary Assembly to take a decision in the matter.

3.2 The *delegate of the USSR*, introducing the proposal contained in Temporary Document 26/PLEN, said that after mature consideration, his Administration was prepared to agree to the deletion of the last two paragraphs of Recommendation G.741 and Annexes A and B, but continued to be opposed to the deletion of that part of the Recommendation which contained the characteristics of all types of second order multiplex equipments.

3.3 *Mr. Bigi* (CCITT Secretariat) explained that the USSR proposal, if adopted by the Plenary Assembly, would have no technical implications but would necessitate some minor editorial changes.

3.4 The *Chairman* suggested that, in view of the USSR reservation, Recommendation G.741 should be maintained without change pending further discussion.

It was so *agreed* and the report of Study Group XV was adopted.

4 Report of Study Group XVII (Documents AP IX-88, 89, 90; Temporary Document 10/PLEN)

4.1 The *Chairman of Study Group XVII* (Mr. Kern, Federal Republic of Germany) began his presentation of the report by stressing the importance of the standardization of modems for the transmission of data over the telephone network and interfaces between such modems and data terminals. The Recommendations for modems contain all the necessary specifications to assure interworking of devices of different manufacturers.

Document AP IX-89 outlined six new Recommendations, one of which (Recommendation V.33, page 10) had been provisionally accepted two years previously by the accelerated procedure.

The recent increases in signalling rates of modems were responsible for many of the amendments to existing V-Series Recommendations. Up to now common functionalities such as asynchronous to synchronous conversion and simulated carrier control were repeated in the multiple modem Recommendations; two new Recommendations have been drafted to eliminate such duplication of information.

Recommendations relating to the ISDN would continue to have a high priority. A Recommendation from the previous study period allowed for DTEs with a V-Series interface (TE2) to communicate with each other over the ISDN, and in the present study period a new Recommendation has been developed, which broadened the scope of possibility to allow TE2s to communicate with ISDN terminals (TE1s).

He said that the progress in modem technology and coding techniques leading to higher speeds, new capabilities and better performance justified the continuation of Study Group XVII's work for at least another study period, in which new Recommendations offering a still better and higher exploitation of the existing telephone network would be written.

Work on data compression and forward acting error correction had already begun and more contributions would be expected on other facilities of modems. Measures would also have to be taken in the future to reduce the possibility of viruses getting into a computer system via the telephone network.

He pointed out that the United Kingdom's reservation concerning new Recommendation V.120 (Document AP IX-88, page 5) had been replaced by an information note in Temporary Document 10 the text of which should appear in the Recommendation itself, and he expressed his agreement with this amendment.

Finally, he thanked his Vice-Chairmen and the CCITT for their help.

The report of Study Group XVII, with its new and revised Recommendations and including the information note of TD 10, was *adopted*.

5 Report of Study Group XVIII (Documents AP IX-141, 142, 143, 144, 145, 146, 147, 148, 150)

5.1 The *Chairman of Study Group XVIII* (Mr. Pfyffer, Switzerland) presented the report of Study Group XVIII on digital networks and ISDN, emphasizing the great size of his Study Group, before outlining the eight major areas for study covered by 33 Questions (Documents AP IX 141-150). He described briefly the organization of the work which had entailed setting up eight Working Parties, a Broadband Task Group (BBTG), temporary Experts Groups, holding regular coordination and special preparatory meetings, appointing Special Rapporteurs (38) and liaison Rapporteurs and working with Experts from other Study Groups.

In addition to the areas covered by the Questions, he noted that unforeseeable emphasis had been laid on Broadband-ISDN as a result of the contributions received. In that area of study, a new transfer mode (ATM) had been agreed upon, going a long way towards achieving the objective of unique worldwide standards.

Agreement had also been reached on a new synchronous digital hierarchy at high bit rates (155 Mbit/s and higher), and a service description methodology had been developed.

The Chairman of the Study Group pointed out that the holding of meetings in places other than Geneva partly associated with seminars or symposia had allowed for the participation of many more regional Experts.

In spite of the large number of delegates and documents and the pressure to achieve results quickly on complex and inter-disciplinary topics, but with excellent support from the CCITT Secretariat, Study Group XVIII had made good progress in achieving worldwide unique standards. Seven Recommendations had been submitted in mid-1986 to the accelerated approval procedures, and at the present Plenary Assembly 59 ISDN Recommendations were being submitted (many new, some revised), 11 new Recommendations on digital networks in the G.700 and G.900 Series and 15 revised in the G.700, G.800 and G.900 Series.

Thought had also been given to future work, and in that respect 22 new Questions had been drafted, and other areas of work proposed for transfer to other Study Groups (in line with proposals from Study Group S). In order to facilitate such transfer of work, in particular to Study Group I, Study Group XVIII proposed a B-ISDN and ISDN Experts meeting early in 1989, a Joint Experts meeting with Study Group I on services and an ad hoc Group on 16 kbit/s speech encoding, whose work would later be handed over to Study Group XV if Committee B's proposals were to be adopted (Document AP IX-141, page 18...).

In conclusion, the Chairman of Study Group XVIII expressed his appreciation to all those who had contributed.

5.2 The *delegate of Mexico* commented that in the coming study period, close collaboration would be required with Study Groups VII, XI, XII and XV in order to ensure that technical advances met the needs of the network. In that respect he proposed that the paragraph at the end of Annex 3 to Temporary Document 20/COM A be included in the report of Study Group XVIII.

5.3 The *Chairman took note* of that comment.

The report of Study Group XVIII, with its new and revised Recommendations including those provisionally approved during the study period, was *adopted*.

6 Report of the CMTT (Document AP IX-152)

6.1 The *Chairman of the CMTT* (Mr. Simpson, United Kingdom) introduced the report and pointed out that the CMTT was a joint CCITT/CCIR Study Group administered by the CCIR. Its Chairman was appointed by the CCIR and its Vice-Chairman by the CCITT. The Study Group met at the same time as the CCIR Study Groups and its working methods were those of the CCIR Study Groups, which differed in detail from those of the CCITT. It was usual for several CCIR Study Groups to meet simultaneously and the CMTT met at the same time as CCIR Study Groups 10 and 11 with which it had great affinity since Study Group 10 was concerned with sound broadcasting, Study Group 11 with television broadcasting and

CMTT with the standards for the transmission of sound and television programmes. Furthermore, Working Parties of the Study Group were normally set up during the meetings of the Study Group, and they existed, in principle, for that duration only. It was possible, however, to create an IWP (Interim Working Party) which could meet between the normal meetings of the Study Group to handle urgent matters.

He drew attention to some of the main results of the interim meeting, as summarized in section 1.2 of Document AP IX-152, bearing in mind that since the Group worked within the CCIR cycle it was not presenting any Recommendations for approval by the CCITT, but reporting on the work of the meeting that had taken place between the last Plenary of the CCIR and the final meeting which would determine the Recommendations.

He highlighted some of the work in the Interim Working Parties preparatory to the final meeting. IWP CMTT/1, although not a Working Party in the usual sense, coordinated the work on digital systems for the transmission of sound programme and television signals between CMTT, CCIR Study Groups 10 and 11 and relevant CCITT Study Groups; IWP CMTT/2 dealt with the digital transmission of component-coded television signals; IWP CMTT/3 on television and sound-programme transmission requirements for the B-ISDN was established to provide an interface between CMTT and CCITT Study Group XVIII and was authorized to communicate directly with that Study Group; IWP CMTT/4 had been set up to elaborate a draft Recommendation on the transmission of digital sound-programme signals of studio quality on circuits using the H1 channel; and the JIWP CMTT-4-10-11/1 dealt with satellite news gathering (SNG).

Since the CMTT was a joint CCI Group and its terms of reference had to be approved by both bodies, the CCITT's approval was being sought on an amendment to the Group's terms of reference. At the interim meeting the CMTT had proposed an amendment to its terms of reference as contained in the Annex to Document AP IX-152. In future broadband networks such as the broadband ISDN it would be possible for complete transmission circuits from studio to end-user to exist, involving both a primary and secondary distribution network (primary distribution being that between a studio and a broadcasting station, and secondary distribution, the equivalent of a cable distribution to the end-user). The CMTT had agreed that for the secondary distribution of sound and television programme signals, coding standards should be under its responsibility since it was in the interests of performance and economy that the coding standards used in the various elements of a terrestrial network or even one including satellites, bear a family relationship to each other.

6.2 The *delegate of Australia* said that it was important to recognize the need for consistency between the broadband ISDN standards that were being developed within CCITT and the secondary distribution studies on video services within CMTT and that such communication between CMTT and CCITT, in particular Study Group XVIII, would require particular attention in the next study period to ensure that the consistencies of networks also applied to services within CCITT and CMTT.

6.3 The *Chairman* said that in view of the interaction between groups it was more appropriate to await the outcome of Committee B's deliberations on the work programme before taking a decision on the change to the terms of reference of the CMTT.

6.4 The *Director of the CCITT*, notwithstanding the Chairman of CMTT's views that there was no overlap between the studies that would be carried out within the CMTT and CCITT Study Group XVIII, associated himself with the Chairman's comments and added that appropriate cross-references would have to be made to those questions reflecting the CMTT's proposals.

6.5 The *Chairman* said that Committee B would submit a Recommendation to the Plenary Assembly clarifying the action to be taken whereby although it was to be expected that the proposal for changing the terms of reference would be acceded to, the interaction implications would have to be more rigourously examined. He thanked the Chairman of CMTT for his report and the Group's efforts.

On that understanding the report of CMTT was *noted*.

7 Report of the CMV (Document AP IX-154, Temporary Document 14/PLEN)

7.1 The *Chairman of the CMV* (Mr. Thué, France) introduced Document AP IX-154 and its corrigendum Temporary Document 14/PLEN, which constituted the report on the activities of the CMV. He pointed out that the CMV was also a joint CCIR/CCITT Study Group administered by the CCIR and that the CMV's role was not to create definitions, but to coordinate the terminology work within the CCIs and to ensure liaison with other organizations dealing with terminology work in the telecommunication field, notably the IEC and ISO. The CMV proposed the retention of seven B-Series Recommendations, some of them being slightly modified, namely Recommendation B.13 on "Telecommunication" chapters of the International Electrotechnical Vocabulary (IEV), as well as others concerning graphic symbols and diagrams, the use of the term "decibel", ISO and IEC letter symbols and notations, the international system of units (SI), and terms and abbreviations for information quantities in telecommunications. It also proposed the addition of four new Recommendations concerning the use of the specification description language (SDL) by the CCITT, a traffic intensity unit, terms such as "quotient", "ratio", etc., as well as general rules for abbreviations. He pointed out that Fascicle XI.1 "Terms and Definitions" of the CCITT Book contained an alphabetical list of the abbreviations used in all the fascicles. Other work was of a more informal nature and included experts discussions on the Indices of the CCITT and CCIR volumes and the ITU Glossaries.

It was proposed to retain four A-Series Recommendations, two being slightly modified, and to add one new Recommendation; however, that was more appropriate to the work of Committee A.

With respect to the revision of technical terms in the Radio Regulations and the Convention, the CMV had not prepared any draft definitions for WATTC-88 since they would be largely of a regulatory nature and better left to that Conference.

Thanks were extended to the Vice-Chairmen and Special Rapporteurs and to the CCIR and CCITT Secretariats.

7.2 In response to the *delegate of Denmark*, the *Chairman of the CMV* confirmed that Recommendation B.1z had been prepared in liaison with Study Group II's Special Rapporteur for terminology and had been taken directly from Recommendation E.600. Any modification to that Recommendation concerning the "Erlang" would be taken into account in the definition, which had been notified to the IEC as the unit for traffic intensity.

7.3 The *Chairman* noted that the matter emphasized the coordination role and constant interaction of those responsible for definitions in each Study Group.

7.4 In response to comments by the *delegates of the Hungarian People's Republic*, the *United Kingdom* and the *Chairman of the CMV* with respect to a proposal by the United Kingdom contained in Temporary Document 5/COM A, and due to the late hour, the Chairman suggested that the matter be taken up again at the next Plenary Meeting, together with consideration of the proposal by France contained in Temporary Document 11/PLEN. Discussion to a comment by the *delegate of the United States* concerning the future of CMV activities would also be taken up at the next meeting.

On that understanding the report of the CMV was *adopted*.

The meeting rose at 1815 hours.

FIFTH PLENARY MEETING

(Minutes approved at the tenth Plenary Meeting)

Friday, 18 November 1988, at 1430 hrs

Subjects discussed:

1 Amendments to draft Recommendations

- Amendments to draft Recommendation C.3
- Amendment to S 3 of draft Recommendation D.193
- Clarification of Recommendation G.741

2 Report of the CMV

- France
- United States

3 Report of Committee A

4 Approval of minutes of previous meetings

1 Amendments to draft Recommendations

1.1 *Amendments to draft Recommendation C.3* (Temporary Document 22/PLEN)

The *Chairman of Committee A* (Mr. Israël, Canada) said that draft Recommendation C.3 had been reviewed in the light of the comments made by the Secretary-General and others. He indicated an editorial amendment to the third indent of *considering* (e) where the words "enter into force" were to be replaced by "enter into effect".

The text as amended was *approved*

1.2 *Amendment to paragraph 3 of draft Recommendation D.193* (Temporary Document 23/PLEN)

1.2.1 The *Chairman of Study Group III* (Mr. Rouxeville, France) said that the text reflected the contribution made by the delegate of Spain with respect to equal treatment of franking privileges for the telegram, telephone and telex services. The principle was to establish an equivalence between telegrams and telephone calls. Fifty words per telegram was equal to a 3-minute telephone call, 100 words per telegram to a 6-minute telephone call. The other amendments proposed by Spain in Temporary Document 16/PLEN were only of an editorial nature. The text of the draft Convention had been checked and the Spanish proposal could be accepted.

1.2.2 The *Chairman*, while taking note of the agreement reached in respect of Temporary Document 16/PLEN, enquired whether the intent of the revision of paragraph 3 in Temporary Document 2/PLEN, was to provide an alternative and not an addition.

1.2.3 The *Chairman of Study Group III* said that after discussion with the delegates of Spain and the Federal Republic of Germany, a compromise solution had been found; the spirit of the basic text had thus changed in that franking privileges for telegrams did not exclude telephone franking privileges or vice versa.

Delegates to meetings of the Administrative Council. conferences, and the CCIs could benefit from communication by both telephone and telegrams of either up to 50 words twice a week or up to 100 words once a week, in other words a complementary but not an interchangeable facility.

1.2.4 The *Chairman* said that the basic question was of equality and equity in that the telegram service could be used in lieu of the telephone service so as to remove the constraint that telegrams could be sent only when it was not possible to telephone. The key point to be decided was whether telephone calls and telegrams were complementary or deemed equivalent for the purposes of franking privileges, i.e. 6 minutes by telephone in lieu of 100 words per telegram.

1.2.5 The *delegate of Spain* said that the purpose of the document was to reflect the new situation. Previously, unrestricted use of the telegramme service had been a complement rather than an alternative to the telephone service. One had had both telephone and telegramme franking privileges. Now, following discussions with the Chairman of Study Group III and the delegate of the Federal Republic of Germany, there would be a restriction to 50 words twice a week or 100 words once a week, which was a compromise, and his Delegation was thus in agreement with the text in Temporary Document 23/PLEN.

1.2.6 The *Chairman* said there were strong views in favour of the retention of the use of telegrams but the text was still not clear. He suggested that the words "in lieu of telephone calls" be inserted in the first line of the English text before "send telegrams".

1.2.7 The *delegate of Lebanon* said both privileges should be offered. He could support the delegate of Spain but agreed that the text should be made more precise to reflect the idea of simultaneous and parallel access.

1.2.8 The *Secretary-General* said that the problem was that a new Recommendation was being developed; draft Recommendation D.193 had never existed before and Opinion No. 1 of the 1973 WATTC which provided the legislative framework would have to be revisited. It was the governments at that Conference which had decided that Private ITU franking privilege telegrams should, in principle, be exchanged between beneficiaries of franking privilege and their families and that telephone calls were limited to the Administrations or recognized private operating agencies of the country which agreed to apply them on a reciprocal basis and should consist of free telephone calls, etc. All were familiar with the traditional 6-minute calls once a week or the 3-minute calls twice a week. The WATTC, as a government forum, would have to pronounce on the matter. He understood the idea to be that telegrams, where exchanged, should be limited in word content but that they were complementary activities and not one to be substituted for the other.

1.2.9 The *delegate of Brazil* supported the original proposal by the delegate of Spain and believed that the use of telegrams was complementary to the telephone service. Delegates should be able to use that facility regardless of whether or not they used the telephone. Now there was a new compromise text and although telegram services were expensive he felt there was a definite need for them at Conferences and meetings.

He therefore gave his unconditional support to the proposal of the drafting group, whose text was clear and unequivocal. The number of words was restricted but the facilities in Opinion No.1 remained as a complement and not an alternative to the telephone facility.

1.2.10 The *delegate of the United Kingdom* supported the proposal but requested a minor clarification. Opinion No. 1 of the 1973 WATTC referred to the exchange of telegrams with families and not the "country of residence" and he wondered whether that was a deliberate change.

1.2.11 The *Chairman of Study Group III* said that it was basically a question of style and that if ambiguities existed in the English version, "Similarly" could be replaced by "In addition",..... to their families".

1.2.12 The *Secretary-General* drew attention to the fact that WATTC-73, in respect of telephone calls, referred to a situation in which families lived where the caller normally worked or in the immediate proximity. The forthcoming WATTC would decide on a new Opinion which would provide umbrella guidelines.

1.2.13 The *Chairman* said that the revision of paragraph 3 as in Temporary Document 23/PLEN could perhaps be adopted, on the understanding that the discussion concerning destination and the relationship with WATTC-73 Opinion No. 1 be fully reflected in the minutes of the meeting.

1.2.14 The *delegate of Lebanon* said that he could agree with the decision but drew attention to the Secretary-General's remarks that it was for the WATTC to decide on any revision to a WATTC Opinion,

1.2.15 The *Chairman* agreed that the matter would be revisited by the WATTC.

1.2.16 The *delegate of Greece* also supported the revision of paragraph 3 of draft Recommendation D.193, but drew attention to the fact that the term "country of residence" was more appropriate than "to their families" as it covered anyone in the country of residence; this had been the intention of the expression "country of residence" used in the draft International Telecommunication Regulations contained in Document AP IX-27.

Recommendation D.193 was *approved* with the amendment set out in Temporary Document 23/PLEN, subject to the above comments.

1.3 *Clarification of Recommendation G.741* (Temporary Document 26/PLEN)

The text of Recommendation G.741, clarified in accordance with Temporary Document 26/PLEN, was *approved*.

2 **Report of the CMV** (Document AP IX-69) - Contributions by France (Temporary Document 11/PLEN) and the United States (Temporary Document 35/PLEN)

2.1 The *Chairman* said that although the report of the CMV (Document AP IX-54 and Temporary Document 14/PLEN) had been approved at the previous meeting, some outstanding issues still remained.

2.2 The *Director of the CCITT*, addressing the French contribution in Temporary Document 11/PLEN, said it referred to Document AP IX-69 which had not yet come before the Assembly, although it had been drafted before the report of the CMV had been received with its modifications to certain B-Series Recommendations. It was believed that many of the B-Series Recommendations had served their purpose and were no longer strictly relevant to the work of the CCITT. In addition, they were found in Volume I which was not considered to be the appropriate location. It was proposed to transfer two of the B-Series Recommendations to other volumes.

Temporary Document 11/PLEN contained the proposal to retain the B-Series Recommendations as in the CMV report but to transfer them to Fascicle X.1 together with terms and definitions, which was a better location.

2.3 The *delegate of France* said that it was regrettable to lose general Recommendations as they contained information that was useful at all times, as well as updated references to ISO and IEC publications relating to graphical symbols, units and their symbols and letter symbols. For example, the short Recommendation on decibels had existed for years; it explained the different uses of decibels in the different Study Group situations. A change in the title of Volume X.1 was proposed so that it would include "other means of expression" and therefore B-Series Recommendations would be able to find their place in that volume.

2.4 The *Chairman of the CMV* said that he could accept the suggestion to transfer the Recommendations to the fascicle on Terms and Definitions, as well as the new title of that fascicle.

2.5 The *Chairman* said that note would be taken of the comments by the Director of the CCITT and the delegate of France and suggested that Working Group PL/1 on the Blue Book could deal with the matter, taking account of the comments made and cover it in its report to the Plenary.

It was so *agreed*.

2.6 The *Chairman* drew attention to the two outstanding issues concerning the CMV, which had initially been addressed to Committee A in Temporary Documents 5/COM A and 15/COM A on the revision of draft Recommendation A.10. The two documents were to be considered as a package constituting modification to the handling of terms and definitions and the working process of the CMV, which was also a key issue in Temporary Document 35/PLEN.

2.7 The *delegate of the United States of America* introduced Temporary Document 35/PLEN containing several considerations in favour of withdrawal of the CCITT from the CMV. Although not critical of the work of the CMV, he felt it was an impossible task to take terms from different Study Groups and make them generic. If the CCITT were to withdraw from the CMV, Recommendation A.10 could be modified accordingly and much effort on the part of the Secretariat and Administrations would be spared. The resources of the CCITT were limited, the 15 Study Groups had much to do and there was no time to generically change terminology. It was not only important to create groups but also to terminate them if the work involved was no longer cost effective.

2.8 The *Chairman* added that in the development of terms and definitions the need for coordination had not been questioned, the issue was rather one of allocating responsibility.

2.9 The *Director of the CCIR* stressed the need for coordination of terms within and between the CCIs and with the IEC, especially when seen in the context of the use of such terms by the outside world. A Study Group was free to determine any terms it wished for its own internal work, but certain definitions had to be coordinated if technical standards were to be developed and outside organizations to make use of the ITU's work. He felt the CMV was gradually tailoring its work and had become increasingly efficient in providing the interface that ITU needed with outside organizations.

2.10 The *Chairman* reiterated that the issue of fundamental definitions was not at stake, nor was there a debate on the need for coordination and liaison. The issue was whether the current method was the most appropriate for the CCITT.

2.11 The *representative of the IEC* expressed her support for the comments of the Director of the CCIR, stressing that the Group responsible for the International Electrotechnical Vocabulary (IEV) should concentrate on general terms which fell outside the purview of particular Study Groups.

She pointed out that work on terms and definitions was lengthy and did not produce benefits in the short term. However, great effort had gone into the preparation of the 700-series of IEV chapters, and they were to be included in the next edition of the Multilingual Dictionary of Electricity which would be a valuable tool for all Study Groups.

2.12 The *delegate of Italy* agreed with the Director of the CCIR and the representative of the IEC on the importance of the work of the CCITT being comprehensible to all technicians and organizations outside the ITU.

2.13 The *delegate of the United Kingdom*, referred to his Delegation's proposal in Temporary Document 5/PLEN, which was an evolutionary one calling for improvement of the procedures and could not be seen as complementary to that of the USA, which he would describe as more revolutionary.

His Delegation's view was that as a minimum requirement all CCITT terms should be catalogued, and that the rationalization and coordination work, the practicability of which the United States delegate had called into question, might as a compromise be dealt with by appointing an editor within the CCITT, perhaps with the status of Chairman of a Technical Committee to act as a focal point for problems to be dealt with between Plenary Assemblies.

If the CMV were to be retained, he felt that the proposals contained in Temporary Documents 5/COM A and 15/COM A should be implemented.

2.14 The *Chairman*, recognizing the concern and views expressed and the legitimacy of re-examining the effectiveness and efficiency of the CMV, suggested that a small group be set up, with the Chairman of the CMV, and the delegates of the United Kingdom and the United States of America as a core, but open to all other delegations, to draw together the views of the Assembly and prepare a document for more serious consideration by the Plenary.

2.15 The *Chairman of the CMV* pointed out that the CMV had no right of veto, and that its work was based on the necessity for coordination between different Study Groups in the two CCIs and the Technical Committees of the IEC; the final decision rested with the Study Groups. He added that readers of publications by the CCIs and the IEC would suffer if there were no consensus on terms and definitions.

He felt that as Chairman of the CMV, he would not be an objective member of the small Working Group to be set up to prepare a document presenting the arguments for and against the CMV to the Plenary Assembly. However in view of the Chairman's appeal to his expertise, he agreed to accept the nomination, as the matter was one which could not be taken lightly.

2.16 The *delegate of the United States of America* likewise agreed to be part of the proposed group. He reiterated that his Delegation had not suggested that the CCIR withdraw from CMV, but only the CCITT. He had understood that there were two editing groups in the CCIs and he requested more information on them, with a view to the possibility of them performing the work of the CMV in future.

2.17 The *Secretary-General* observed that Vol. X of the CCITT Red Book, entitled "Terms and Definitions" could perhaps be examined with the aim of ensuring greater uniformity in regard to the wording of the same term coming from separate Study Groups.

2.18 The *Chairman* noted that comment on Vol. X, and took it that the small Working Group was established, as he had suggested.

It was so *agreed*.

3 **Report of Committee A** [Temporary Documents 30/PLEN, 31/PLEN, 32/PLEN, 33/PLEN, 34/PLEN (Rev. 1)]

3.1 The *Chairman of Committee A* (Mr. Tarjanne, Finland) stressed the importance of improving the outdated working methods of the CCITT, describing the present situation as reminiscent of the 18th century. In Committee A, however, the mood had not been one of defeat; an optimistic and evolutionary spirit prevailed, which he would like to call "the Melbourne spirit", summed up by the words "modernization, flexibility, clarity and efficiency".

Introducing the report of Committee A, he drew attention to paragraph 2.6 of Temporary Document 30/PLEN, which stated that the texts contained in Annexes B and C dealing with the allocation of studies should be included in the Blue Book. In paragraphs 2.2, 2.3 and Annex D it was suggested that an open group be set up to continue the work of Special Study Group S, the details of which he felt should be specified by the present Plenary Assembly.

Item 3 in Temporary Document 33/PLEN stated that it had been agreed to present modified parts of Resolution No. 1 (detailed in Temporary Document 31/PLEN) to the Plenary Assembly. Paragraph 6.2 in Temporary Document 31/PLEN was a result of lengthy deliberations on the question of the preparation of studies and meetings, and it was stressed that the time limits mentioned therein were to be seen as guidelines only, a strict legalistic interpretation being undesirable.

He pointed out that paragraph 9.4 of that document was partly covered by the revised 9.1 and could thus be deleted. Another editorial error concerned former paragraph 9.11 (now renumbered as 9.10), the second part of which had been left out and should be reinserted.

Any other editorial errors which undoubtedly remained in Temporary Document 31/PLEN due to lack of time should be dealt with by the Editorial Committee, without changing the content of the document.

Reverting to Temporary Document 33/PLEN, he drew attention to the second paragraph which noted that after lengthy discussion Committee A had not approved the draft revision of Resolution No. 2, but had set up a Drafting Group under the Chairmanship of Mr. Staudinger (Federal Republic of Germany) to continue the work and report directly to the Plenary Assembly. A general consensus had been reached, however, that the four-year interval was too long and it had been suggested that the CCITT look at the working methods of other international organizations such as the ISO and IEC. Items 4, 5 and 6 of Temporary Document 33/PLEN had been unproblematic and had all been approved apart from some minor editorial amendments.

He concluded by thanking all contributors to the work of the Committee, especially the Vice-Chairmen and the Secretary and hoped that the "Melbourne spirit" would prevail.

3.2 The *Chairman* suggested that the Plenary Assembly should set up a small Working Party, to be chaired by Mr. Temple (United Kingdom), for the purpose of considering further and possibly expanding the set of objectives described as "the spirit of Melbourne" by the Chairman of Committee A so that the CCITT might go forward to the Plenipotentiary Conference and into the next study period with a clear statement of its goals.

It was so *agreed*.

With regard to the drafting imperfections mentioned by the Chairman of Committee A, he said that they were entirely understandable in view of the short time which had been available to the Committee and suggested that they be referred to the Editorial Committee. In particular, he invited the Editorial Committee to make the necessary drafting changes in the text of the proposed revision of Opinion No. 1 (Temporary Document 34/PLEN).

3.3 The *delegate of Canada* said that it might be prudent to defer approval of Resolution No. 1 (Temporary Document 31/PLEN) until the Plenary Assembly had before it the results of the work being done on Resolution No. 2. He suggested, in particular, that the Working Party set up to draft Resolution No. 2 be requested to consider paragraphs 5.1, 9.5, 9.6 and 10,4 of Part III of Resolution No. 1.

3.4 The *delegate of Hungary* said that he wished to propose some minor amendments to Resolution No. 1, in particular to paragraphs 2.5 of Part IV and 8.3.2 of Part III. The *delegate of the United Kingdom* said that he also wished to amend paragraph 8.3.2, as well as paragraph 6.2 of Part III of Resolution No. 1.

3.5 The *delegate of India* suggested that the concept of cooperation should be added to the four "spirit of Melbourne" objectives defined by the Chairman of Committee A. In line with the objective of flexibility, he suggested that the word "shall" be amended to "should" wherever it occurred in paragraph 6.2, Part III of Resolution No. 1. The *Chairman of Committee A* endorsed that suggestion.

3.6 Referring to section 2 of Part IV of Resolution No. 1, the *delegate of the United States of America* said that from the point of view of clarity the concept of "calendar days" was greatly preferable to that of "working days". The *Chairman of Committee A* said that the point had been discussed extensively in the Committee and its Working Groups and the concept of "working days" had appeared to command the support of the majority of delegates. In his personal view, the practical difference involved was very slight as the Secretariat and the Study Groups themselves often worked at weekends; moreover, exceptional circumstances which prevented contributions arriving on time were always taken into consideration. The *Director of the CCITT* corroborated that statement, adding that the rules would not be applied restrictively; the main point was to ensure that the Secretariat had sufficient time to prepare documents.

3.7 The *delegate of the United States* said he could not agree that it did not matter whether the Resolution spoke of "working days" or "calendar days". The issue was an important one and he was not convinced that the Editorial Committee was the right body to deal with it or, indeed, with all other matters pertaining to Resolution No. 1.

3.8 The *Chairman* agreed that some members of the Committee A group responsible for the revision of Resolution No. 1 should be associated with the work of the Editorial Committee, and he invited the delegate of Hungary (Mr. Lajtha) to coordinate that effort. In reply to a query by the *delegate of the USSR*, he said that the Editorial Committee, with input from Mr. Lajtha as Chairman of the Committee A group, would work on the revised text of Resolution No. 1 appearing in Temporary Document 31/PLEN with a view, not to revisiting the majority views reflected therein, but to ensuring a clear and unambiguous statement of those views. In response to a further point raised by the *delegate of the USSR* he said that in scheduling Plenary Assembly meetings he would try to ensure that revised documents were available to delegates well in advance. The *Chairman of Committee A* suggested that the delegate of Canada (Mr. Israël) should assist Mr. Lajtha in providing input to the Editorial Committee.

It was so *agreed*.

3.9 Referring to Part I of the report of Committee A (Temporary Document 30/PLEN), the *delegate of Canada* suggested that paragraph 2.2 should be amended to read: "It is proposed that an ad hoc Group of the Plenary Assembly with participation open to all members be set up.....". In view of the importance of the matter, the Plenary Assembly's intentions should be spelt out in greater detail. The *Chairman of Committee A* remarked that details of the proposed Group's membership and working methods ought to appear in Annex D to the report.

3.10 The *Secretary-General*, agreeing that the question as to whether the proposed Group should be the same as Special Study Group S or should take some other form was a matter of substance, said that various options were available. The reference to "open participation" could lead to misunderstandings and entail certain limitations; in that connection, he drew attention to the terminology used in Resolution No. 15 on the preparation of WATTC-88 and to Articles 68 and 72 of the Convention. The *delegate of Spain* endorsed those remarks and quoted *resolves* (7) of Resolution No. 15. The question as he saw it was whether participation in the proposed Group should extend to all participants in the work of CCITT Study Groups, including private operating agencies, or should be restricted to the members of the CCITT.

3.11 The *delegate of Lebanon* said that if the object of the Canadian amendment was to ensure that the new Group would be a continuation of Special Study Group S, he was prepared to support it in the interests of continuity. The *Chairman* said that the intention as he understood it was to ensure that membership in the Group should be open to all States members of the CCITT and not merely to a small group of selected countries.

3.12 The *delegate of the United Kingdom* said that although everyone was agreed on the principle of having a Group to continue the work of Special Study Group S, it might be unwise to adopt a decision in the matter without giving further thought to the question of the form which the Group should take. The *Chairman* concurred and suggested that the delegate of Canada be entrusted with preparing a document on the issue for consideration at a forthcoming Plenary meeting. For the present, he would confine himself to noting the Plenary Assembly's agreement to the principle that the work hitherto undertaken by Special Study Group S should be continued in the next study period by a group with as yet undefined representation, broadly defined as "ad hoc".

3.13 The *delegate of Senegal*, referring to the proposed revision of Opinion No. 1 (Temporary Document 34/PLEN), requested information concerning the procedure to be followed by Administrations wishing to host Study Group meetings and on the practices to be observed for the dissemination of invitations received. The *Director of the CCITT* said that invitations to Study Group meetings should be submitted to the Plenary Assembly or to the relevant Study Group Chairman; invitations to Working Parties could be channelled through the Director of the CCITT. All invitations would, of course, be considered in the light of budgetary constraints.

It was *agreed* to refer the proposed revision of Opinion No. 1 (Temporary Document 34/PLEN) to the Editorial Committee.

Amended Opinion No. 3 (Temporary Document 32/PLEN) was *approved*.

3.14 The *delegate of the United Kingdom*, referring to Part IV of the report of Committee A (Temporary Document 33/PLEN), suggested that the second sub-paragraph of paragraph 2 should be amended to read: "Opinion No. 3 modified in accordance with the proposal of Special Study Group S in AP IX-1 (Annex G) is presented in TD 32/PLEN", and that paragraph 5 should read: "Committee A accepted the amended Recommendation A.1 which is given in AP IX-1 (Annex E, pages 42-46)".

It was so agreed and Temporary Document 33/PLEN, thus amended, was *approved*.

Annexes A, B, C to Temporary Document 30/PLEN were *approved*.

3.15 The *delegate of Cameroon*, making a comment on the revision of Resolution No. 2, said that hitherto the adoption of texts by the ITU in general and the CCITT in particular had resulted in the establishment of a certain balance between the manufacturers of telecommunication equipment, on the one hand, and its users, on the other. The balance was a stable one and was in the interests of all concerned.

If the accelerated approval of a text were to entail disturbing that balance, the organization might lose some of its universally recognized authority in standardization matters.

For that reason, any amendment to Resolution No. 2 should take into consideration the concept of balance which had given satisfaction thus far, at any rate to his country.

4 Approval of minutes of previous meetings (Temporary Documents 20/PLEN, 25/PLEN, 28/PLEN)

4.1 The *Chairman* said that any corrections should be submitted directly to the Secretariat and would be incorporated in the text of the minutes.

Temporary Documents 20/PLEN, 25/PLEN and 28/PLEN were *approved* on that understanding.

The meeting rose at 1845 hours.

SIXTH PLENARY MEETING

(Minutes approved at the tenth Plenary Meeting)

Tuesday, 22 November 1988, at 1435 hrs

Subjects discussed:

1 Collaboration with the CCIR

2 ITU Information Exchange Services (IES) and document interchange with the ITU

3 Report of Committee A (continued)

3.1 Opinion No. 1
3.2 Draft Recommendation A.22
3.3 Report of the "Spirit of Melbourne" group

4 Vocabulary work in CCITT and CCITT participation in CMV

5 Report of PC/WATTC

1 Collaboration with the CCIR (Document AP IX-66)

1.1 The *Director of the CCIR* introduced Document AP IX-66 on CCIR/CCITT liaison, noting that the Plenary Assembly had already received the reports of the two CCIR/CCITT Joint Study Groups CMTT and CMV. Specific examples of liaison activities were mentioned in the annex to the document.

1.2 The *delegate of the United Kingdom* said it was clear, from the information given, that the activities of the CCIs were converging in many fields, particularly those in which technology was dynamic. The important implications of such convergence would doubtless be reflected in the current Assembly's findings.

1.3 The *delegate of France* said that cooperation between the CCIs, which had always been close in traditional areas, was growing further, especially in the newer aspects of telecommunications. It was hoped that the welcome trend would continue.

1.4 The *delegate of Sweden* said that standardization was the primary issue of CCITT activity and for that reason, collaboration with bodies such as the IEC and ISO was essential. Equally important, however, was a close liaison between the CCIs, particularly in the field of standardization; one example was the activity mentioned in the final paragraph of the introduction, relating to interfacing and personal equipment. Document AP IX-66 provided a good basis for consideration of such aspects by the forthcoming WATTC.

1.5 The *Secretary-General* pointed out that collaboration between two permanent organizations of the Union must be distinguished from liaison with external organizations.

1.6 The *Chairman* noted the importance attached to close collaboration between the CCIs, especially in view of the impact of new technology and evolving practices, some of which had yet to be fully defined. The issues involved would doubtless be raised again in Plenary in connection with CCITT working practices. He thanked the Director of the CCIR for the information provided.

2 ITU Information Exchange Services (IES) and document interchange with the ITU (Temporary Documents 8/PLEN and 9/PLEN)

2.1 The *Secretary-General*, introducing Temporary Documents 8/PLEN and 9/PLEN, said that further considerable progress had been made, since the VIIIth Plenary Assembly, in developing the electronic system for document processing and distribution, referred to in section 1 of Temporary Document

8/PLEN; the cooperation of the ITU Computer Department and the various Study Groups, VII and XI in particular, should be noted in that regard. A number of trials had been carried out, with the Administrative Council's knowledge, covering aspects such as facilities for direct data-bank access for Plan data. In addition, action was proceeding with a pilot study for access to maritime service operational information, especially for ship and coastal stations operation information exchanges.

As noted in the Summary of Temporary Document 8/PLEN, he intended to report to the forthcoming Plenipotentiary Conference, through the Administrative Council, on the IES and ITU information dissemination policy; if there were any observations on those matters, he would be grateful to have them in time for submission to the Council in January 1989. The latter would be receiving a major policy document on electronic processing; as a result, the Plenipotentiary Conference would have before it the issue of the general publication policy, which was geared to the cost price per printed copy, the printed form which had been of greatest interest to most bodies. In view of the rapid changes, electronic access would be the predominant form before long. In that connection, the Publications Account should not be used as a means of subsidizing general operations at the Union's Headquarters.

Temporary Document 9/PLEN listed the media and interchange formats whose use was encouraged in order to reduce overall costs at Headquarters, but consideration would be given to requests for the use of any others. In that connection, the title of the note series "Guidelines for Submission of Machine Readable Text" should be changed to "Document Interchange Standards of the ITU" so as to reflect the advances made.

It was *agreed*, on a suggestion by the *Chairman*, that Working Party I would consider the revision of Appendix A to Recommendation A.15 during its deliberations on the Blue Book.

2.2 The *Secretary-General* said, in reply to a question by the *delegate of the United Kingdom* concerning other systems such as the Frequency Management System (FMS) of the IFRB, that the facilities being developed as outlined in Temporary Document 9/PLEN were intended to deal with any information received in the form described, and were being extended to other ITU areas. A system for direct reading had already been introduced in varying degrees. The situation in the IFRB was different: the FMS system data entry still had to be treated manually. The Administrative Council would doubtless consider what further investment might be required in that regard. Consideration was also being given by the Council to direct access to published information from the FMS.

Replying to a question by the *delegate of Hungary*, he said that the extension of the IES, referred to in section 3 of Temporary Document 8/PLEN, had been accomplished without additional staffing, but some order of priority had obviously been required. One priority was electronic mailing, and joint trials with the Swiss PTT had been conducted in that field. Trials relating to direct data-base access had shown that some operational data could be made available with relatively little investment.

He expressed appreciation of the cooperation between the Study Groups concerned and the Computer Department, which had led to direct assistance in the identification of ITU priorities from AT&T and Japan. All such matters would be reported to the Plenipotentiary Conference through the Administrative Council. The ITU was already well ahead of all other United Nations agencies in electronic publishing; the problem of providing direct access to IFRB information, although considerable, should not be allowed to distract attention from the matters before the current Meeting.

Speaking in reply to a question by the *delegate of Belgium*, he said that no choice had yet been made of a specific graphic element or package relating to electronic publishing, mentioned in section 6 of Temporary Document 8/PLEN. The matter had to be considered further in the light of developments in international standards.

2.3 The *delegate of the Islamic Republic of Iran* supported the extension of a computerized information exchange system to all ITU Member countries.

2.4 The *delegate of Indonesia* endorsed the Secretary-General's observations on electronic information interchange. He asked what kind of terminal and network would be required, and how many Administrations were currently taking part in the relevant exercises.

The *delegate of Niger* also said that his Administration would like to know more about access to the system.

2.5 The *Secretary-General* said that there had been two pilot projects, involving five Administrations on Plan Data and presentation at the World and some Regional Plan Committees. In addition, there was a demonstration project relating to the maritime services, following the previous relevant WARC, involving some ten Administrations; the number easily could be increased. The method adopted was intended to be terminal-independent; the form of transmission remained a matter for discussion, but the aim was utmost flexibility.

It was *agreed to note* the information provided in Temporary Documents 8/PLEN and 9/PLEN and to request the Secretary-General to circulate an information document.

3 Report of Committee A (continued)

3.1 *Proposed revision of Opinion No. 1* [Temporary Document 34/PLEN(Rev. 2)].

3.1.1 The *delegate of Spain* proposed that the revised text of Opinion No. 1 on the "Location of CCITT meetings - Invitations" be further amended to make its references to the financing of such meetings more general.

3.1.2 The *Secretary-General* suggested that the final clauses of *considering* (1) and *expresses the opinion* (1) be amended to read, respectively:

"in so far as these meetings remain within the credits available for CCITT activities", and

"subject to the availability of the necessary funds to enable the invitations to be honoured."

3.1.3 The *Chairman*, following a further intervention by the *delegate of Spain*, proposed that the second amendment be changed to read:

"subject to the availability of the necessary funds."

Opinion No. 1 [TD 34/PLEN(Rev. 2)] was *approved* as amended.

3.2 *Draft Recommendation A.2it on "collaboration with other International Organizations on Information Technology"* (Temporary Document 43/PLEN)

3.2.1 The *Chairman* said that, as recorded in Temporary Document 27/PLEN, it had been agreed after discussion that no amendments would be proposed to draft Recommendation A.2it as a result of the comments made on it in the report of Study Group VII [Document AP IX-39, paragraph 5b]. The draft Recommendation was therefore presented unchanged for approval as Recommendation A.22 of the Plenary Assembly (Temporary Document 43/PLEN).

Recommendation A.22 was *approved*.

3.3 *Report of the "Spirit of Melbourne" Group* (Temporary Documents 39/PLEN and 45/PLEN)

3.3.1 The *Chairman* recalled that Temporary Document 39/PLEN had been prepared in response to the perceived need to put the principles agreed during discussions on changes in the working methods and practices of the CCITT in a suitable form for onward transmission to WATTC, the Administrative Council and the Plenipotentiary Conference. A small "Spirit of Melbourne" Group under the chairmanship of Mr. Temple (United Kingdom) had therefore encapsulated those principles in a draft Resolution, to which the delegate of Hungary had proposed the addition contained in Temporary Document 45/PLEN.

3.3.2 The *Chairman of the "Spirit of Melbourne" Group*, introducing the documents, said that the proposed addition was useful and should be inserted into the *considering* paragraphs, which set the framework of ideas in which the Resolution had been conceived. The draft noted the pressing need for the CCITT to modernize and respond to the rapid changes in world telecommunications, and also the fact that changes in its working procedures were not implemented quickly enough. The draft therefore proposed that either WATTC or the Administrative Council should invite the Plenipotentiary Conference, Nice, 1989, to endorse the need for the CCITT to give priority to modernization, flexibility and efficiency in its organization and working methods. The fourth notion of clarity had been dropped from the list of priorities as a separate item, but the useful proposal by the delegate of India to add the idea of cooperation in the production of high quality Recommendations had been incorporated.

Besides seeking the Plenipotentiary Conference's endorsement for those priorities, the draft Resolution concluded with two suggested requests for action by the Plenipotentiary Conference when reviewing the Nairobi Convention which should promote the necessary process of change in the CCITT.

He therefore submitted the draft Resolution for the Plenary Assembly's approval and for its decision as to whether the WATTC or the Administrative Council was the more appropriate addressee.

3.3.3 The *Chairman* said that the draft Resolution was a most important document for conveying the views of the Plenary Assembly clearly into the other forums suggested and for promoting the process of change.

3.3.4 The *delegate of Canada* suggested that the new *considering* in Temporary Document 45/PLEN would be more in keeping with the rest of the draft Resolution if it read:

> "that the IXth Plenary Assembly's updating of Resolution No. 1 will give a formal basis to a number of useful practical changes in the working procedures of the CCITT".

3.3.5 The *delegate of Hungary* accepted that suggestion.

3.3.6 The *Secretary-General* said that he had drawn attention to the need to find a route to the Plenipotentiary Conference because, under Article 75 of the Convention, the Plenary Assembly could only make proposals to administrative conferences. He suggested that there would be advantages in using both the WATTC and the Administrative Council route in the case under consideration. It would clearly be useful to have the endorsement of the 110 Member Governments represented at WATTC, at the level immediately below the Plenipotentiary Conference. At the same time, the draft Resolution only concerned the mandate and methods of the CCITT, whereas the Convention covered both of the International Consultative Committees. It would therefore also be useful to route the Resolution through the Administrative Council, which might wish, in accordance with its functions to consider and give a more overall judgement on working methods to cover both CCIs.

3.3.7 The *Chairman* proposed that the draft Resolution be approved as orally amended and that it be brought to the attention of both the WATTC and the Administrative Council for endorsement and transmission to the Plenipotentiary Conference.

3.3.8 The *delegate of Spain* said that while the Resolution could be addressed to the WATTC, he believed that the only correct route to the Plenipotentiary Conference from the legal point of view was through the Administrative Council. So far as the text of the draft was concerned, he proposed the amendment of *considering* (d) to include a reference to the quality and universality of the results of CCITT work, the preservation of which was one of the Resolution's main aims.

3.3.9 The *Chairman* and the *delegate of the United Kingdom* indicated their agreement.

3.3.10 The *delegate of the United States of America* proposed a number of amendments to the draft Resolution, intended to make it more precise and less open to different interpretations at the WATTC.

3.3.11 Following informal consultations, the *delegate of the United Kingdom* read out of the amendments on which agreement had been reached for the final text of the draft Resolution (see Temporary Document 39/PLEN(Rev. 1)). Some concern had been expressed that the word "telecommunications" in the context of the Resolution should be clearly understood to mean telecommunications except radio, but there was no need to amend the text in that sense provided that the concern was duly recorded.

The draft Resolution on the pre-eminence of CCITT in worldwide telecommunications standardization was *adopted*, as amended.

3.3.12 The *representative of IEC* expressed her organization's appreciation and support for the "Spirit of Melbourne" and its call for permanent cooperation between CCITT, IEC and ISO in both procedural and technical matters.

3.3.13 The *Chairman* said that the Resolution, together with revised Resolutions Nos. 1 and 2, clearly stated the need for cooperation between the CCITT and other national and regional bodies both in method and in time scales. The Resolution would be presented to the Administrative Council for endorsement and for transmission to the Plenipotentiary Conference with a request for the action indicated. The Resolution would also be presented to the WATTC for such action as it deemed appropriate.

4 Vocabulary work in CCITT and CCITT participation in CMV (Temporary Document 40/PLEN)

4.1 The *Chairman of the ad hoc Group on terminology* (Mr. Marchese, United States of America) introduced Temporary Document 40/PLEN. Twelve to fifteen Administrations and the IEC had been represented on the ad hoc Group, which had held two meetings. Temporary Document 40/PLEN represented a draft agreement on providing the CCITT with a new focus on terminology and dissolving the CMV, since the existing system was not wholly satisfactory. Under the Group's proposals, Recommendations A.10 and A.12 would be modified and Recommendation A.14 suppressed. A Terminology Coordination Committee would be established on a trial basis, to be reviewed by the Xth Plenary Assembly, with the task of acting as a central information transfer point with the CCIR and the IEC as well as between CCITT Study Groups. The aims of the CMV would therefore not be altered, but would be furthered more efficiently. In conclusion he stressed that the proposal to suppress Recommendation A.14 had been made because the necessary safeguards were contained in Resolutions 4 and 5.

4.2 The *Director of the CCITT* found no fault with the general approach of the document, which recognized the trend towards specialization in the terminology used by the CCITT and the CCIR. He queried two details, however: paragraph (d) proposed that the Terminology Coordination Committee should communicate with Study Group Rapporteurs, but since such communication already existed, there was a danger of duplication; the same applied to (e), under which the Secretariat would periodically publish terms created by the Study Groups. Such terms already appeared in Fascicle X.1 of the Red Book and efficiency could be affected if too frequent publication was required.

4.3 The *delegate of Spain* expressed concern as to how the new Recommendation A.10 would be applied. It might conflict with the brief of the CCIR-CCITT Joint Study Group on Vocabulary under Resolution No. 11 and create confusion when the next Plenary Assembly discussed terminology. The impact of Recommendation A.10 would thus be reduced.

4.4 The *Secretary-General* pointed out that the Red Book contained inconsistencies which should be eliminated under the proposals in Temporary Document 40/PLEN. The Plenary Assembly had in any case specified that CCITT vocabulary should be worked out within the CCITT itself. He added that WATTC would have some responsibility in the matter.

4.5 The *Chairman* said that the Plenary Assembly should decide on the issue of non-technical terms and definitions, which had not been addressed by the ad hoc Group.

4.6 The *delegate of Denmark*, referring to revised Recommendation A.10, *recommends* 2, asked whose responsibility it was to define "new terms".

4.7 The *Chairman of the ad hoc Group* replied that, whereas the CMV had had independent authority to make decisions regarding terminology, Study Groups would now have the ultimate responsibility for terms and definitions. For greater clarity he suggested inserting the following sentence in *recommends* 2: "The final decision on the definition of a 'new term' rests with the Study Group".

4.8 The *Secretary-General* reminded delegates that if a definition formed part of a Recommendation, authority lay with the Plenary Assembly. If the definition was technical or operational in nature, concerning Telecommunication Regulations, for example, it was the responsibility of the Administrative Conference concerned.

4.9 The *delegate of Italy* said that if Recommendation A.14 was to be suppressed it would be advisable to add the words "and suppresses Recommendation A.14" at the end of the third paragraph of Temporary Document 40/PLEN.

4.10 The *delegate of Canada* queried the need to suppress Recommendation A.14. He was concerned that without that specific authorization, the CCITT Secretariat would not have the right to publish Fascicle X.1.

4.11 The *Chairman of the ad hoc Group* said that although the publication of Fascicle X.1 was covered by Resolutions Nos. 4 and 5 he was happy to retain Recommendation A.14 if the Assembly so wished.

4.12 The *delegate of France* drew attention to an ambiguity in the French text of revised Recommendation A.10, *recommends* 9. After some discussion, in which the *representative of the IEC* and the *delegate of Spain* also took part, it was *decided* to refer the text back to the Secretariat for redrafting.

4.13 The *Chairman* asked the Assembly to consider Temporary Document 40/PLEN without reference to the deletion of Recommendation A.14, since its retention did not affect the substance of the changes proposed.

Temporary Document 40/PLEN was *adopted*, subject to cancellation of the deletion of Recommendation A.14, inclusion of the proposed insertion to Annex A, *recommend* 2, and clarification of the French and Spanish texts in *recommend* 9.

4.14 The *Chairman* concurred with the suggestion by the *Chairman of the ad hoc Group* that Mr. Thué (France) should be elected as the first Chairman of the Terminology Coordination Committee, in view of his lengthy experience and expertise in that area.

4.15 *Mr. Thué* said that, having read Temporary Document 40/PLEN and considered it very useful, he would be happy to accept the chair of the new Committee over the next study period.

It was so *agreed*.

5 Report of PC/WATTC (Documents AP IX-27, 68)

5.1 The *Chairman of PC/WATTC-88* (Mr. Molina Negro, Spain) presented his Committee's final Report, contained in AP IX-27. As stated in the report of the Director of the CCITT (AP IX-68), four meetings had been held over a total of twenty days. Eighty contributions had been received, as well as fourteen reports from Study Groups I, II and III and five reports had been drafted. The participants had come from 45 administrations, 14 private enterprises, one scientific international organization and one other international organization. He pointed out that as stipulated the Report had been produced one year prior to the Plenary Assembly.

He drew delegates' attention to some of the questions raised during the Committee's work, including the applicability of the Regulations (paragraphs 3.4 to 3.7). It had been difficult to achieve agreement on the definition of the term "public". The Committee had also decided to distance itself from *resolves* 3 of Resolution No. 15 requiring the PC to "define the general structure and contents of the new Regulations and give preliminary consideration to the list of services". It had been unable to agree on the list of services and had abandoned the attempt. Paragraph 3.8 dealt with accounting provisions; it had been decided that accounts should be included in the body of the text, not in an annex. He stressed that not all of the Committee's decisions had been unanimous. The Assembly should take into account Annex 1, containing statements by various Administrations, and Annex 2, containing a legal opinion on the relationship between the new draft Regulations and the Radio Regulations.

It was *agreed* that the substantial issues raised by the Report would be covered by WATTC, and therefore detailed discussion at the present Plenary Assembly was unnecessary.

5.2 The *delegate of the United Kingdom* asked whether the draft Resolution referred to in the last sentence of paragraph 3.8.2.3 was actually in existence.

5.3 The *Chairman of PC/WATTC* replied that it was not, since the PC felt that it was a matter for the next Plenipotentiary Conference; however, the subject might also be discussed at WATTC.

In reply to a query from the *delegate of Norway* regarding paragraph 3.8.3.2 he confirmed that WARC MOB-87 had adopted provisions and a Resolution on the special provision for maritime telecommunications.

5.4 The *Secretary-General* added that a document containing the new provisions had been prepared for presentation to WATTC.

The Plenary Assembly *took note* of Document AP IX-27.

The meeting rose at 1810 hours.

SEVENTH PLENARY MEETING

(Minutes approved at the tenth Plenary Meeting)

Wednesday, 23 November 1988, at 1430 hrs

Subjects discussed:

1 Report of Committee A (cont.)

1.1 Resolution No. 1

1.2 Resolution No. 2

2 Report of Committee D

3 Approval of the minutes of the third, fourth and fifth Plenary Meetings

1 Report of Committee A (continued)

1.1 *Resolution No. 1* (Temporary Document 50/PLEN)

1.1.1 The *Chairman* reminded the Assembly that the changes to Resolution No. 1 had been accepted during the presentation of the report of Committee A but that, due to lack of time, the document had been referred to the Editorial Committee, with the assistance of Committee A, to finalize the wording of Resolution No. 1 (Temporary Document 50/PLEN). He noted that in considering Resolution No. 1, it should be borne in mind that Resolutions Nos. 1 and 2 constituted a package of changes.

He drew the Assembly's attention to one further change to Resolution No. 1 to make it consistent with the revised Resolution No. 2, which was to replace the text of the third indent of paragraph 10.4, Part III (Temporary Document 50/PLEN) by the following:

> "a reference to any new and/or revised Recommendations that have been adopted during the study period under the provisions of Resolution No. 2;"

1.1.2 The *Chairman of the Editorial Committee* (Mr. Gonin, France) brought two minor editorial changes to the attention of the Assembly:

- in Part III, paragraph 8.4, add the word "personal" between effective and liaison, to read "to ensure effective personal liaison with ...";
- in Part III, in the title of item 9, add the words "and ad hoc Joint Working Parties" after "Working Parties" to bring it into line with the text of paragraph 9.1.

He added that the minor editorial corrections to the French and Spanish versions would be handled by the Editorial Committee in conjunction with the CCITT Secretariat, and proposed that the new Resolution No. 1 be approved by the Plenary Assembly.

1.1.3 The *delegate of Japan*, in reference to the processing of contributions (Part IV, Temporary Document 50/PLEN), stressed the importance of adhering to time limits where countries were geographically distant from Geneva. Referring to paragraph 2.5 in particular, he appealed to the goodwill of the CCITT Secretariat in accepting documents received less than seven working days before the beginning of the conference if those documents were very important to the efficient progress of the conference.

1.1.4 The *Chairman* reassured the delegate of Japan that every effort would be made by the CCITT Secretariat to send documents out well in advance and to treat the 7-day limit sensibly, but the primary responsibility of complying with the deadlines lay with the delegations through timely presentation of contributions.

1.1.5 The *delegate of Spain* proposed the addition of the word "normal" before "Contributions" at the end of paragraph 2.9, Part IV (Temporary Document 50/PLEN). He understood normal contributions to be implied, but that it should be made explicit. The issue might be seen as one of substance and as such should be discussed at the present Plenary Assembly.

1.1.6 The *Secretary-General* agreed that the issue was one of substance, raising the questions of who was to decide when a document was to be exceptionally distributed, and what happened, from the point of view of translation, to contributions received less than two months prior to a meeting but before the deadline.

1.1.7 The *Chairman* said he had thought that the intention in paragraph 2.9 was to reflect the fact that delayed documents used at meetings but not distributed as normal documents could, in exceptional circumstances where that information was considered of real value for wider distribution, be distributed later as information documents in the form of a normal contribution.

1.1.8 The *delegate of India* pointed out that paragraph 2.9 had remained unchanged from the previously approved version in Volume I of the CCITT Red Book, and he therefore failed to see the reason for the present difficulty.

1.1.9 The *delegate of Spain* said he could agree to leave the paragraph unchanged, but reiterated that such exceptional documents should be seen as normal documents for consideration at later meetings, thus receiving normal treatment as far as translation and distribution were concerned. He thought that that was the treatment being given at present to such exceptional contributions received less than seven days before a meeting, and he hoped it was understood that that practice would continue. There were thus three categories of contributions: normal, delayed and late, and he was concerned that a contribution fulfilling the prerequisites of paragraph 2.9 could be distributed as a normal document at a following meeting.

1.1.10 The *Director of the CCITT* confirmed that interpretation of paragraph 2.9, explaining that in exceptional cases and where justified, delayed contributions which appeared in only one language could be translated on request into the three working languages and as such be treated as normal contributions.

It was *agreed* to leave paragraph 2.9 as it stood.

Recognizing the work to be done by the Editorial Committee on the re-wording of the third indent of paragraph 10.4 (Part III) and on the French and Spanish versions, and on the assumption that the revised Resolution No. 2 would be adopted, revised Resolution No. 1, as contained in Temporary Document 50/PLEN, was *adopted*.

1.1.11 The *Director of the CCITT* expressed his satisfaction at the adoption of the Resolution which, he reminded the Assembly, was not merely a piece of paper but a set of specific instructions which he hoped would be followed strictly.

1.2 *Resolution No. 2* (Temporary Document 44/PLEN)

1.2.1 The *Chairman of the Working Group* (Mr. Staudinger, Federal Republic of Germany) indicated a number of editorial and substantive amendments to the revision of Resolution No. 2 submitted in Temporary Document 44/PLEN:

- in paragraphs 1.1 (fifth line), 3.1 (second line of second sub-paragraph) and 3.3 (first line) the word "on" was to be replaced by "or";
- in the second sub-paragraph of paragraph 1.1 "advised" should be replaced by "distributed";
- paragraph 2.1 should refer to "Delegations" and not "delegates";
- in paragraph 2.2, "Normally" should be deleted;
- the first line in paragraph 3.2 should read "The CCITT Secretariat ... advise RPOAs, SIOs and IOs participating .....";
- the asterisk should be deleted wherever it occurred and a new sentence added to the "Note", as follows: "It should be further noted that Article 11 of the Nairobi Convention, Nos. 86 and 87, states that the Administrations of all Members of the Union are, of right, members of the CCITT".

The above amendments were *adopted*.

Paragraph 1.1

1.2.2 The *delegate of the Republic of Korea* suggested that "new" be inserted between "draft" and "Recommendation" in the last sentence of paragraph 1.1. The Chairman of the Working Group concurred and added that the same addition then be made in paragraph 4.4.

It was so *agreed*.

1.2.3 The *delegate of France* pointed out a discrepancy between the French and English versions of the third sub-paragraph: the French text referred to the despatch of information three months before the meeting whereas the English version referred to its receipt.

1.2.4 In response to a comment by the *Chairman of the Working Group* to the effect that Resolutions Nos. 1 and 2 should be consistent in that respect, the *Chairman* agreed that the wording was similar to that of Resolution No. 1, but the idea of receipt in Resolution No. 2 was more peremptory.

1.2.5 The *Secretary of the Plenary Assembly* said that on examination of the text of Resolution No. 1 in Temporary Document 50/PLEN, he had obtained the agreement of the Chairman of the Editorial Committee on certain editorial amendments to the third sub-paragraph of 6.2. "Collective letter" was to be replaced by "Circular-letter"; the fourth sentence which would then begin "The Circular-letter shall include a registration form ..." should be linked to the first sentence of the paragraph and not to the information in the second sentence concerning an unplanned meeting or Resolution No. 2. That sentence would come at the end of the paragraph.

1.2.6 The *delegate of the United Kingdom* was in favour of the word "sent" as despatch was a verifiable condition. He wondered whether the procedure would be invalidated in countries where a postal strike was in progress.

1.2.7 The *Secretary-General* said that it was the Secretariat's responsibility to ensure timely despatch, but that in respect of difficulties with the postal services, it was the responsibility of the Administration concerned to notify any difficulties to the Secretary-General and suggest alternative measures for despatch using other types of services. The main idea was to ensure approximately three months' notice, and postal delays were usually not long enough to impede that.

1.2.8 The *delegate of Israel* suggested that the text might read as follows: "... should be sent so as to be received, under normal circumstances, at least three months.....".

1.2.9 The *Director of the CCITT* wished to stress once again that in choosing the method of despatching mail the Secretariat was fully mindful of the degree of urgency involved. Whenever a reply from the Membership was required within a certain time, the utmost care was taken to choose the fastest, safest and most efficient channel.

1.2.10 The *delegate of Niger*, stressing the importance of precision in what was, after all, a legal text, said that in view of the assurances given by the Director of the CCITT, the discrepancy between the English and French texts might be overcome by using the term "received" in both languages. The *delegate of the USSR* supported that view, pointing out that the matter had been discussed at length in Working Group Plenary/1, where the idea of the invitation and advice being "received", rather than "sent", at least three months before the meeting had commanded a consensus. The *delegate of the United States of America* concurred, adding that the essential point was to ensure that Members had adequate opportunity to be notified and to respond.

1.2.11 The *Chairman* said that the Plenary's intention was not in doubt; it was important, however, to avoid placing an intolerable restriction upon the Secretariat.

After further discussion conducted outside the meeting, the following text was *adopted* for the third sub-paragraph of paragraph 1.1, on the understanding that the various language versions would be exactly aligned:

> "The invitation to the meeting as well as the advice on the use of the intended procedure should be sent by the Director of the CCITT in such a way that it shall be received, so far as practicable, at least three months before the meeting."

Paragraph 3.1

1.2.12 The *Chairman of the Editorial Committee* said that there was a need to specify in paragraph 3.1 that the text should be available in the three working languages of the Union. That comment was seconded by the *delegate of Mexico.*

1.2.13 The *Chairman* agreed that the text referred to was the final text in all three working languages and said that the paragraph could be looked at by the Editorial Committee.

Paragraphs 4.1 and 4.4

1.2.14 In response to concerns by the delegates of the *Republic of Korea* and *Spain* on the coverage of a "Collective letter", the Director of the CCITT indicated that a "Circular-letter" would be the appropriate vehicle for ensuring distribution to all the Members of the Union, RPOAs,

etc. and not just the members of the Study Groups. The *Secretary of the Plenary Assembly* added that a similar procedure had been introduced in respect of Resolution No. 1.

1.2.15 The *Secretary-General* said that, in accordance with the Convention, paragraph 4.1 should contain a reference to the effect that the Director of the CCITT should arrange for information on the results of the consultation to be forwarded to the Secretary-General so that the latter may have it included in the next available Notification. In respect of paragraph 4.4, it was the Secretary-General that published the material, be it in the CCITT Book or any other appropriate form. In response to a proposal by the *delegate of Denmark* to add a reference to the date of coming into force of the Recommendation, he said that it was ITU practice for Recommendations (and Resolutions) to be effective from the time they were approved in Conferences or Plenary Assemblies and, unless special circumstances warranted, there was normally no need to specify such a date.

The draft revision of Resolution No. 2 (Temporary Document 44/PLEN) was *adopted*, as amended.

1.2.16 The *Chairman* thanked all concerned for their contribution to the long and significant discussions leading to the adoption of a revised Resolution which would be of major importance to future activities of the CCITT.

2 Report of Committee D (Temporary Document 49/PLEN)

2.1 The *Chairman of Committee D* (Mr. Ghazal, Lebanon), introducing the report contained in Temporary Document 49/PLEN, drew attention to paragraph 1 reproducing highlights of the statement made in the Committee by the Director of the CCITT. Congratulations were due to the Director upon the excellent efforts made and successes achieved, which would be of great benefit to the developing countries.

With reference to section 2 of the report, he indicated that the paragraph appearing as 2.5.2 should be renumbered 2.2.6 as the statement concerned had been made in GAS 7 and not in GAS 11. The two case studies completed by GAS 9 and mentioned in paragraph 2.3.1 had already been printed. In paragraph 2.3.4, the words "guidelines on" should be deleted in view of a decision taken in Committee B to refer the proposal by the Islamic Republic of Iran to Study Group XVIII.

With regard to paragraph 2.3.6 he said that following discussion with the Secretary-General it had been agreed that the study of the parameters and steps to be taken in the transition from analogue to digital regional networks should be entrusted to GAS 9. As for the concern expressed by the Secretary-General and reflected in paragraph 2.3.7, he had assured the Secretary-General that the problem raised would be duly taken into consideration.

The reference to paragraph 7.4 in the last sentence of paragraph 2.4.4 should read "3.4".

Referring to paragraph 4.2, he informed the Plenary Assembly that the delegate of Senegal had had to return home owing to a sudden bereavement. He requested the Chairman to transmit the Committee's sincere condolences to the Delegation of Senegal and to Mr. Mbaye personally.

The references added to Resolution No. 14, mentioned in paragraph 4.3 and listed in Annex 4, would be of considerable value to developing countries. On the subject of the updating of CCITT Handbooks, he said that GAS 7 and possibly GAS 6 were prepared to undertake such work subject to budgetary considerations. In conclusion, he again stressed the importance of the Committee's work to developing countries.

2.2 The *Chairman of Committee B* said that his Committee's report would comment on the Committee D proposals. For the present he wished merely to say that he generally concurred with the thrust of the conclusions reached in the report; Committee B had been able to verify that the terms of reference of the three proposed GAS were consistent and that there seemed to be no duplication of efforts between the GAS and ongoing CCITT activities. One delegation had suggested an amendment to the effect that the studies of GAS 11 (Annex 3) should include forecasting methods for the introduction of new services. The Director of the CCITT had suggested that because of the change in the terms of reference, GAS 11 should be renumbered GAS 12.

2.3 The *delegate of Sweden*, in expressing strong support for the report of Committee D, stressed the importance of updating CCITT Handbooks and in that connection drew attention to the information concerning GAS 10 contained in paragraph 3.4 (ii) of the report. As for GAS 6, he remarked that the

important study being undertaken in Study Group XI should eventually be included in the GAS 6 Handbook. The responsibility for taking steps in the matter would rest with the Director of the CCITT. The *delegate of the Federal Republic of Germany* agreed, adding, however, that the availability of resources had to be taken into consideration. Referring to paragraph 2.2.2 of the report, he said that he wished to submit a minor amendment which he would hand directly to the Secretariat.

On that understanding, the report of Committee D was *approved*.

2.4 The *Chairman* thanked the Chairman of Committee D and all the experts involved in GAS activities for their most valuable work. An opportunity for delegations to make further comments on the report would be provided at the next Plenary Meeting.

3 **Approval of the minutes of the third, fourth and fifth Plenary Meetings** (Temporary Documents 36/PLEN, 38/PLEN, 47/PLEN)

3.1 The *Chairman* said that any amendments to minutes should be submitted to the Secretariat in writing by 1700 hours on Thursday, 24 November; the minutes would then be presented for approval *en bloc* on Friday, 25 November. In order to save time, it was not proposed to circulate the amendments during the Plenary Assembly but to incorporate them directly in the Blue Book.

The meeting rose at 1725 hours.

EIGHTH PLENARY MEETING

(Minutes approved by the Chairman)

Thursday, 24 November 1988, at 1105 hrs

Subjects discussed:

1 Report of Committee A (continued)
Further study on the CCITT structure

2 Report of Committee B on the Work Programme of Study Groups

1 Report of Committee A (continued)

Further study on the CCITT structure (Temporary Document 48/PLEN)

1.1 The *Chairman of the Working Group on CCITT working methods and structure* (Mr. Racine, Canada), introducing its draft Resolution on the "Future Evolution of the CCITT Working Methods and Structure" (TD 48/PLEN), detailed a number of editorial amendments to the text which had already been passed to the Secretariat. In addition to those changes, the final sentence of *resolves* (b) had been extended to read:

> "In its work, the Group should take account of relevant decisions of, and instructions from, the Plenipotentiary Conference, as well as of the results of the IXth Plenary Assembly."

As for its substance, the draft Resolution sought to continue the work of Special Group S in the "Spirit of Melbourne" by establishing an ad hoc Group, whose purpose and responsibilities were set out in *resolves* (a)-(c) and (e). He drew particular attention to the second sentence in the final paragraph of *resolves* (b), concerning the criteria for the appointment of the Chairmen and the optimum number of Vice-Chairmen for each Study Group, which had been added to the draft since the meeting of the Working Group in view of the competition for such posts. Finally, the draft provided for the Chairman and Vice-Chairman of the ad hoc Group to be elected by the Group itself, rather than by the Plenary Assembly, in order to avoid it being confused with Study Groups, from which it differed significantly.

1.2 The *delegate of Spain* proposed that *considering* (e) should be qualified by adding the words "without prejudicing the quality and universality of the results of the CCITT's work", as had been done in similar contexts elsewhere.

It was so *agreed*.

1.3 The *delegate of the United Kingdom* proposed that the sentence in *resolves* (b) concerning the criteria for the appointment of Chairmen and the optimum number of Vice-Chairmen for each Study Group should be held in abeyance, until the Plenary Assembly had been able to hear and consider the ideas of the Director of the CCITT on the matter.

1.4 The *Chairman* said that the sentence would be placed in square brackets pending consideration by the Plenary Assembly of the issues which it raised.

1.5 The *delegate of Senegal* asked for clarification of the proposed membership of the ad hoc Group, in view of its strategic importance for the development of the CCITT.

1.6 The *Chairman*, supported by the *Chairman of the Working Group*, confirmed that it had always been intended, in the Spirit of Melbourne, that the ad hoc Group would be open to all Administrations, RPOAs and scientific and industrial organizations participating in the work of the CCITT that wished to take part.

1.7 The *delegate of Belgium* proposed that the first line of *resolves* (a) should therefore be amended to read:

(a) "to establish an ad hoc Group, open to all Administrations ...", etc.

It was so *agreed*.

The draft Resolution on the "Future Evolution of the CCITT Working Methods and Structure" was *approved*, subject to those amendments and the reservation concerning one sentence held in abeyance.

2 **Report of Committee B on the work programme of Study Groups** (Temporary Document 55/PLEN and Corrigendum)

2.1 The *Chairman of Committee B* (Mr. Israël, Canada) introducing its report on the work programme of Study Groups, said that the English text had still to be aligned in some respects with the French original, which was the correct version. That was the case, in particular, with the terms of reference for Study Group XI on aspects of mobile systems (Part III, section 11 of the report), and with the text of Question AA/XI on Guidelines for implementing System No. 7 in national networks (ibidem). Apart from that, paragraphs 7 and 8 in Part II of the report should be deleted from all three language versions, since the parts of the report to which they referred did not exist.

Committee B had cooperated excellently, in the Spirit of Melbourne, and was indebted to the delegate of the USSR for his useful contributions on working methods and programmes when elaborating the comments contained in Part II of the report. The allocation of questions to Study Groups in Part III had been compiled after considering all the documents and questions presented by the Study Groups, the amendments proposed by the ad hoc Group formed by the Director of the CCITT and Study Group Chairmen (Document AP IX-76), and contributions made at meetings of the Committee. A few amendments would be required to its contents, notably the addition of a new Question entitled "Study on engineering aspects of outside plant network in severe environmental conditions" under Study Group VI.

The text submitted for approval as the Plenary Assembly's response to the proposed revision of the terms of reference of CMTT and coordination with Study Groups XV and XVIII (Part III, section 17 of the report) had been drawn up very carefully and should provide a good basis for relationships between the CCITT and the CCIR. Finally, there had been a fruitful exchange of views with the Chairman of Committee D, as a result of which it had been found that his proposals were consistent with the CCITT work programme and that GAS and CCITT studies could be harmonized.

2.2 The *delegate of the United Kingdom* pointed out that in the Clarification of the Study Programme of Study Group I, the modifications concerned only Question 9/I, and not Question 24/I also, as stated.

2.3 The *Chairman* said that the necessary amendment would be made.

2.4 The *CCITT Secretariat* said that he understood Committee B to have decided that the additional subject for examination by Study Group VI, to which the Chairman of Committee B had referred in his presentation, should not be a new Question but be annexed to Contribution No. 1 of the Study Group.

2.5 The *Chairman of Committee B* confirmed that to be the case. The subject was an annex to Contribution No. 1, which had been seen and approved by the Committee and would appear later in its revised form.

2.6 The *delegate of Hungary* proposed that a Note be added to Question 25/IX on the "Numbering plan for telex networks", to the effect that studies of the Question should be performed in close cooperation with Study Groups II and VII. The proposal had already been discussed with the Chairmen of those Groups.

It was so *agreed*.

2.7 The *delegate of Indonesia* said that since only three GAS remained, it would be difficult to allocate to any one of them the study concerning the optimization of the subscriber network by introducing new services and techniques, as recommended in the annex to be added to Question AE/XV.

2.8 The *Chairman of Committee B* said that the point was valid and it had been decided to annex the text to a Question for Study Group XV, which should pursue the matter in cooperation with other Study Groups concerned. The recommendation that the study be undertaken by a GAS should therefore be deleted both from the Abstract and from the Introduction to the annex.

It was so *agreed*.

2.9 The *delegate of Switzerland* said that the title of the new Question W/XVIII should make it clear that it was concerned with field trials of ISDNs in developing countries. He would submit an appropriate amendment to the Secretariat.

2.10 The *Chairman* said that such a clarificatory amendment would be acceptable.

2.11 The *delegate of the United Kingdom* suggested that, in the text on the proposed revision of the terms of reference of the CMTT, it would be preferable to replace the word "conformity" in the fifth, seventh and ninth paragraphs by the word "consistency" used in the fourth paragraph.

2.12 The *Chairman* and *Vice-Chairman of Committee B* endorsed that suggestion.

It was so *agreed*.

2.13 The *delegate of Belgium* proposed that in the same text, a sentence should be added at the end of the fifth paragraph to read:

"As far as possible, consistency with the video coding for broadcasting services should be aimed at."

2.14 Following a brief discussion in which the *Vice-Chairman of Committee B* and the *delegates of the Federal Republic of Germany* and the *United States of America* participated, the *Chairman* suggested that, since the intention of the proposal was evidently acceptable, those concerned should devise an agreed form of words to be included in the text later.

It was so *agreed*.

2.15 The *delegate of Japan* said that, in order to conform with what Committee B had agreed, the Note appended to the same text should be amended to read:

"This text should also be communicated to CCITT Study Groups XV and XVIII and to CMTT, together with Decision No. 18-5 of CMTT."

It was so *agreed*.

2.16 The *delegate of France* said that the main reason for changing the number of GAS 11 to GAS 12, as recommended in the last sentence of the report, should be made clear by adding the words:

"to avoid any confusion with the GAS 11 manual already published."

It was so *agreed*.

2.17 The *representative of UPU* expressed satisfaction with the work programme of the CCITT as prepared by Committee B and thanked its Chairman for his reference to the good cooperation between UPU and the CCITT Study Groups, primarily Study Group I. UPU had participated with the Study Groups in formulating their Questions, so its interest and involvement were duly reflected. Its policy was one of cooperation without interference. Postal Administrations were rapidly improving their transport and delivery services, which could be very useful for the CCITT Secretariat. In conclusion, he emphasized that UPU would continue to pursue its policy of collaborating closely with the CCITT.

The report of Committee B was *approved*, subject to the agreed clarifications and amendments.

The meeting rose at 1230 hours.

NINTH PLENARY MEETING

(Minutes approved by the Chairman)

Thursday, 24 November 1988, at 1640 hrs

Subjects discussed:

1 Appointment of Chairman and Vice-Chairmen of Study Groups

2 Minutes of the second Plenary Meeting

1 Appointment of Chairmen and Vice-Chairmen

1.1 The *Chairman* said that the Heads of delegations had met twice to decide on Chairmen for Study Groups, Plan Committees and GAS Groups. They had agreed on a list of names for all posts, with the exception of the World Plan Committee and consequently, the Plan Committee for Europe.

1.2 The *Director of the CCITT*, pointing out that no appointments had been proposed for Chairman and Vice-Chairmen of the Tariff Group for Latin America, said that the matter would be taken up at the next Regional Plan meeting. None had been held during the previous study period.

1.3 The *delegate of Lebanon* proposed that the Director of the CCITT should be authorized to approve the appointment of the Chairman and Vice-Chairmen of the TAL Group, without reference to the Plenary Assembly.

It was so *agreed*.

1.4 The *Chairman* drew attention to the significant increase in the number of Vice-Chairmen of Study Groups. Although the quality of individuals was high, there were more than necessary. The situation was different, however, in the GAS Groups, whose work required a large number of Vice-Chairmen.

1.5 The *Director of the CCITT* recalled that up to 1972 there had been a maximum of two Vice-Chairmen, whose role had been to act as assistants to the Chairman. Since then numbers had risen until Malaga-Torremolinos in 1984 when they had in many cases doubled. Their role had expanded to acting as Chairmen of Working Parties. Before the Plenary Assembly he had canvassed Study Group Chairmen as to how many Vice-Chairmen they needed, but the numbers now appointed exceeded requirements, even after some names had been removed. It was therefore time to reconsider the situation and would be the task of the ad hoc Group which would meet after the Plenipotentiary Conference. It should look at the feasibility of returning to the system in use until 1972 and give serious consideration to the revision of Opinion No. 7, which did not provide sufficient guidelines. Study Groups might also be given the authority to appoint their own Working Party Chairmen. In addition, the Heads of delegations had suggested that Chairmen and Vice-Chairmen should have limited terms of office. Any such reform should be decided in advance to ensure that continuity could be maintained.

1.6 The *Chairman* put forward a list of points agreed at the Heads of delegations meeting for endorsement by the Assembly, to be referred to the ad hoc Group for serious consideration. First, for the 1993-96 study period they should revert to the former system under which there would be only one Vice-Chairman or, in exceptional cases, two. Their role should be solely to assist the Chairman, standing in for him if he was unavoidably absent but they should not automatically act as Working Party Chairmen *ex officio*. Opinion No. 7 should be reviewed. Considerations of balance would, however, have to be taken into account. It should be borne in mind that in the case of the GAS Groups the numbers of Vice-Chairmen were not excessive, given the particular management requirements of

their work. Secondly, it would be for each Study Group to decide on its own Working Party Chairmen on the basis of their technical competence. Thirdly, it should be made clear to those elected at the IXth Plenary Assembly as Study Group Vice-Chairmen that they should have no expectation of further automatic appointment as Vice-Chairmen, in view of the prospect of the new procedures coming into effect. The ad hoc Group in considering the results of the IXth Plenary Assembly, as recorded in the minutes should make proposals regarding the issues and report back to the Xth Plenary Assembly.

1.7 The *delegate of Niger*, supporting the proposals, said that the ad hoc Group should also consider the appointment of Rapporteurs and Special Rapporteurs. The whole question of Working Parties also needed to be reviewed. It was important that any changes should be in accordance with the Convention.

1.8 The *Chairman* said that on examination it was understood that the new procedures could be accommodated without any change to the Convention.

The Plenary Assembly *endorsed* the proposals for Chairmen and Vice-Chairmen and for referral to the ad hoc Group of the matters discussed.

The meeting rose at 1730 hours.

TENTH PLENARY MEETING

(Minutes approved by the Chairman)

Friday, 25 November 1988, at 0930 hrs

Subjects discussed:

1 Chairmanship of the World Plan Committee

2 Report of the meeting of Working Party PL/1

3 Report of the Editorial Committee

4 Report of Committee C

5 Approval of minutes of previous meetings

6 Schedule of CCITT meetings

7 Invitations to CCITT meetings

8 Date and place of the Xth CCITT Plenary Assembly

9 Proposal by the delegate of the United Kingdom

1 Chairmanship of the World Plan Committee

1.1 The *Chairman* said that, as announced at the previous Plenary meeting, the meeting of Heads of Delegation had been unable to advise on the chairmanship of the World Plan Committee and consequently that of the Plan Committee for Europe. The meeting of Heads of Delegation had examined the position and found that there were two outstanding candidates for the chairmanship of the World Plan Committee - Mr. C. Crump of the United States of America and Mr. L. Terol Miller of Spain - both of whom were in a position to provide major contributions to the work of the CCITT.

There was to be a significant World Plan Committee meeting in Spain during the coming study period and in considering the issue of the World Plan Committee Chairmanship, that meeting could be symbolic for the further cooperation between two countries which were already so closely linked historically. It would always be remembered that it was from Spain that Columbus set sail on his epic voyage of discovery which resulted in the first European presence in America.

In a desire to use the combined strength of the two candidates for the benefit of CCITT activities, it had been decided, and agreed by the Heads of the Delegations of the United States and Spain, that as from 1989 the Chairman of the World Plan Committee should continue to be Mr. Crump and that Mr. Terol Miller should be officially appointed as "Chairman Designate" of the World Plan Committee.

The chairmanship of Mr. Crump would continue up to, and including, the opening ceremony of the 1992 World Plan Committee in Spain. Both the Chairman and Chairman Designate would cooperate absolutely in the preparation for the 1992 meeting, with the presence of Mr. Terol Miller in Spain of obvious advantage to that task. During the opening ceremony of the World Plan Committee meeting, Mr. Crump, recognizing the close bonds existing between the two countries and the significance of the meeting in Spain, would transfer the function of Chairman to Mr Terol Miller. The Spanish chairmanship would then be retained until the end of the plenary period. It was also agreed that Mr. Terol Miller would retain his chairmanship of the European Plan Committee during the plenary 1989-1992 period.

The *Chairman* expressed the view that the above arrangement would best use the capabilities of two fine men. He requested the formal agreement to those arrangements by Mr. Barbely, Head of the United States Delegation, and Mr. Molina Negro, Head of the Spanish Delegation.

It was so *agreed*.

The *Chairman* then expressed his appreciation for the efforts made to maximize the strength of the CCITT and to ensure the progression of the ideals of telecommunications development in all countries.

1.2 The *delegate of Lebanon*, speaking on behalf of all the delegations, expressed his appreciation to the Chairman for finalizing constructive arrangements for the Chairmanship of the World Plan Committee.

1.3 At the *Chairman's invitation the Secretary of the Plenary Assembly* read out the list of Vice-Chairmen of the World Plan Committee; he added that it would be published together with the names of the Chairman and Vice-chairmen of the GAS Group(s) and Study Group XV as soon as possible.

The list, as announced, was formally *adopted*.

2 Report of Working Group PL/1 (Temporary Document 53/PLEN)

2.1 The *Chairman of Working Group PL/1* (Mr. B. Moore, United Kingdom) introduced the report of Working Group PL/1 whose mandate was to consider issues related to the publication of the Blue Book. He indicated an editorial amendment to the second line of paragraph 5.3 of the English text: "remain" was to be replaced by "remove".

The structure of the Blue Book had been considered on the basis of the proposals of the Director of the CCITT in document AP IX-73 and TD 3/PL/1. Although the proposals had been approved in principle the meeting had been unsure as to whether or not material in Fascicles XI.1 and XI.2 could be moved to Volume I which was felt to be a more logical location. The *Secretary-General* said that although preparation of the Blue Book was already underway, Volume I was the last one to be handled. The *Chairman of Working Group PL/1* proposed the following division of material into four fascicles of Volume I:

- Fascicle I.1 would contain the minutes and reports of the Plenary Assembly and the list of Study Groups and Questions under study;
- Fascicle I.2 would contain Opinions and Resolutions, as well as A-Series Recommendations;
- Fascicle I.3 would contain Terms and Definitions, the B-Series Recommendations and general communications statistics (C-Series); and
- Fascicle I.4 would contain the index.

The Working Group had agreed to the deletion of Resolutions Nos. 6, 10, 15 and 16, Opinions Nos. 2 and 6 and Recommendations A.16 and A.17, and Supplement No. 1. It had also agreed to maintain Resolution No. 9, Opinion No. 1 and Recommendation A.14 and the B-Series Recommendations.

The texts of Resolutions Nos. 4 and 5, as in Annexes A and B, had been agreed by the Working Group, but would now have to be amended in the light of the revised structure of Volume I.

In respect of publications issues, the Study Groups were urged to continue to eliminate duplication and double numbering and to indicate in the Recommendations any change made to the previously approved version. Such indications would not appear in the Blue Book but would assist the Secretariat and those Administrations wishing to translate the texts into their own languages.

Study Groups were encouraged to keep a "history sheet" of all the Recommendations for which they were responsible so that no valuable information would be lost in the future removal of "stable" old Recommendations.

Special issues incorporating Recommendations concerned with ISDN interfaces could be prepared as long as there was a market and no prejudice to sales of the Blue Book.

In conclusion, he expressed his appreciation to the Vice-Chairman, Mr. He (China) and to the Secretary, Mr. Turnbull.

2.2 The *Chairman* took it that the Plenary was willing to adopt the report in Temporary Document 53/PLEN, as amended, including appropriate modifications in Annexes A and B to reflect the incorporation of Volume XI material into the new 4-fascicle Volume I, as presented by the Chairman of the Working Group.

It was so *agreed*.

2.3 The *Secretary-General* commented that the Recommendations of the X, I and Q-Series were being prepared on a priority basis and the first series would be available in the first quarter of 1989. He would be interested to hear from any secondary distributors in the countries concerned as that would assist sales of the Blue Book.

3 **Report of the Editorial Committee** (Temporary Documents 50/PLEN, 56/PLEN, 57/PLEN, 58/PLEN, 59/PLEN, 60/PLEN, 64/PLEN)

3.1 The *Chairman of the Editorial Committee* (Mr. Gonin, France) presented the Report on the activities of the Editorial Committee (Temporary Document 60/PLEN), outlining the Resolutions dealt with by the Committee, namely revised Resolutions Nos. 1 and 2, two new Resolutions Nos. 17 and 18 and revised Opinions Nos. 1 and 3.

Referring to new Resolution No. 18 on the future evolution of the CCITT working methods and structure, he drew the Assembly's attention to the sentence in square brackets in the last paragraph of *resolves 2* (Temporary Document 64/PLEN), noting that the decision as to whether or not to retain it was still pending.

He concluded by thanking the members of the Editorial Committee, the translators and CCITT personnel for their valuable work.

Opinion No. 1 (Temporary Document 57/PLEN)

3.2 The *delegate of India*, referring to the second line of *considering (a)*, pointed out that at an earlier meeting it had been agreed to delete the word "popularization".

It was so *agreed*.

3.3 The *delegate of the United Kingdom*, referring to expresses the opinion (2), pointed out that, on line 2, "the International Telecommunication Convention (Nairobi, 1982)" should be replaced by "the Plenipotentiary Conference (Nairobi, 1982)".

It was so *agreed*.

3.4 The *delegate of India*, drew attention to the second line of *expresses the opinion (3)* which should in fact read "... Study Groups and Working Parties...".

It was so *agreed*.

3.5 The *delegate of Cameroon*, referring to the same paragraph on the holding of some meetings outside Geneva, expressed his concern that Senegal's earlier suggestion of adding the words "particularly in developing countries" had not been reflected in the text.

It was *decided*, with the agreement of the delegates of Cameroon and Senegal, that the issue was not one of intent but rather of emphasis and as such the text could be left as it stood.

Resolution No. 18 (Temporary Document 64/PLEN)

3.6 The *Chairman* drew attention to the sentence in square brackets in *resolves 2*, previously referred to by the Chairman of the Editorial Committee. The last phrase "as well as the results of the IXth Plenary Assembly" had been specifically added because, pending the discussion on the criteria for appointing Chairmen and Vice-Chairmen, it had been agreed that sufficient detail of the discussion would be recorded in the minutes of the ninth Plenary meeting to provide guidance to the ad hoc Group in taking account of the results of the IXth Plenary Assembly. With the intent of the Plenary being thus safeguarded, the sentence in square brackets could be deleted.

3.7 The *Chairman of the Working Group on CCITT working methods and structure* (Mr. Racine, Canada) agreed that, following the discussion at the previous Plenary meeting, the mandate of the ad hoc Group was clearly outlined in the minutes of the ninth Plenary meeting.

3.8 The *delegate of Niger* proposed that the sentence be retained since it was useful in making the mandate of the Working Group more precise.

3.9 The *Chairman* said it had been felt that the sentence was too specific and did not contain as much of the intent as would be noted in the minutes of the meeting at which the issue had been discussed in detail.

3.10 The *delegate of the United States of America* proposed that the square brackets be removed and the sentence shortened to read: "The Group should also develop proposals for the appointment of the Chairman and the number of Vice-Chairmen for each Study Group".

3.11 In response to the *delegate of Spain* who asked for further clarification on the precise nature of the work of the Group referred to by the sentence in question, the *Chairman* explained that the intent at the present time was to ensure that the consideration of Chairmen and Vice-

Chairmen of Study Groups be placed on the agenda of the ad hoc Group. He proposed that the Chairman of the Editorial Committee, together with the Chairman of the Working Group on CCITT working methods and structure, and any other delegate wishing to assist, draft a short sentence to replace the one currently within square brackets to reflect that intention.

After further deliberation, it was *agreed* to delete the sentence between square brackets, but to add, at the end of the last sentence, the words "including in particular the discussion at the ninth Plenary meeting on the question of selection of Study Group Chairmen and Vice-Chairmen;".

3.12 The *Chairman* paid tribute to the work of the Editorial Committee. With the addition of Resolution No. 1 (Revised Parts III and IV) as appearing in Temporary Document 50/PLEN(Rev.1), the Report of the Editorial Committee as outlined in Temporary Document 60/PLEN and the associated documents listed therein (Temporary Documents, 56/PLEN, 59/PLEN, 64/PLEN, 57/PLEN, 53/PLEN) as amended, were *adopted*.

4 Report of Committee C (Temporary Document 63/PLEN)

4.1 The *Chairman of Committee C* (Mr. Nouri, Saudi Arabia) introduced the report of Committee C contained in Temporary Document 63/PLEN. The Committee considered that the organisation of the Plenary Assembly had been thoroughly satisfactory and the facilities excellent. With regard to the situation of the accounts of the IXth Plenary Assembly, it should be noted that credits had been exceeded by some 409,000 Swiss francs; that substantial overexpenditure had been caused exclusively by the volume of documentation produced for the Plenary Assembly and the cost of despatching it. The Committee had noted that expenditure on the production and despatch of Study Group documents was rising steadily and considered that ways and means should be sought of reducing it as far as possible.

4.2 The *delegate of Lebanon*, supporting the request of Committee C that its report be transmitted with the Plenary Assembly's observations to the Secretary-General for submission to the Administrative Council at its 44th session, expressed the appreciation of all delegations for the Australian Government's hospitality the previous evening.

4.3 The *Chairman*, on behalf of the Minister of Transport and Communications and other bodies forming part of the Australian Administration, thanked the delegate of Lebanon for his kind words.

4.4 In reply to a query by the *delegate of India* concerning the possibility of some meetings in the forthcoming study period being held outside Geneva, the *Director of the CCITT* said that the expenditure estimates appearing in paragraph 3 of the report were based on the assumption that meetings would be held in Geneva. Those figures were, however, subject to updating, as required, one year before the start of each fiscal year.

The report was *adopted*.

4.5 The *Director of the CCITT* drew attention to the fact that although the overexpenditure for the IXth Plenary Assembly was indeed substantial, it had remained at the same level as that incurred at the previous Plenary Assembly while the volume of documentation had doubled.

4.6 The *Chairman* said that the Director of the CCITT was entitled to take pride in that achievement and deserved the Plenary Assembly's congratulations and encouragement in the further implementation of measures designed to reduce costs.

5 Approval of minutes of previous meetings (Temporary Document 62/PLEN)

5.1 The *Secretary of the Plenary Assembly* said that a list of the delegations which had submitted amendments to the minutes of the first to fifth Plenary meetings would be issued in Temporary Document 68/PLEN and the amendments would be incorporated in the final versions of the minutes. Amendments to the minutes of the sixth, seventh, eighth and ninth Plenary meetings, some of which would be issued later that day, should be handed to the Secretariat by Monday 28th November. As for the minutes of the tenth and closing Plenary meetings, the customary procedure was for the Plenary Assembly to authorize the Chairman to approve them for publication in the Blue Book.

5.2 The *delegate of Spain* said that the procedure outlined by the Secretary of the Plenary Assembly was acceptable in the case of delegates wishing to correct summaries of their own statements. In the case of decisions, however, it would seem necessary to have the change approved by the Plenary Assembly. In his opinion, the text of the motion reproduced in paragraph 7.6 of the minutes of the third Plenary meeting (Temporary Document 36/PLEN) was inaccurate and should be amended to read as follows:

> "Considering the report by the Director of the CCITT on Laboratory usage, this Assembly decides that the Laboratory services are no longer needed and requests the Secretary-General to report ...".

It was so *agreed*.

5.3 The *delegate of Greece*, referring to paragraph 2.4 of the minutes of the second Plenary meeting (Temporary Document 28/PLEN), said that he had already handed a corrected summary of his remarks to the Secretariat; however, there was a point of substance still outstanding which concerned an apparent discrepancy between the dates of coming into effect of various Recommendations covered by Recommendation C.3.

5.4 The *Chairman of Study Group II*, agreeing that the minutes failed to reflect that issue, recalled that the explanation he had given had been that, traditionally, changes in Recommendations with instruction aspects came into effect one year after the Plenary Assembly which had approved them. In the case of such Recommendations in the F-Series, however, the proposed changes were only of a minor nature and it had therefore been thought appropriate to bring those Recommendations into effect earlier.

5.5 The *Chairman* suggested that the clarification just given should be noted in the minutes of the present meeting and also reflected in the final version of the minutes of the second Plenary meeting.

It was so *agreed*.

The minutes were *approved* subject to those changes and to the explanations given by the Secretary of the Plenary Assembly.

5.6*) The *delegate of the German Democratic Republic* said that his Administration was unable to accept the footnote proposed by the Netherlands Administration referred to in paragraph 3.12 of the minutes of the Second Plenary meeting (Temporary Document 28/PLEN). If the Netherlands proposal became worldwide practice, the service would inevitably become more expensive to the customer. His Administration would not make use of any procedure other than that specified in Recommendation D.42.

5.7*) The *Chairman of Study Group III* said that he failed to see what the problem was; the Netherlands Administration, like all others, had a right to express reservations concerning a Recommendation.

5.8*) The *delegate of Australia* explained that informal discussions held since the second Plenary meeting had revealed that the Netherlands resolution, besides creating an unfortunate precedent might give rise to significant problems of a practical nature. He wondered whether the Netherlands Delegation would agree to reconsider its position pending discussion in greater depth at WATTC-88.

5.9*) The *delegate of the Netherlands* said that he was not in a position to withdraw the proposal referred to in the minutes of the second Plenary meeting. His delegation to WATTC-88 would, however, be prepared to discuss with other delegations any practical implementation problems that might arise in the service between the Netherlands and other countries.

5.10*) The *delegate of the Federal Republic of Germany* said that he had handed in a correction to the minutes of the second Plenary meeting reflecting a statement he had made to the effect that if the Netherlands intended to apply a 25-word minimum in the telegramme service, all its partners would do likewise.

5.11*) The *Chairman* said that the minutes of the present meeting would reflect the discussion which had taken place and which had revealed a need for further consideration of the matter with regard to its service implications. It would be noted that the point was to be discussed further at WATTC-88.

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*) *Note from the Secretary of the Plenary Assembly* - Since the Delegation of the Netherlands has amended the statement it made at the second Plenary Meeting (see minutes of the second Plenary Meeting, § 3.12), the objections raised in § 5.6 et seq. are no longer relevant; consequently, these paragraphs should be disregarded.

5.12*) The *Secretary-General* wondered whether the Netherlands reservation would still have to be printed in the Blue Book if the Netherlands Delegation to WATTC-88 decided to withdraw it. Recommendations were meant to be accepted by all members; he could foresee some difficulties in the future if that were not the case.

5.13*) The *Chairman* stressed the right of delegations to express reservations. Should the Netherlands Administration move away from its present position, the flexibility and responsiveness of the Secretariat could be counted upon in dealing with the matter.

6 Schedule of CCITT meetings (Temporary Document 52/PLEN)

6.1 The *Secretary of the Plenary Assembly* pointed out that the dates for the meeting of Study Group XII appearing on page two of the schedule of CCITT meetings (Temporary Document 52/PLEN) should be changed from "8-17 March" to "9-17 March".

With that amendment, the schedule of meetings was *noted*.

7 Invitations to CCITT meetings

7.1 The *Secretary of the Plenary Assembly* said that in addition to the invitations listed in Document AP IX-71 already adopted, invitations had been received from Thailand for the meeting of the Asia and Oceania Plan Committee and from Spain for the meeting of the World Plan Committee. All meetings outside Geneva would be preceded by the customary procedure. Dates and venues of GAS meetings would be agreed between the GAS Coordinator and the Secretariat.

7.2 The *delegate of Spain* pointed out that no decision had yet been taken on whether the World Plan Committee meeting should be held in Seville or Barcelona; the country of venue, however, would certainly be Spain.

The above information was *noted*.

8 Date and place of the Xth CCITT Plenary Assembly

8.1 The *Director of the CCITT* said it was at present envisaged that the Xth Plenary Assembly would be held in Geneva towards the end of 1992. Further information would be divulged as it became available.

That information was *noted*.

9 Proposal by the delegate of the United Kingdom

9.1 The *delegate of the United Kingdom* said that among the many important decisions reflecting the Spirit of Melbourne adopted at the Plenary Assembly was Resolution No. 2 incorporating a new procedure which would powerfully enhance the CCITT's efficiency and effectiveness. That, of course, depended on the action taken at the Plenipotentiary Conference, but it was legitimate to hope that the new tool would become operational immediately thereafter. He proposed that the Plenary Assembly should record an encouragement to the Director of the CCITT to urge the Chairmen of Study Groups to make full use of the Resolution No. 2 procedure as quickly as possible so that its fruits became available in time for the next Plenary Assembly.

It was so *agreed*.

The meeting rose at 1230 hours.

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*) *Note from the Secretary of the Plenary Assembly* - Since the Delegation of the Netherlands has amended the statement it made at the second Plenary Meeting (see minutes of the second Plenary Meeting, § 3.12), the objections raised in § 5.6 et seq. are no longer relevant; consequently, these paragraphs should be disregarded.

CLOSING SESSION OF THE IXTH PLENARY ASSEMBLY

(Minutes approved by the Chairman)

Friday, 25 November 1988, at 1600 hrs

Subjects discussed:

1 Closing address by the Director of the CCITT

2 Statements on behalf of Member countries

3 Closing address by the Chairman

1 Closing address by the Director of the CCITT

1.1 The Director of the CCITT made the statement in Annex A.

2 Statements on behalf of Member countries

2.1 The *Head of the Delegation of China*, speaking on behalf of the Member countries of Asia and Oceania, expressed the warmest congratulations on the complete success of the IXth Plenary Assembly. No satisfactory outcome would have been possible without the Chairman's skill and indulgence and the efforts of the Secretary-General, the Director of the CCITT and all Member delegations in facing a truly arduous task. The Spirit of Melbourne, evident during the current Assembly, would enable the CCITT's work to be pursued harmoniously and enhance cooperation, and thus become more adaptive to advances in telecommunication technology, an aim which was surely of benefit for the establishment of telecommunication standards as well as for participation by developing and developed countries alike in the Union's activities. He expressed the Members' sincere gratitude to the Australian Administration for the considerate arrangements provided. Everyone would take home memories of the Spirit of Melbourne as well as of the beauty of Australia and the hospitality of its people.

2.2 The *Head of the Delegation of Mali* called for a minute of silence in recognition of the bereavement suffered by a member of the delegation of Senegal.

Speaking on behalf of the Member countries of Africa, he said that the hospitality and untiring efforts of the Australian Administration and people, which had led to the outstanding success of the IXth CCITT Plenary Assembly, had surely made the symbolic kangaroo pre-eminent among national emblems as well as enhancing the international acclaim already earned by Australians in sports. All participants in the proceedings of the IXth Plenary Assembly were grateful for the excellent facilities placed at their disposal, which had made the choice of venue outstandingly rewarding.

He thanked the interpreters and all the ITU Secretariat, and reiterated the participants' gratitude for the hospitality shown, including the dinner arranged by the Australian Minister for Telecommunications, and for the excellent work carried out by the Chairman of the IXth Plenary Assembly. He wished success to the ITU and a safe journey home for all participants.

2.3 The *Head of the Delegation of Brazil*, speaking on behalf of the Member countries of Latin America, said that the current Assembly had not only arrived at important decisions which would direct the CCITT's work for the next four years but had established a basis for the future development of standards by updating and improving procedures for developing and approving CCITT Recommendations, thus helping to ensure that CCITT's work adequately met users' expectations throughout the world. The good results had been possible only because of certain factors. One was the venue: Melbourne had provided a splendid atmosphere, and the formal adoption of the "Spirit of Melbourne" as a guideline for the CCITT's future standard-setting role was no coincidence. All the participants voiced their warmest appreciation of the reception and facilities provided by the Australian Administration. Thanks were due also to the Secretary-General, the Director of the CCITT, the interpreters and the Secretariat staff for their efficient work,

carried out under severe budgetary pressures which everyone recognized. Lastly, he paid tribute, on behalf of all the Member delegations, to the Chairman, whose outstanding leadership, patience and objectivity had enabled the IXth Plenary Assembly to accomplish its task.

2.4 The *Head of the Delegation of France*, speaking on behalf of the Member countries of Western Europe, said that the European participants in the IXth Plenary Assembly had been impressed not only by the geographical scale of Australia but also by the dynamism apparent in all aspects of that nation's activity. Throughout the current Assembly's work there had been success in arriving at decisions by consensus, thanks to the clear will to aim towards enhancing the CCITT's effectiveness and keeping it in the forefront of international telecommunications standardization; all were aware of the European nations' constant interest in the welfare of the CCITT. The success was also due to the unfailing courtesy, clarity and skill with which the Chairman had conducted the proceedings. The European members also expressed their warmest thanks to the Australian Administration and Government for the excellent way in which they had hosted the IXth CCITT Plenary Assembly.

2.5 The *Head of the Delegation of the USSR*, speaking on behalf of East European delegations and Administrations, said that the IXth Plenary Assembly had made a great contribution to the development of world telecommunications. In two weeks of intense activity, important decisions had been reached on the results of the last study period, on the programme of work for the next, and on how to improve the structure and working methods of the CCITT. In addition, the Recommendations approved would serve to stimulate equipment manufacturers and RPOAs and provide telecommunication users throughout the world with a wide range of new services. The Assembly's discussions, in the wonderful spirit of Melbourne, had confirmed that telecommunications were the most dynamic sector of modern society's infrastructure. The adoption of Resolution No. 2 for the speedier approval of Recommendations between Plenary Assemblies was therefore an important and timely move. The world was becoming increasingly internationalized and information-oriented, which could only emphasize the great importance of the ITU in coordinating the international telecommunication system and fostering contacts between individuals, governments and public bodies.

In conclusion, he extended cordial thanks to the Australian Administration for enabling such a representative assembly of the world telecommunications community to be held during the great days of their country's bicentenary celebrations. It had been a great pleasure to visit Melbourne and meet its people. Wholehearted thanks were also due to Mr. Ward, Chairman, for piloting the Assembly to success, to those who had chaired the Assembly's various bodies for their hard work, and to Mr. Butler, Secretary-General, Mr. Irmer, Director of the CCITT, the CCITT Secretariat and all those whose professional assistance had ensured the excellent organization of the Assembly. He hoped that the successful implementation of its decisions would promote the development of world telecommunications for the peace, mutual understanding and progress of all mankind.

2.6 The *Head of the Delegation of Canada*, speaking on behalf of North American delegations, endorsed the compliments paid by previous speakers to the organizers of the Plenary Assembly. Mr. Ward, the Chairman, in particular, had been an architect of its success. His tact, firmness and fairness in conducting its discussions had enabled the Assembly to achieve major results which would allow the CCITT to perform its tasks better and more efficiently in the years ahead. It had been a great pleasure to come to Australia, with which Canada had much in common, though not its weather. But climate was not just a matter of temperature. Much of the warmth of Melbourne during the past two weeks had been due to the kind and considerate welcome of its people and to the Australian team that had enabled the conference to proceed so smoothly. Credit was also due to the CCITT Secretariat team and to the Director, Mr. Irmer, for his good advice throughout the Assembly.

All those taking part in the conference had sought to effect a peaceful revolution in world telecommunications that could only be achieved through international cooperation, of which the Plenary Assembly had provided a fine example. He was sure that all present would join him in wishing the CCITT, Melbourne and Australia every success for the future.

3 Closing Address by the Chairman

3.1 The *Chairman* thanked all those who had spoken on behalf of the six regions and made the statement in Annex B.

He then declared closed the IXth Plenary Assembly of the CCITT and wished all groups success in their deliberations in the forthcoming period.

The meeting rose at 1650 hours.

ANNEX A

Closing address by the Director of the CCITT

"Mr. Chairman,
Dear friends and colleagues,
Ladies and gentlemen,

During the two weeks we have spent in Melbourne, we have learnt a lot, not only about the weather, which can provide four seasons in one day, but also about the Australian people, and one thing I have learnt about them is that they like to keep speeches short. Applying this rule, I can say in one sentence this has been an excellent meeting. That sentence says everything about the organization, spirit, outcome, social functions and leadership during the proceedings. Although the two weeks have passed rapidly, they will nevertheless remain in our memory.

This IXth Plenary Assembly has been quite different from all the others in which I have participated; it marks a departure of the CCITT to a new era. I can remember no other Plenary Assembly so open to the process of restructuring and renovation - the current word is *Perestroika* - which not only talked and complained about problems but really dealt with solving them. A number of longstanding, sometimes traditional, problems have been successfully completed. We now have a comprehensive set of new rules and procedure which will allow us to work better and more efficiently to face the challenges which will come in future. The famous Spirit of Melbourne says more than many long words can do. This Plenary Assembly has done as much as a Plenary Assembly can possibly achieve and we shall proceed further along the new road to Nice, to the Plenipotentiary Conference in May/June next year to take appropriate follow up decisions.

It is perhaps not surprising that this start to the new era has begun at Melbourne, this cosmopolitan city. The atmosphere of Melbourne, the open mindedness of the people, their friendliness and hospitality, all this has obviously inspired the delegates in this Plenary Assembly. We must thank them all and also those who have made our stay an enjoyable one, and I hope you will join me in expressing these thanks.

This particular atmosphere of Melbourne has prevailed in our meetings, and our decisions have been inspired by that spirit. The Spirit of Melbourne has guided us, and now, as CCITT participants are leaving, I hope this spirit will remain alive in the following WATTC conference which begins Monday next week.

Let me include in my words of thanks all who have worked so hard, on the scene and behind the scene: the Australian and ITU staffs, the Chairmen and Vice-Chairmen of the Committees and Groups and all those who have taken care that the meetings ran smoothly. I would also express words of thanks to all the organizations who provided us with relaxation after the hard work by inviting us to their receptions, each of which had its own character. I would refer again to the kind invitation we received from your Minister, which enabled us to spend a most enjoyable evening yesterday.

Now, last but not least, I refer to you, Mr. Chairman. When you closed this morning's meeting you referred to yourself as an amateur. Mr. Chairman, for the first time and only once I firmly oppose your statement. Your Chairmanship has been masterful throughout, open to all comments and responsive to all requests, but firmly keeping the ship on course all the time. The outstanding results achieved at this Plenary Assembly are due to your skillful leadership, for which I thank you most cordially on behalf of us all.

I wish all who are now leaving Melbourne a safe return to their homes. Soon we shall meet again at other ITU meetings and conferences which bring together the members of the ITU family in one way or another. It is a great feeling to be a member of this family, which has again proved its worth here at Melbourne; it is a true family and I am confident that it will continue to be so in the future.

Again thanks to all; good bye, and all the best to you."

ANNEX B

Closing address by Mr. M.K. Ward Chairman of the IXth Plenary Assembly

"Secretary-General,
Director of the CCITT,
Ladies and gentlemen,

Some 12 days ago you placed your confidence in me to chair this Plenary Assembly. I thank you again for the honour.

During the period, this conference of 84 Administrations, 500 delegates and some 15 international organisations has undertaken the important work of the Plenary in respect of the outcomes of the Study Groups' work and also in setting the ground work for the period ahead.

It has become very clear to me in the Plenary and in discussions outside the formal sessions how essential it will be for the CCITT to expedite its Recommendations in future. Unless that becomes a reality there is no doubt that other standards-setting organizations will fill the vacuum. This would lead to a possible weakening of the pre-eminent position of the CCITT in worldwide telecommunications standardization and, of course, of the Union in general.

I am gratified, therefore, that we have adopted measures which will enhance the work of the CCITT and will bring to the attention of the Plenipotentiary Conference the concerns and opportunities expressed here in Melbourne. I trust that Administrations represented here in Australia will ensure that the delegations from their countries attending the Plenipotentiary Conference are fully aware of the challenges facing the Union in responsively developing appropriate recommendations and of the need to adopt decisions that will help the CCITT and CCIR further.

During this Plenary Assembly, kind reference has been made to the "Spirit of Melbourne". Whilst this has no doubt been a factor in generating a cooperative atmosphere, the fact is that the progress we have achieved here simply could not have occurred without the prior efforts of Special Group "S" and of the Director, together with his Study Group Chairmen.

Important outcomes have been achieved in technical terms, particularly the adoption of recommendations recognizing the shift to new transmission techniques and broadband services.

There is also the other work so essential to maintain balance, for example service definition, operation, maintenance and tariffs.

Technological transfer to the developing countries has also been taken into account. The developing countries are very interested in the advanced services, as well as the basic services.

The establishment of an ad hoc group to provide an ongoing basis for the evolution of a progressive structure for the CCITT is an important strategic decision to ensure that the pre-eminent position of CCITT is not put at risk.

In chairing a Plenary Assembly, one becomes conscious of a great feeling of goodwill from all delegations. I have much appreciated the warm feeling of fellowship from this worldwide family of telecommunciations.

That does not mean that everyone agrees with the Chairman's handling of particular problems. However, I am very grateful to the delegates for the patience, courtesy and dignity with which they approached our debates. It made my task so much easier.

Special tribute must be given to members of the Study Groups and Working Parties, and especially the Chairmen and Vice-Chairmen. I was strongly supported in this Plenary by my Vice-Chairmen, and the Chairmen and Vice-Chairmen of the Committees and Working Groups, who undertook their tasks so cheerfully and effectively.

I extend my thanks to Mr. Butler, Secretary-General, for his wise counsel during the Conference. I should also wish to extend my appreciation to Mr. Kirby, Director of CCIR, for his help.

The Director of the CCITT, Mr. Theo Irmer, has been a source of great comfort to me during the Assembly. His ready advice and practical experience were instrumental in the Plenary reaching consensus on many of the significant issues.

I owe a debt of gratitude to Mr. Malek Asghar who has worked so diligently and effectively in preparing arrangements for me.

Naturally, behind all of the senior ITU management there are the counsellors, engineers, the CCITT and General Secretariat staff, the précis-writers, and interpreters. They have all extended a tremendous effort in facilitating the delegates' considerations at the Assembly.

May I also be permitted to express my thanks to the Australian Secretariat and other organizers of this Plenary Assembly for their support and dedication to making the Plenary a success.

Finally, I should like to extend to all delegates and representatives of the ITU, who will be departing at the end of this Plenary Assembly, my sincerest good wishes for a safe journey home. I trust you enjoyed your stay in Melbourne and will retain fond memories of this city and Australia.

I enjoyed tremendously meeting with delegates, both here and at the social gatherings, and I feel certain that the universal goodwill, so much a part of ITU gatherings, was well in evidence at Melbourne.

Thank you all."

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3. REPORTS

3.1 REPORT BY THE DIRECTOR ON THE ACTIVITY OF THE CCITT BETWEEN THE VIIIth AND THE IXth PLENARY ASSEMBLIES

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2 Part II - Report on the CCITT Specialized Secretariat; statistics, tables and graphs

1 PART I - Overview of CCITT activities

1.1 *General*

The rapid evolution of telecommunication technologies and, consequently, of telecommunication services and applications has fuelled CCITT activities between the last and the forthcoming Plenary Assemblies more than ever. In comparison with previous study periods, the trend towards more tasks to be carried out, resulting in more work to be done, continued to accelerate and is documented by an increased number of contributions, reports and draft Recommendations, even though the available resources remain constant. It should therefore be stressed that this ever-increasing trend has now reached critical limits in a number of areas. If it continues to rise again in the forthcoming period - and there are no signs that this will not be the case - it must be expected that no further increases in tasks and work can be absorbed and that serious drawbacks will have to be faced.

If it has nevertheless been possible, under sometimes extremely difficult circumstances and restrictions, to present the Plenary Assembly with impressive results of CCITT work, this has only been possible because of the diligence, devotion and spirit of cooperation of all and everybody participating in many different ways in the manifold CCITT work areas. Without the continuous efforts of everybody such results would not have been possible, and the Director wishes to pay tribute to the outstanding work done by all involved inside and outside ITU. Likewise, the Director expresses his gratitude to all CCITT Member organizations that made experts available and actively supported also in many other ways CCITT's undertakings, thus providing some relief in critical areas like hosting meetings outside Geneva, support in extra expenses, etc. It can only be hoped that CCITT will again receive continuing support during the forthcoming study period.

1.2 *CCITT Study Groups*

The VIIIth Plenary Assembly established 15 Study Groups for the 1985-1988 study period. They studied 386 Questions[1]; as a result of their work the Study Groups produced 368 new draft and 388 amended Recommendations to be approved by the IXth Plenary Assembly.

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1) At the final Study Group meetings, 350 Questions were proposed for study in the course of the next period.

Moreover, quite a few handbooks, guidelines, etc. were produced by the Study Groups.

Also, and pursuant to CCITT Resolution No. 15 adopted at the VIIIth Plenary Assembly, a Preparatory Committee (PC/WATTC) was established for the preparation of the World Administrative Telegraph and Telephone Conference (WATTC).

Finally, a Special Group (Sp S) was set up by the last Plenary Assembly to study the structure of CCITT Study Groups and make appropriate proposals to the IXth Plenary Assembly for restructuring and thus improving the efficiency of CCITT Study Groups.

In the following, highlights of the results achieved will be given in a very concise form; a complete review of the work of all these groups is given in the relevant reports submitted to the IXth Plenary Assembly.

1.2.1 *Major achievements of CCITT Study Groups*

Study Group I - Definition, operation and quality of service aspects of telegraphy, data transmission and telematic services.

Study Group I produced 38 new draft Recommendations in the F-Series and revised additionally 30 existing Recommendations.

New draft Recommendations were drawn up for message handling services (MHS), for international public directory services, for teleconference service, basic narrow-band videophone service and telewriting applications, for telemessage services and for numbering, selection and operating procedures for radiotelex using INMARSAT services. New and updated Recommendations are relevant to Telefax and Bureaufax services, Teletex/telex conversion, interworking between telex networks and other networks as well as to data transmission services.

In addition, good cooperation and liaison was maintained with UPU on studies of mutual interest to postal and telecommunication Administrations.

If the proposed restructuring of Study Group I (full responsibility for all telecommunication services) will be adopted, this Study Group will assume considerably expanded responsibilities during the forthcoming study period.

Study Group II - Operation of the telephone network

Study Group submits 37 new draft and 37 revised Recommendations for approval. Amongst them are seven new draft Recommendations on ISDN traffic engineering. Of particular interest are the new draft Recommendations on "Timetable for coordinated implementation of the full capability of the numbering plan for the ISDN era", and on "Automated international telephone credit card system". Other new draft Recommendations relate to the international freephone service (IFS), to international network management and quality of service, the ISDN numbering plan interworking and to numbering plan and selection procedures for mobile INMARSAT services.

Studies on human factors in the ISDN as well as in the field of network management development and quality of service development have been pursued further during the current study period, promoting practical use of network management and improving the quality of service offered to customers.

Similar to Study Group I, the proposed restructuring will have a major impact on the work of Study Group II, however, resulting in a somewhat reduced amount of work compared to the 1985-1988 study period.

Study Group III - General tariff principles including accounting

Study Group III prepared 25 draft new and revised 40 existing Recommendations and drew up a new Supplement No. 3.

Here, seven new draft Recommendations on tariff and accounting principles for services offered in the ISDN are of particular interest, as ISDN implementation is now moving ahead in quite a few countries. However, due to the lack of consensus it was not possible to establish similar principles for value-added services; this matter remains therefore to be reviewed after WATTC.

Study Group III drafted, as part of its preparation for WATTC, Article 6 of the draft International Telecommunication Regulations which was adopted virtually without comment by the Preparatory Committee PC/WATTC.

Within the framework of Study Group III, the Regional Tariff Groups are in charge of cost studies. The *TEUREM* group drew up two new draft and amended 6 existing Recommendations and, for the first time, cost studies on digital systems and/or channels as well as on data transmission were carried out.

The *TAF* and *TAS* Groups attempted to conduct cost studies on the basic services, but they failed to complete them owing to difficulties encountered in data collection. In view of the nevertheless encouraging results obtained, the TAF and TAS Groups were invited to pursue their activities, if necessary, by modifying their working methods and revising the questionnaires; at the time of writing this report it appears that at least the TAF Group has progressed so that - on the basis of the completed questionnaires received from African Administrations to-date - a meeting of this group will be organized as soon as possible. The *TAL* Group had no meeting during the current study period.

In this context a problem came up which might, in the long run, be detrimental to cost studies in general. For reasons of competition in service provisions, even on the national level, Administrations or RPOA's are becoming reluctant to disclose their cost figures although they are - and will be - treated confidentially by the CCITT Secretariat. During the current study period submission of cost figures has been refused in some cases because of the competitive situation in certain countries; if this trend develops further, work of the Regional Tariff Groups will be seriously hampered.

Study Group IV - Transmission maintenance of international lines, circuits and chains of circuits; maintenance of automatic and semi-automatic networks

Study Group IV had to cope with a large work programme during this study period; the outcome is documented in 23 new draft and 64 amended and revised Recommendations.

A focal point of activity in this Study Group is, and will be even more though in the future, "Telecommunications Management Network" (TMN) as a general concept for maintenance in modern telecommunication networks. In this field, major results have been obtained concerning the definition of the principles for TMN, the expansion of the rules governing the restoration of failed transmission systems, the specification of escalation procedures in the general maintenance organization context, and maintenance functions to be implemented in the CCITT man-machine language (MML).

Major results obtained in transmission systems maintenance deal with the use of loopback mechanisms for maintenance purposes, the elaboration of a maintenance philosophy and strategy for telecommunication networks and services together with the definition of the principles for the maintenance of ISDNs. A special effort was made to draft maintenance procedures for digital paths, section and line sections including the creation of a unified terminology for maintenance.

The studies carried out on maintenance of telephone-type, leased and special circuits touched on the maintenance of circuits fitted with compandors, the maintenance of Common Channel Signalling System No. 7, the bringing into service of international digital circuits, the testing of echo-cancellers and the measurement of total distortion on international circuits for public telephony. One of the main tasks undertaken was the review and establishment of new maintenance limits for digital and mixed analogue/digital telephone type, leased and special circuits. Maintenance for international videoconference transmission and the maintenance organization for television transmission via satellites to television receive only (TVRO) terminals were also subjects of study and significant results have been accomplished.

Last but not least, the activities for specifying measurement equipment should be mentioned. The specification of 1020 Hz as a standard reference frequency for telephone-type circuit maintenance, the elaboration of specifications for error measuring and in-service performance monitoring equipment for data transmission and the set-up of general climatic limiting values for measuring equipment performance are important results achieved in this field.

Study Group V - Protection against dangers and disturbances of electromagnetic origin

Study Group V agreed upon 6 new and 2 amended Recommendations.

Of importance are in particular the new draft Recommendations on overvoltage resistibility of subscriber terminals, and on equipment connected to ISDN via the "ISDN passive bus" configuration. Concerning the effects of radiated emission, two new Recommendations were adopted on induced noise in ISDN networks and related measuring methods. A new draft Recommendation on optical fibre protection against lightning has also been finalized.

A lot of work, extended over several years, bears now its fruits with the finalization of a complete new edition on the "Directives concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines". Consisting of 9 Volumes and containing study results on a wide range of Questions assigned to Study Group V, this new handbook has been drafted in close collaboration with CIGRE and UIC. A seminar on the "Directives" will be organized in the next period with a view to promote, particularly in developing countries, the understanding and application of the Directives.

The increasing importance of electro-magnetic compatibility (EMC), immunity of equipment and systems against harmful interference and electrical safety of equipment will require intensive study during the forthcoming study period for which close contact with other international organizations such as CIGRE, IEC, UIC and UNIPEDE will be maintained.

Study Group VI - Outside plant

Study Group VI prepared 3 new and 3 amended Recommendations.

For optical fibre cables now being used in many applications a new draft Recommendation concerning optical fibre cables for duct, tunnel, aerial and buried applications has been set up, giving practical instructions in this new field of cable technology.

As a result of studies on many of the 19 Questions assigned to Study Group VI during the current study period, a new handbook "Outside plant technologies for public networks" has been completed. This new handbook, replacing the existing "Recommendations concerning the construction, installation and protection of telecommunication cables in public network", provides up-to-date information on outside plant technologies.

Another new handbook dealing with modern technologies of "Construction, installation, jointing and protection of optical fibre cables" (1988 edition) has also been completed. This handbook, composed of six complete chapters, replaces the existing handbook of the same title and brings the current state-of-the art in this field in a concise form to users.

Both handbooks were written with a view to supply practical information and thus to be of help to everyone entrusted with planning and installation of outside plant and optical fibre cables.

Study Group VII - Data communication networks

Study Group VII has been very active during the current study period, following closely the rapidly developing and expanding progress in data communications. This progress is documented by 46 new draft and 43 revised and amended Recommendations, most of them of great importance for practical implementation.

This Study Group works closely with ISO and it should be underlined that this cooperation has been extremely efficient and successful, both for CCITT as well as for ISO, resulting in joint texts of CCITT Recommendations and ISO standards on message handling systems (MHS), Directory and the OSI model. This cooperation as well as that with IEC is guided by CCITT Resolution No. 7, approved by the VIIIth Plenary Assembly; during the current study period it proved its usefulness (see also § 5.2 of this report).

New draft Recommendations have been developed on data communication services and facilities to be provided by ISDN. As the ISDN will have to interwork with other existing dedicated networks, Recommendations on the provision of data communication services through various interconnected networks (network transitions) were enhanced and expanded. Also, performance parameters and criteria for public data networks were specified and short-term arrangements prior to time T (implementation of the new ISDN numbering plan) on interworking between the data networks numbering plan (X.121) and the ISDN numbering plan (E.164) agreed upon.

Study Group VIII - Terminal equipment for telematic services such as facsimile, teletex, videotex, etc.

Study Group VIII set up 13 new draft and 36 revised and amended Recommendations.

Reflecting the evolution of telematics, contents of the existing T-Series Recommendations have been reviewed in general. This work necessitated in quite a number of areas close cooperation with ISO and, like Study Group VII, this cooperation was mutually successful.

The new layout of the T-Series Recommendations now provides coherence with the new versions of other series such as T.330 with X.430 or T.300, describing the general technical principle of interworking between CCITT services based on the OSI Model or T.90 for Telematic terminals in ISDN. The restructuring of the T-Series Recommendations on facsimile (Group 4), teletex and videotex now fits into the open document architecture concept, which has been developed jointly with ISO. Also covered is the evolution of the new image communication, phototelegraphy and facsimile towards colour, grey scale, small size format facility, error correction, error limiting mode and new compression algorithms.

Study Group IX - Telegraph networks and terminal equipment

Study Group IX submits to the Plenary Assembly 11 new draft and 14 amended and revised Recommendations.

A new draft Recommendation which enables the transmission of capital and small letters over ITA2 coding scheme had been provisionally approved in 1986 by the accelerated procedure in accordance with Resolution No. 2.

Collaboration with Study Group I resulted in new draft Recommendations on telex/teletex interworking and telex/IPMS interworking. In the forthcoming study period, studies on telex/PSPDN interworking will continue. Close collaboration on ISDN matters has been maintained with Study Groups XVIII and XVII.

Active participation of the arab telecommunication union (ATU) in the work of Study Group IX resulted in a Supplement to Recommendation S.2 informing on the ATU bilingual (Arabic/Latin) teleprinter. This subjet, which had been pending for quite a few years, has now been successfully terminated recognizing the widespread use of bilingual teleprinters in Arab countries.

Study Group X - Languages and methods for telecommunication applications

Study Group X continued its studies on the programming language CHILL, the man-machine language (MML), and the specification and description languages (SDL), resulting in 6 new draft and 16 revised and amended Recommendations.

Existing Recommendations for CHILL have been refined and a bibliography of existing CHILL documentation has been prepared. The Study Group started, within the framework of its studies, to establish a CHILL test suit.

In order to promote the international use of CHILL, this language has now been registered as an ISO standard complementing other programming languages which are already registered as ISO standards.

For MML the basic syntax and dialogue procedures have been developed; furthermore, MML has been enhanced for visual display terminals; also function semantics for network management administration have been established.

Concerning the support environment for telecommunication systems, a number of models have been prepared which may serve for a future Recommendation.

Finally, in the field of SDL, a new draft Recommendation has been set up, the annexes of which deal with graphic syntax.

A training course on SDL has been developed and is available to ITU Member organizations through ITU's Technical Cooperation Department.

Also, a new draft Recommendation on formal description techniques (FDT) is being submitted. A manual, dealing with the application of SDL for the ISO programming languages ESTELLE and LOTUS, was compiled which demonstrates again a good example of the fruitful interworking between CCITT and ISO.

Study Group XI - ISDN and telephone network switching and signalling

Study Group XI presents 45 new draft and 53 revised and amended Recommendations to the Plenary Assembly.

In the field of interworking of signalling systems, the SDL diagrams for the telephone user part (TUP) were revised. Signalling procedures and protocols, the digital access and network functions for services in public land mobile networks have been agreed upon, as well as the interworking of signalling in mobile satellite systems with the public telephone networks.

Tremendous efforts have been devoted in Study Group XI to the completion and refinement of Signalling System No. 7 designed for digital networks, including ISDN. Many refinements were made to the signalling network structure and its performance aspects, to the message transfer part (MTP), the TUP and the signalling connection control part (SCCP).

New draft Recommendations on the ISDN user part (ISUP), SCCP performance, transaction capabilities, operating maintenance and administration part (OMAP) and test specifications were developed as well.

In short, with all the new draft and amended Recommendations now available Signalling System No. 7 can be considered as mature and sufficiently stable for use by manufacturers and network providers.

For digital switching, existing Recommendations were revised and enhanced to cover the requirements of digital exchanges (local, transit, international and combined) operating in an ISDN. Also, draft new Recommendations (switching functions and signalling information flows) for basic and supplementary services in the ISDN were set up.

The digital subscriber line signalling has been extensively enhanced and new Recommendations for the ISDN user network interface protocols of the data link layer, the network layer and for management are submitted to the Plenary Assembly for approval.

Following the request made by Committee D at the VIIIth Plenary Assembly, Study Group XI prepared the handbook "Guidelines for field trials of digital switching equipment" to assist particularly developing countries when carrying out such field trials. ITU published this handbook early 1987, meeting the request to make these guidelines available as quickly as possible.

Study Group XII - Transmission performance of telephone networks and terminals

Study Group XII produced 9 new and 10 revised and amended Recommendations.

They cover for example new digital devices such as digital telephones, methods for evaluating their transmission performance, the extension of the noise modulated reference unit (NMRU) to digital wideband processes and subjective test methodology for evaluating digital circuit multiplexing and packetized voice systems.

Another group of Recommendations deals with a simple opinion model which combines the effects of circuit noise, overall loudness rating, room noise, side tone, bandwidth and quantizing distortion thus allowing an overall evaluation of all these parameters altogether. Models for predicting transmission quality from objective measurements, objective measuring methods of speech levels as well as artificial voices, mouths and ears forming the equipment needed for objective measurements have been defined as well. These Recommendations mark the finalization of objective telephonometric measurement methods to such a degree of accuracy that subjective methods, used so far, are no longer indispensable.

Existing Recommendations on loudness ratings (LR) for national systems and international connections were thoroughly revised. This work can be regarded as a general recasting and completion of the basic planning Recommendations which now include digital processes to render them more practical so that they are more readily available to the network planning engineers. In this context, attention should be paid to AP IX-75 (Report on the CCITT Laboratory) providing supplementary information.

Study Group XV - Transmission systems

Study Group XV had to cover a wide field of activities during this study period, resulting in 20 new draft and 34 revised and amended Recommendations.

Detailed specifications for new digital equipment were adopted; it was specifically agreed to provide also specifications for the separate performance characteristics for the encoding and decoding side of PCM channels applicable to 2-wire interfaces.

It was further possible to finalize, for the sound programme, video and multiservices transmission, the characteristics of a codec for audiovisual services using $n \times 384$ kbit/s transmission and to initiate studies for the $m \times 64$ kbit/s codec standardization.

In the field of voice processing and operation functions, studies in cooperation with Study Group IV were mainly dedicated to the implementation of telecommunication management network (TMN) using intelligent transmission terminals, to the introduction of digital circuit multiplication equipment in the network, and to the use of protection switching or echo control devices.

The characteristics of metallic cables and systems previously used for analogue transmission have now been defined such as to use them in digital transmission.

Study Group XV has further completed the existing specifications for the 50/125 nm multimode graded index optical fibre cable and for the single mode optical fibre cable optimized for the 1300 nm, which can also be used in the 1550 nm wavelength region. Two new types of fibres (the dispersion shifted and the loss minimized single mode optical fibres) have been identified for potential applications in various parts of the telecommunications network.

Finally, to complement the existing booklet on optical fibres for telecommunications, Study Group XV drafted a new handbook as a planning guide for the introduction of optical fibres in the long distance and distribution networks, along with a specific case study. The new handbook may constitute a useful tool for system planners when developing related projects and it complements the handbook drawn up by Study Group VI on optical fibre cables.

Study Group XVII - Data transmission over the telephone network

Study Group XVII agreed upon 6 new draft and 6 amended and revised Recommendations.

A new Recommendation on the 14.4 kbit/s modem was agreed upon in 1985 by the accelerated procedure in accordance with Resolution No. 2.

Concerning error control procedures, after a particularly extensive and difficult discussion on the choice between the protocol already incorporated in the existing base of modems and the one to be developed based on the CCITT standardized protocol, a final compromise was reached and a new draft Recommendation adopted. Work on additional functionality will continue.

In the field of ISDN, a new draft Recommendation on the support of V-Series type terminals by ISDN (terminal adaptors) has been adopted.

Concerning interfaces, a new draft Recommendation was set up on the specification of layer 1 general data communication interface.

Further studies will be needed on the subjects of asymmetrical modem, network management in the OSI environment, and the extension of Recommendations to automatic calling and/or answering.

Study Group XVIII - Digital networks including ISDN

Study Group XVIII concentrated its studies mainly on ISDN as network providers and suppliers are anxious to receive CCITT Recommendations in order to design and implement ISDN; their requirements will hopefully be satisfied by 57 new draft and 23 revised and amended Recommendations drawn up by Study Group XVIII during the current study period.

Main progress has been achieved in the service field, with a complete new structure for the definition and description of telecommunication (bearer services and teleservices) services and associated supplementary services. A framework for providing additional packet mode bearer services has also been established.

Numbering, addressing and routing principles for ISDN as well as the general structure for interworking between ISDNs and between an ISDN and other dedicated networks have been established within the framework of network studies.

Completion of layer 1 specifications for the ISDN basic rate and the primary rate user/network interface have been achieved. For the basic rate, it was possible to agree on the characteristics of the digital section and digital transmission system on metallic lines for ISDN.

In modelling studies it was possible to further enhance the characterization of the telecommunication services, in particular of the utilization of the attribute technique, to define the network functional principles for ISDN and to develop reference models and connection types for ISDN.

In general studies on ISDN the relationship of ISDN with other dedicated networks and with terminal functions was established. General maintenance principles of ISDN subscriber access and subscriber installations and their application to basic rate, primary rate and static multiplexed ISDN basic accesses have been agreed upon.

General aspects of quality of service and network performance in digital networks, including ISDNs, have been treated in the performance studies.

A major achievement of Study Group XVIII was the establishment of a new synchronous hierarchy (levels at 155.520 and 622.080 kbit/s have been agreed upon) with the characteristics for the network node interface and a detailed synchronous multiplexing structure within the framework of transmission aspects. With a view to future broadband networks, this agreement is of utmost importance.

In studies of speech processing it was possible to finalize the 32 kbit/s ADPCM and to enlarge its use to the 24 and 40 kbit/s for digital circuit multiplexing equipment (DCME) applications. A high quality audio-coding (7 kHz) within the basic rate of 64 kbit/s has been endorsed and corresponding system aspects have been developed.

Finally, Study Group XVIII in its coordinating role, laid down the main principles of broadband aspects for ISDN, paving the road to detailed studies in this field during the next study period.

1.2.2 *Comments by the Director*

Even from these brief summaries concerning the work of the 15 Study Groups it becomes evident that at no other time the Study Groups had such a heavy workload but managed nevertheless to produce such an impressive number of new draft and revised and amended Recommendations.

To a large extent this was only possible because of ongoing decentralization. Detailed studies and/or the preparation of draft Recommendations are done more and more by Rapporteurs or in Rapporteur group meetings. This approach was also very useful when studies required close liaison between Study Groups in which Joint Rapporteur Group meetings proved to be a successful means for avoiding liaison on the Study Group level. Under such circumstances, and in the light of budgetary constraints, it was possible - despite more workload - to reduce during the current study period the number of meeting days of CCITT Study Groups compared to the 1980-1984 study period (see Part 2 of this report). The trend towards decentralization of work will, therefore, also be followed during the forthcoming study period.

But despite of the positive result of decentralization it is more and more obvious that the constant increase of workload of CCITT Study Groups over the last study periods is now reaching a critical level which categorically demands a general revision of working methods of the Study Groups which, in principle, date back to 1956 when CCITT was created by merging CCIF and CCIT or even earlier. There is no need to elaborate on the dramatic changes telecommunications underwent since then; the volume of the CCITT Book which roughly doubled after each study period speaks for itself (Yellow Book 1980: about 6500 pages, Red Book 1984: about 11 500 pages, Blue Book 1988: about 18 300 pages).

Reports to be processed after each meeting become more and more voluminous (reports of over 1000 pages are not uncommon), but each time they have to be processed much faster than the previous time because some meetings are held with an interval of only a few months. This puts a heavy strain on the CCITT Secretariat and on ITU's Common Services which have to serve the other organs of the ITU as well. The mailing costs for such voluminous reports are rapidly increasing although we are continuously exploring the best possible and economic ways and means for dispatch - in 1987 CCITT spent nearly 1 Million Swiss Francs for mailing only (about 1/3 of the total CCITT meeting budget!), and for 1988 the dispatch of all Final Study Group reports to be submitted to the IXth Plenary Assembly will amount to some 1,5 Million Swiss Francs, again about 1/3 of the total CCITT budget for 1988!

But also the methods of producing and approving CCITT Recommendations need thorough revision. Resolution No. 2 allows provisional approval of Recommendations during the study periods. Whilst fully recognizing the right of Administrations to decide on the approval of Recommendations it should be explored whether the provisions of Resolution No. 2 could not be streamlined with a view to provide for more application of this Resolution during the study period. This view is also supported by the Plan Committee for Europe and the Mediterranean Basin and the World Plan Committee (see AP IX-71). Moreover - a matter to be discussed at the Plenipotentiary Conference in 1989 - it should be investigated whether the long-standing practice of approval of Recommendations every four years by a Plenary Assembly could be more rationalized, with a view both to better adapt to the speed of evolution of telecommunications and to apply a more rational way of producing Recommendations which now lead every four years to a total overload of the CCITT Secretariat and ITU Common Services for many months which cannot be absorbed further without extensive costs.

Reports and Recommendations mentioned here are only two, however, quite significant items which need a basic review. There are many other areas as well - and it is the hope of the Director that the IXth Plenary Assembly is prepared to undertake a thorough investigation and to come to sound decisions to enable CCITT to perform its important tasks promptly and efficiently in the interest of its membership from developed as well as from developing countries.

The Director wishes to acknowledge the work carried out by Special Group S and that their proposals (AP IX-1) will be implemented by the IXth Plenary Assembly. In document AP IX-70, the Director proposes certain revisions of CCITT Resolution No. 1 supplementing the proposals of Special Group S. Attention is also invited to AP IX-76 (Addendum) listing all Questions that elicited up to five contributions only during the 1985-1988 study period and are therefore candidates for a thorough investigation whether or not there is really a need for them to be carried on in the forthcoming study period (except, of course, the Questions of a permanent nature such as Questions on terms and definitions, vocabulary, statistics, etc.). Administrations participating in the IXth Plenary Assembly are invited to reflect now on all these proposals with a view to be ready for discussion and to take appropriate decisions during this IXth Plenary Assembly.

1.2.3 *Major achievements of the preparatory Committee for WATTC-88 and Special Group S*

Both the preparatory Committee for WATTC-88 (PC-WATTC) and Special Group S have been set up by the VIIIth Plenary Assembly 1984 with the mandate to carry out and terminate its work during the 1985-1988 study period. Like for the CCITT Study Groups, a short summary for both bodies is given below:

1.2.3.1 *PC/WATTC-88* held four meetings in the course of which it established, with the collaboration of Study Groups I, II and III, a draft text of the future International Telecommunications Regulations (see the Appendix to Document AP IX-27) intended to serve as the basic document for WATTC-88.

In the course of its deliberations, the PC was prompted to raise a number of questions on the following fundamental points:

- to whom will the Regulations apply?
- what services are to be covered by the Regulations?
- should the services be defined?
- what definitions should be included in the Regulations?
- what accounting provisions should be included in the Regulations?

In view of the occasionally radical differences of opinion which emerged in the discussions, some of these points, particularly the first two, failed to find a satisfactory reply. Although PC/WATTC attempted to reflect the opinions of the greatest possible number of Administrations in the draft text of the Regulations, reservations were nevertheless expressed by several of them.

Since, discussions continued on many levels and it can only be hoped that the differences of opinion will eventually be resolved at WATTC-88.

1.2.3.2 *Special Group Sp. S* (this is the correct title, while in Red Book, Vol. 1, due to an editing error in the English version, it has been named "Special *Study* Group S") was set up to investigate which changes need to be made to the Study Group structure in order to conduct the work of CCITT as efficiently and effectively as possible and what will be the financial implications of these changes.

The Group held three meetings and its findings are presented in AP IX-1 to the IXth Plenary Assembly. In its report it proposes a restructuring of some of the CCITT Study Groups, modification of working methods (proposed amendments to CCITT Resolution No. 1, Recommendation A.1, Opinions 1 and 3), proposes further a new draft Recommendation A.2it "Collaboration with other international organizations on information technology", and identifies some matters left for further resolution. Group Sp.S also drew up guidelines for Plan Committees and the CCITT Plenary Assembly in carrying out their responsibilities to assist developing countries.

1.3 *Plan Committees*

1.3.1 *Introduction*

The Plan Committees are joint CCITT/CCIR Committees managed by the CCITT. Their role and objectives are laid down in No. 93 of the International Telecommunication Convention, Nairobi, 1982, and Administrative Council Resolution No. 448.

In accordance with the provisions of the Convention and Administrative Council Resolution No. 448, the World Plan Committee is responsible for establishing a General Plan, for examining the technical, operational and tariff questions raised by the application of the different stages of this Plan, for making an inventory of questions of interest to developing countries and for setting such questions for study by the competent CCI or, if necessary, by cooperation between the two CCIs. The Plenary Assembly of each of the CCIs arranges for its representation on the Plan Committees, the Chairmen being appointed by the CCITT and the Vice-Chairmen by the CCIR, so that the CCIs work in very close cooperation.

Having considered the Report of the World Plan Committee, the VIIIth CCITT Plenary Assembly, Malaga-Torremolinos, 1984, reaffirmed the provisions of CCITT Resolution No. 12, adopting the proposals of the World Plan Committee concerning the terms of reference, the duties and the working methods of the Plan Committees. The VIIIth Plenary Assembly also instructed the Special Study Group

"S" ("CCITT Study Group structure"), to examine the functioning and organization of Plan Committees. The Report submitted to the IXth Plenary Assembly by Study Group "S" states that, in view of the contributions of the Administrations and replies to the COM S Questionnaire, "the existing terms of reference of the Plan Committee as laid down in No. 93 of the Nairobi Convention and amplified in Resolution No. 448 of the Administrative Council and CCITT Resolution No. 12 continue to be relevant, and as such no changes are proposed to these governing instruments at this time". A brief report on the World Plan Committee meeting (Lisbon-Estoril, 1988) appears in § 4 below.

Pursuant to the decisions of the VIIIth Plenary Assembly of the CCITT, the Regional Plan Committee meetings were organized in much better conditions during the study period 1985-1988 than in the past. The extensive participation of the countries concerned in the regional meetings, the number of contributions and preliminary reports and the replies to the questionnaires testified to the interest of countries in the meetings. A brief account of each meeting is given in § 3 below.

The meetings of the Regional Committees are prepared by the Coordination Committees of the Regional Plan Committees concerned, with the assistance of the CCITT Specialized Secretariat. At these meetings, a detailed draft agenda as well as the Plan guide and questionnaire are drawn up. The guides and questionnaires for the collection of data were compiled on very similar bases for all the Committees, with the exception of the Plan Committee for Europe and the Mediterranean Basin, which had particular requirements. The data (apart from artery lists and numbering plans) are published every two years.

Suggestions were put forward with a view to improving the questionnaire. In addition, in the light of the progress made on the question of direct access to the ITU computer, an ad hoc Group was set up to study the matter and cooperate with ITU Headquarters in order to finalize the arrangements for direct access.

1.3.2 *Structure of the Plan Committees*

A World Committee and several Regional Plan Committees were set up in accordance with number 93 of the Convention. Now, in the period before the IXth Plenary Assembly, the situation is as follows:

DESIGNATION	CHAIRMAN	VICE-CHAIRMEN
World Plan Committee	C.R. CRUMP (United States of America)	C.S. CARREON (Philippines) P. GONIN (France) Ch. SAGOE KOW (Côte d'Ivoire)
Plan Committee for Africa	E. KAMDEM KAMGA (Cameroon)	A.B. MAPUNDA (Tanzania) J.A. MBEKEANI (Malawi) D. HELLA ONDO (Gabon) A. N'DIAYE (Senegal) M. KEITA (Mali)
Plan Committee for Latin America	C. ROMERO SANJINES (Peru)	R. PEDROSA PEREZ (Cuba) J.R. NEEDE (Suriname) J. POLLONI (Chile)
Plan Committee for Asia and Oceania	A.M. AL-SABEJ (Kuwait)	N. MORISHIMA (Japan) A.R. SHARAFAT (Islamic Republic of Iran) A. DARMAN (Indonesia)
Plan Committee for Europe and the Mediterranean Basin	L. TEROL MILLER (Spain)	G. WISNIEWSKI (Poland) C. RUSSO (Miss) (Italy) M. BOUMAIZA (Tunisia)

1.3.3 *Activities of the Regional Plan Committees* (study period 1985-1988)

Since the World Plan Committee meeting in Washington (1985), each of the regional Committees has held one meeting:

- Plan Committee for Latin America, Paramaribo, 1985;
- Plan Committee for Asia and Oceania, Bali, 1986;
- Plan Committee for Africa, Yaoundé, 1987;
- Plan Committee for Europe and the Mediterranean Basin, Malta, 1987.

1.3.3.1 *Meeting of the Plan Committee for Latin America, Paramaribo, 2-6 December 1985*

The opening meeting was held in the presence of the (Acting) President of the Republic of Suriname, the Primer Minister and several members of the Government.

In line with a suggestion by the Chairman [1] and in view of the agenda, the Committee decided to set up the following Groups and Working Groups:

- "Plan Data" Working Group

  Chairman: Mr. J. Neede (Suriname), Vice-Chairman of the Committee
  Vice-Chairman : Mr. E.J. García Regueiro (Uruguay).
- "Arteries" Working Group

  Chairman: Mr. R. Davis (Jamaica).
- Group for items 7 and 9 of the agenda

  Chairman: Mr. L. López Celaya (Mexico).

It was decided that the special meeting on "Network digitization and new services" would be chaired by Mr. A. Ituassu (Brazil) and that the information meeting on the structure of the CCITT and the work of Special Study Group "S" would be chaired by Mr. J. Galván Talledos (Mexico), Vice-Chairman of Special Study Group "S".

During the meeting, there was a general exchange of information on telecommunication development in the region. In addition to the contributions submitted individually by countries, the Committee considered reports on:

- Development of the telecommunication network in Mexico and Central America
  [Special Rapporteur: Mrs. S. Zaleta Mota (Mexico)]
- Development of the telecommunication network in the Caribbean area including Guyana, Suriname and French Guyana
  [Special Rapporteur: Mr. L. Johanns (Suriname)]
- Development of the telecommunication network in the Andean countries area
  (Venezuela, Colombia, Ecuador, Peru and Bolivia)
  [Special Rapporteur : Mr. R. Avalos Manco (Peru)]
- Development of the telecommunication network in the Southern area including Brazil
  (Brazil, Paraguay, Uruguay, Argentina and Chile)
  (Reports : Brazil, Uruguay)
- Development of satellite communication systems (national, subregional, international)
  [Special Rapporteur : Mr. R.A.M. Camargo (EMBRATEL, Brazil)].

These reports were prepared by the Special Rapporteurs with a view to achieving coordinated development of telecommunication facilities. The Committee also took note of a contribution from Chile concerning proposals for the coordination and development of the network and telecommunication services in Latin America.

In the light of replies to the Plan questionnaire, the Committee developed a general Plan for the years 1985 to 1989.

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1) In the absence of the Chairman, Mr. J. Neede (Suriname), Vice-Chairman, took the Chair.

A round table on digital networks and planning of regional networks (integration with existing networks, coordination of the application of CCITT Recommendations in the Region, introduction of new services, maintenance) was organized in pursuance of CCITT Resolution No. 12. It was attended by specialists from the Region and other guests. The round table gave participants the opportunity for an in-depth discussion of the planned introduction of new systems and services.

During a general discussion, it was emphasized that, for various reasons, the Administrations of the Latin America Region do not participate continuously in the meetings of the CCITT Study Groups and that such participation is only substantial during the Regional Plan meetings. It was suggested that some of the CCI Working Group meetings might be held in the Region and that, during Regional Plan meetings, sessions might be devoted to studies of specific interest to the countries of the Region as was done in the case of the Buenos Aires (1981) and Paramaribo (1985) meetings.

The final item of the Regional Committee meeting was an informative session on the functioning and structure of the CCITT and the terms of reference of Special Study Group "S".

1.3.3.2 *Meeting of the Regional Plan Committee for Asia and Oceania, Bali, 22-29 October 1986*

The opening meeting was placed under the honorary chairmanship of Mr. Achmad Tahir, Minister of Tourism, Posts and Telecommunications of Indonesia; the proceedings of the Committee were opened by Mr. S. Abdulrachman, Director-General of Posts and Telecommunications of Indonesia.

The agenda for the meeting was prepared by the Coordination Committee of the Regional Committee at its meeting in Geneva (October, 1985).

On the basis of the agenda, the Plan Committee set up the following Working and Drafting Groups:

- "Plan Data" Working Group

  Chairman: Mr. Hassan Majeed (Bahrain)

  Vice-Chairmen: Mr. R. Sibal (Philippines)
  Mr. S. Lau (United Kingdom, Hongkong).

- "Arteries" Working Group

  Chairman: Mr. Y. Kawasumi (Japan)
  Vice-Chairman: Mr. C.K. Sane (India).

- Drafting Group for agenda item 7 (Questions to be submitted to the CCIs)

  Chairman: Mr. A. Darman (Indonesia), Vice-Chairman of the Plan Committee.

- Drafting Group for agenda item 8 (Coordination Committee of the Plan Committee for the Region)

  Chairman: Mr. A.R. Sharafat (Islamic Republic of Iran), Vice-Chairman of the Plan Committee.

After a general exchange of information on the development of telecommunications in the Region, the Committee considered reports on:

- Existing and planned submarine cables in the Region
  [Special Rapporteur: Mr. N. Morishima (Japan)]
- National and international (regional) satellite communication systems
  [Special Rapporteur: Mr. C.K. Sane (India)]
- Development of the Asian telecommunication network
  [Special Rapporteur: Mr. R. Sibal (Philippines)]
- Development of the Arab telecommunication network
  [Special Rapporteur: Mr. S. Al-Roumi (Kuwait)]
- Coordination of signalling systems in the Region
  (Report prepared by the CCITT Secretariat)
- Development of network digitization in the Region
  [Special Rapporteur: Mr. A. Darman (Indonesia)].

These reports were prepared by the Special Rapporteurs with a view to achieving coordinated development of telecommunication facilities. The Committee also examined 43 individual contributions from countries in the Region.

In the light of the data supplied by Administrations, the Committee drew up a general Plan for the years 1986 to 1990.

The special meetings and round table of the Committee were chaired as follows :

- Special meeting 1: "Digitization of telecommunication networks"
  Chairman: Mr. S. Abdulrachman (Indonesia)
- Special meeting 2: "Maintenance and management of telecommunication networks"
  Chairman: Mr. Zhang Chongyi (China)
- Round table: "New technologies - network development"
  Chairman: Mr. Pongsuk Potisiri (Thailand).

These meetings enabled the participants to discuss in detail the planned introduction of new systems and services.

At the conclusion of Special Meeting 1, the Chairman observed that in view of the development of telecommunication networks in the Region, the regional Administrations would have to map out a more formal policy concerning the evolution of the digital network and the ISDN to ensure that the standardization process is consistent with CCITT objectives and well-balanced at the regional level.

- The governments of the respective Member countries should be made aware of the importance of telecommunications as an infrastructure for the development of the country. This could conceivably be economically achieved by rapid digitization of the respective networks of the Member countries.
- Consequently, Member countries, especially the developing ones, should take the necessary steps to execute smoothly the digitization process of telecommunication network development and replacement.
- Mutual cooperation in the form of economic and technical assistance from developed to developing countries should be intensified in the fields of training, transfer of technology and exchange of experts.
- These measures will facilitate the efforts of the developing countries to narrow the gap between them and the developed countries.

In addition, the Chairman summarized various points raised on the subject of digitization during the discussion.

1.3.3.3 *Meeting of the Regional Plan Committee for Africa, Yaoundé, 18-25 March 1987*

The opening meeting of the Committee was chaired by Mr. Léonard Claude Mpouma, Minister of Posts and Telecommunications of Cameroon. Members of the Government of Cameroon and diplomats accredited to Yaoundé were present.

Replies from Administrations to the Plan questionnaire (Plan data) and the documents submitted by Administrations under the agenda item on the exchange of general information on telecommunication development in the region gave the Committee a sound basis for preparing a Plan for the years 1986-1991.

The following working and drafting groups were set up:

- "Plan Data" Working Group (traffic, circuits)

  Chairman: Mr. S.N. Barasa (Kenya).
- "Arteries" Working Group

  Chairman: Mr. Mulugeta Asfaw (Ethiopia).
- Drafting Group "Questions to be submitted to the CCIs"

  Chairman: Mr. M. Boumaïza (Tunisia).
- Drafting Group "Terms of reference of the Coordination Committee of the Plan Committee for Africa"

  Chairman: Mr. E. Kamdem Kamga (Cameroon).

The Committee also examined the special reports on network development in the various sub-regions:

- East and Southern African network
  [Special Rapporteur: Mr. S.N. Barasa (Kenya)]
- North African network
  [Special Rapporteur: Mr. M. Boumaïza (Tunisia)]
- West African network
  [Special Rapporteur: Mr. Sagoe Kow (Côte d'Ivoire)]
- Central African network
  [Special Rapporteur: Mr. F. Ebayi (Congo)]
- Development of satellite communication systems in the region
  [Special Rapporteur: Mr. M.M. Keita (Mali)]
- Development of submarine cable systems within the region and linking Africa with other regions
  [Special Rapporteur: Mr. M. Cisse (Senegal)].

The Committee also took note of the ITU propagation campaign in Africa, coordinated by the CCIR. All Administrations were invited to take part in the campaign.

At the Yaoundé meeting, special sessions were organized, particularly on matters directly affecting planning and decisions concerning the development of national and regional networks. The following subjects were discussed at these special sessions:

- "Network digitization"
  Chairman: Mr. D. Hella Ondo (Gabon)
- "Maintenance"
  Chairman: Mr. M.M. Keita (Mali).

A round table, chaired by Mr. P. Abessolo Nsili (Cameroon) and attended by senior officials of the Region, discussed "Telecommunications management".

In the course of the round table discussion on restructuring the telecommunications sector, the case of SONATEL was followed with considerable interest.

It was agreed that:

The structure and type of bodies to which management was entrusted depended on the overall political environment prevailing in the State concerned. However, the essential factors for development were autonomy in planning, choice of equipment and investment facilities, as well as rigorous application of national and international regulations and training and retraining of staff at all levels. [...]

Development of the telecommunication industry must be based on national requirements, and sub-regional cooperation was necessary to optimize the economic viability of production. Application of the CCI's Recommendations and standards was an indispensable advantage for successful manufacturing of telecommunication equipment.

The final item of the Regional meeting was an informative session on WATTC-88.

1.3.3.4 *Meeting of the Regional Plan Committee for Europe and the Mediterranean Basin, Malta, 23-29 September 1987*

The opening meeting was chaired by Mr. M. Falzon, Minister for Development of Infrastructure.

During the meeting there was a general exchange of information on the development of telecommunications in the region. In addition to data from individual countries and documents on planning trends, the Committee considered five major reports relating to telecommunication development in the region with a view to achieving coordination:

- Submarine cable network of the region
  [Special Rapporteur: Miss C. Russo (Italy)]

- Regional satellite telecommunications network
  [Special Rapporteur: Mr. C. Herrera de la Rosa (Spain)]

- Data transmission network
  [Special Rapporteur: Mr. C. Brito (Portugal)]

- Signalling systems (Development of systems No. 7 and R2D)
  [Special Rapporteur: Mr. P. Gonin (France)]

- Digital network (Strategy and development)
  (Report delivered by Mr. Th. Irmer, Director of the CCITT).

On the basis of replies to the Plan questionnaire and the work of the "Plan Data" Working Party, chaired by Mr. G. Scott (United Kingdom), the Committee drew up a Plan for the years 1986 to 1991. The results of its deliberations are published in the Plan Book for Europe and the Mediterranean Basin (Malta, 1987) and in the Committee's reports.

The Regional Plan Committee for Europe and the Mediterranean Basin had included a round table and a special meeting in its agenda.

The subjects of these meetings were:

- European telecommunication prospects and advanced technology standards
  (Chairman: Mr. P. Muscat, Parliamentary Secretary, Posts and Telecommunications, Malta).

- Planning and evolution of the mobile services
  (Chairman: Mr. E. Ribu, Secretary-General of the Norwegian Ministry of Transport and Communications.

At the conclusion of the round table discussions, the Plan Committee took note of the following general considerations:

- Common strategy

On the whole, the Plan Committee believes that telecommunications in Europe will start the 1990s with a large digital capacity. Close cooperation and coordination in undertaking programmes and plans of action as a result of digitization of the network and its evolution towards the ISDN will be essential.

With network integration, the current concept of links or interconnections between national networks will have to be reconsidered, since the national networks will be integrated in a regional network.

As a consequence, planning procedures and agreements become more complex but more necessary.

- Standardization

The problem which arises in planning the digital network is how to design the optimum model for each future stage of development of each country's network and for working towards the ISDN from the actual state of European networks. International standardization, at least interface to interface ("minimum standardization") will have to be implemented within much shorter lapses of time than in the past, thereby turning standardization into a dynamic process.

The Regional Plan Committee therefore suggests that the CCITT Plenary Assembly *amend CCITT Resolution No. 2* with a view to improving the procedure for the provisional approval of Recommendations. The establishment of universal standards is a matter for the permanent organs of the ITU. The Recommendations of regional organizations should be collected and refined by the CCIs for worldwide application. It would seem essential that the CCITT's and CCIR's working methods be improved. Within the CEC and CEPT framework, a standardization and type-approval policy must be put into practice on a reciprocal basis by the Member countries of those organizations in order to secure the application of common or uniform standards or specifications. This procedure ensures mutual recognition of the results of tests for compliance with standards carried out in recognized laboratories. [...]

Finally, Administrations and RPOAs will have to collaborate to meet the requirements of users in Europe and provide them with the necessary technological capability to cope with the major technological innovations which will be seen during the 1990s as we move towards the ISDN.

At the special meeting on the planning and development of the mobile services, a wide-ranging debate took place, covering cellular radio, the coverage of remote areas by the mobile services and the role of the mobile services in economic and social life. The Committee suggested that the CCIs should pay due attention to the rapid standardization of mobile service equipment and called on Administrations to submit to the Committee in the form of contributions, for study and coordination purposes, statistics and information on the development of mobile service systems and their interconnection with the fixed services.

1.3.4 *Meeting of the World Plan Committee, Lisbon-Estoril, 3-10 February 1988*

The meeting of the World Plan Committee was held in Lisbon-Estoril from 3 to 10 February 1988. The meeting was opened on behalf of the Government of Portugal by Mr. E. Correia de Matos, Secretary of State for Transport and Communications.

At the first session of the Committee, the Chairman, Mr. C.R. Crump (United States), introduced the report of the Committee's Working Party (Report PLAN-R2), which had been entrusted in particular with the task of preparing the agenda and timetable of the Lisbon-Estoril 1988 meeting and drawing up the World Plan Questionnaire. The Plan Committee adopted the Working Party's proposals and organized its work accordingly.

It was noted that in addition to the regular meetings of the Committee, special meetings (two special meetings and one round table) were being organized during the Lisbon-Estoril meeting.

Organization of the work of the Committee

Mr. I. Esteves (Portugal), Director General of Telecommunications, and Mr. C. García Montaner (Uruguay), Director of the Technical Development Division, were appointed as Chairmen of Special Meetings 1 and 2, respectively. Mrs. Patricia Diaz Dennis, Commissioner, Federal Communications Commission, kindly agreed to chair the round table of the Committee.

In order to complete its work within the time available, the Plan Committee set up the following Working Groups:

"Plan data"	Chairman:	Mr. S.N. Barasa (Kenya)
	Vice-Chairmen:	Mr. G. Scott (United Kingdom)
		Mr. H. Carlos (Mexico)
"Arteries"	Chairman:	Mr. J.L. Parapak (Indonesia)
	Vice-Chairmen:	Mr. G. Mogavero (Italy)
		Mr. L. Perillan (INTELSAT)
"Signalling" (Agenda item 7.1)	Chairman:	Mr. J. Kiil (Denmark)
"CCI studies" (Agenda item 9)	Chairman:	Mr. Sagoe Kow (Côte d'Ivoire)
	Vice-Chairman:	Mr. G.I. Al-Balushi (Oman)
"Questions to be submitted to the CCIs" (Agenda item 10)	Chairman:	Mr. N. Virata (Philippines)
	Vice-Chairmen:	Mr. I. Prokopik (Czechoslovakia)
		Mr. L. Johanns (Suriname)
"Activities of the Committee"	Chairman:	Mr. P. Gonin (France)
	Vice-Chairman:	Mr. M. Cisse (Senegal).

Round table and special meetings

Two special meetings and a round table were organized during the Lisbon-Estoril meeting.

Round table: Effect of national telecommunication policies on international network planning

A number of senior telecommunication officials spoke at the round table; summarizing its conclusions, the Chairman, Mrs. P. Diaz Dennis (United States) said that three challenges - the rapid pace of technological evolution, the advent of competition and the international scope of telecommunication - are changing each country's telecommunication landscape in varying degrees. We should adopt standards to better reflect this environment, e.g., set the standards only to the minimum required so as not to stifle the innovation to meet the rapid evolution of telecommunications technology.

Special Meeting 1: Wideband and high-speed networks and their technical and economic impact on planning

The following conclusions may be drawn from this Special Meeting :

Broadband communications capabilities will make for user-friendly telecommunications; minimize interworking costs; allow portability of terminals, thereby avoiding the need for terminal adapters; and permit cheap enhancements of the future sophisticated "subscriber premises networks" of broadband ISDN.

Optical fibre systems will play a major role in creating the right conditions for implementation of broadband communications.

Special Meeting 2: The ISDN before Time "T"

The papers presented and the ensuing discussion confirmed that the ISDN is a reality and that several countries have already begun initial implementation work, together with parallel development of terminals. This means that network digitization is not an end in itself, but merely a stage which has to be passed through. One of the objectives is the ISDN, but beyond that we already see emerging the idea of a gradual transformation of the various societies into an information society.

Exchange of general information on telecommunication development and progress achieved at the interregional level

In line with the decisions taken by the World Plan Committee at its meeting in Washington (1985), contributions and documents had been submitted on planning policies and trends (118 documents). Additional information was also provided in the form of general policy statements by senior telecommunication officials.

The Committee proposed that provision should be made for consideration of this item at its future meetings, at which adequate time should be set aside for discussion and debate during the exchange of general information and the special meetings and round tables.

Plan questionnaire and publication of data

Data bank - Direct access

Suggestions were put forward with a view to improving the questionnaire. In addition, in the light of the progress made on the question of direct access to the ITU computer, an ad hoc Group was set up to study the matter and cooperate with ITU Headquarters in order to finalize the arrangements for direct access.

The Plan data (N=1987) were published in the Plan Book, Lisbon-Estoril, 1988, in April of this year. The data will also be made available on diskette pending direct computerized access.

Information on telecommunication development with a view to harmonious coordination

In the light of the discussions which had taken place in the Working Party of the World Plan Committee (Geneva, 1987), special rapporteurs had been appointed to submit reports on various subjects, as follows:

- Signalling: Mr. J.S. Ryan, CCITT SG XI
- Digital network (digital connectivity, etc.) :
  Mr. J. Grenier (France Telecom)
- Development and evolution of submarine cables :
  - in the Pacific and Indian Ocean: Mr. M. Kojima (KDD, Japan)
  - in the Atlantic and Caribbean: Mr. W. Ohnsorg (AT&T, United States)
- Development and evolution of satellite communication systems: INTELSAT and regional satellite telecommunication organizations.

CCI network planning and development studies of particular interest to the developing countries

The Working Party of the Committee had requested that reports be given on the work of GAS 11 and the activities of CCIR Study Group 8. Accordingly, Mr. J. Pécresse (France), Chairman of GAS 11, reported on the strategy for the introduction of public data networks and Mr. E. George (Fed. Rep. of

Germany), Chairman of CCIR Study Group 8, reviewed new developments in the land mobile services.

The Director of the CCITT drew attention to the fact that few Administrations purchased the Handbooks prepared with them in mind. The reasons put forward by the Administrations were :

- unawareness of the existence of the Handbooks prepared by the Study Groups and GAS of the CCIs;
- the price of the publications.

The Director of the CCITT informed the meeting that the ITU would be endeavouring to cut production costs significantly in order to make publications more accessible.

Questions to be submitted to the CCIs

- At its meeting in Paramaribo (December 1985), the Plan Committee for Latin America had proposed questions for submission to the CCIs (see Report PLAN AL-R1, Annex 5), in particular with regard to application of the cellular mobile system for fixed and mobile services.

It emerged from information supplied by Mr. Kirby, Director of the CCIR, that the above question was being examined by CCIR Study Group 8. There was thus no need to raise the matter anew.

- The question put by the Plan Committee for Asia and Oceania at its meeting in Bali (October 1986) (see Report PLAN AS-R2, § 6.4), covered two basic items:

a) standardization of digital mobile cellular radio systems; and

b) strategy for the introduction of new services.

The Director of the CCIR informed the Committee that item a) was also being studied by Study Group 8. With regard to item b), it was suggested that the CCITT should prepare a text for information.

- At its meeting in Malta (September 1987) (see Report PLAN EU-R2, § 4.4), the Plan Committee for Europe and the Mediterranean Basin had suggested that it would be useful for the relevant CCITT Study Group to consider a question on network management. The World Plan Committee having been informed that the matter was already being studied by Study Group II, it was agreed that no new question was required.

Additional questions had been submitted to the Plan Committee with a view to studying the problems of harmful interference in the operation of cordless telephones. The Committee adopted the following text in this regard:

"The World Plan Committee,

considering

that certain Administrations are encountering problems of mutual interference and inadvertent interaction between "cordless telephone" systems,

requests the CCIR to study the following question:

Guidelines for frequency utilization and related technical characteristics for "cordless telephones" intended to operate over short ranges, with the objective of minimizing mutual interference and interaction between user systems, including means for protection against undesired access".

Furthermore, after discussion, it was suggested that a question on payments for incoming traffic might be forwarded to CCITT Study Group III for information and that contributions should be sought on the subject.[1] The CCITT Secretariat should also transmit the relevant part of the CCITT Recommendation of the Administration of Papua New Guinea, which had raised the question.

The wording proposed by Papua New Guinea reads as follows:

"Outpayments for terminating traffic

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1) *Note by the CCITT Secretariat* - This text has been passed to SG III for consideration at its final meeting (May-June 1988).

1. Review the parcours based method of division of Accounting Rates with a view to a simplified approach whereby Administrations retain revenue collected and remunerate only transit administrations a transit payment.

2. Study implications, if any, on Administration lease charges where applicable.

3. Consider transit Administration responsible for proper accounting.

4. The above would be more in consonance with the evolving telecommunication network and greatly simplify accounting procedures eliminating at the same time inaccuracies and/or inefficiencies."

Finally, Suriname had raised a question on R2 signalling over companded FM as is used on the circuits with Netherlands. However, after due discussion it was proposed that the problem should initially be referred to INTELSAT for consultation before being submitted to the CCIs.

Allocation of telephone country codes and telex destination codes

In keeping with the provisions of Recommendations E.163 and F.69, the World Plan Committee decided to allocate country codes and telex destination codes as listed in Appendix 1 of this report.

Future activities of the Committee

At its meeting in Washington (1985), the World Plan Committee adopted a document for consideration by Special Study Group "S". In the light of that document and of the questionnaire which Study Group "S" sent to all the members of the CCITT, and on the basis of the discussions which took place at its three meetings, Special Study Group "S" adopted a text for submission to the IXth Plenary Assembly, containing the following conclusion: "On the basis of the contributions of the Administrations and replies to the COM S questionnaire, the existing terms of reference of the Plan Committees as laid down in No. 93 of the Nairobi Convention and amplified in Resolution No. 448 of the Administrative Council and CCITT Resolution No. 12 continue to be relevant, and as such no changes are proposed to these governing instruments at this time."

In the light of the above and on the basis of experience acquired at recent meetings of the World Plan Committee, the Committee drew up recommendations for its future activities as follows :

In the light of:

- the evolution of the telecommunications environment (provision of new and conventional services, new technologies, ...);
- the need to derive maximum benefit from available resources;
- the existence of regional organizations; and
- the report of Special Study Group "S" to the IXth CCITT Plenary Assembly,

and noting that it shares the views of Study Group "S" formulated in paragraph I a) of its report (see Document AP IX-1, Annex K), the Committee proposes to keep the following under active consideration:

1) collection and updating of reliable data on the development of traffic and arteries; direct access to the ITU computer;

2) contributions from members and preparation of reports on the development and evolution of networks : submarine cables, satellites, digital networks, signalling, etc.;

3) organization of round tables and special meetings on subjects of particular relevance to the strategy for the development of the international telecommunication network, calling upon the services of senior telecommunications officials;

4) presentation of studies by the CCIs on the planning and development of networks of particular interest to the developing countries.

In the light of the lessons learned from the present meeting of the World Plan Committee, it is recommended that when preparing the agenda of the next meeting the Working Party should take account of the above guidelines and of the decisions taken by the IXth Plenary Assembly on the basis of the recommendations formulated by Special Study Group "S".

Schedule of Plan meetings (1989-1992)

In the light of invitations for holding Plan meetings and of the timetable of ITU meetings and conferences, the following timetable is established for meetings of the Plan Committees within the framework of the programme of CCITT meetings.

The invitations will be transmitted to the IXth CCITT Plenary Assembly (Melbourne, 1988).

1989	Coordination Committee - Plan/AS	September/October 1989
	Plan Committee for Latin America (Plan/AL)	November 1989 - San José (Costa Rica)
1990	Coordination Committee - Plan/AF	March/April 1990
	Coordination Committee - Plan/EU	3rd quarter 1990
	Plan Committee for Asia and Oceania (Plan/AS)	October 1990
1991	Working Party of the World Plan Committee - W/Plan	1st quarter 1991 - Geneva
	Plan Committee for Africa (Plan/AF)	March 1991 - Dakar (Senegal)
	Plan Committee for Europe and the Mediterranean Basin (Plan/EU)	2nd half of 1991 - Yugoslavia
1992	World Plan Committee	Beginning of 1992

1.3.5 *Plan Books and Supplements published in the period 1985-1988* (in chronological order of publication)

General Plan for the development of the interregional telecommunication network (Washington, 1985) (July, 1985)

Supplement to the Plan for Africa (Libreville, 1983) (March, 1986)

General Plan for the development of the regional Latin American network (Paramaribo, 1985) (April, 1986)

Supplement to the Plan for Europe and the Mediterranean Basin (Nicosia, 1983) (August, 1986)

General Plan for the development of the regional Asian and Oceanian network (Bali, 1986) (February, 1987)

General Plan for the development of the regional African network (Yaoundé, 1987) (July, 1987)

General Plan for the development of the regional European and Mediterranean Basin network (Malta, 1987) (January, 1988)

General Plan for the development of the interregional telecommunication network (Lisbon-Estoril, 1988) (April, 1988)

Supplement to the Plan for Asia and Oceania (Bali, 1986) (1988).

APPENDIX 1

Allocation of telephone country codes and telex destination codes

The Plan Committee noted that in accordance with the provisions of CCITT Recommendations E.163 and F.69, the following allocations had been made since the last meeting of the World Plan Committee.

1. *Telephone*

Zone 1

Anguilla	1 [1]
Turks and Caicos (Islands)	1 [1]

Zone 2

San Marino (Republic of)	295 (proposed)
Trinidad and Tobago	296 (proposed)
Aruba	297 [2]

Zone 9

Bhutan (Kingdom of)	975

2. *Telex*

available (June 1987)	207 [3]
Dominican Republic (Agencia Mirador network)	241
Aruba	303 (proposed)

1.4 *Special Autonomous Groups (GAS)*

The Special Autonomous Groups (GAS) are one of the media through which CCITT provides technical assistance to developing countries.

5 GAS have been working during the current study period:

- GAS 3, GAS 7 and GAS 9 have already been active in the 1980-1984 study period and continued their work, while
- GAS 10 and 11 were created during the 1984 Plenary Assembly.

The main activities of the GAS will be highlighted in the following (for details, please see the relevant AP-documents containing the final reports of the GAS).

1.4.1 *Major achievements of the GAS*

GAS 3 - Economic and technical aspects of the choice of transmission systems

A new handbook was prepared on a "Method for evaluating new digital inter-exchange transmission systems as a guide to network planning". In its five chapters, various digital transmission systems, including digital satellite and digital radio systems, are evaluated and economic and technical comparisons are made, supplemented by many practical examples.

GAS 3 completed its work in 1987, and there is no proposal yet to enhance its work further.

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1) Integrated numbering plan.

2) The World Plan Committee was informed of this allocation at its meeting in Washington (1985); the country code actually came into force on 1.1.1986.

3) Previously allocated to Puerto Rico (WUI Carib. network).

GAS 7 - Rural telecommunications

GAS 7 has considerably extended the existing handbook on "Rural Telecommunications" by including many new topics and adding specific case studies on existing rural networks. The new edition of the revised handbook comprises five volumes as specified hereafter:

Volume I: Case studies on Rural Telecommunications

Volume II: Training handbooks on Rural Telecommunications (first part)

Volume III: Training Handbooks on Rural Telecommunications (second part)

Volume IV: Handbook on Economics and financing of telecommunication projects in developing countries

Volume V: Tropospheric scatter radio-relay links for rural networks.

As rural telecommunications are of vital interest to developing countries, and as therefore a continuous development of rural telecommunication technologies and applications exists, GAS 7 proposed in its final meeting in September 1987 to continue its activities also during the forthcoming study period.

GAS 9 - Economic and technical aspects of the transition from analogue to digital telecommunication networks

GAS 9 prepared two handbooks containing case studies of national networks, in accordance with the following scenarios:

a) a complete analogue national network moving to a digital network (Handbook A), illustrating the network of SENEGAL;

b) a mixed (analogue/digital or analogue with SPC exchange) national network moving to a digital network (Handbook B), illustrating the network of THAILAND.

Each case study includes demand forecasting, network planning and consideration of relevant aspects of operation and maintenance, human resources and financial conditions. The case studies show in particular that it is in the interest of and advantage for developing countries to utilize computerized tools to assist them in network planning.

In each case study the evolution of switching and transmission networks towards the desired final (target) network has been taken into consideration. Studies aim at a smooth transition of the network within the budget constraints, while at the same time attempts are made to minimize the creation of temporary solutions.

GAS 9 proposed in its final meeting in December 1987 to continue its activity during the next study period (see AP IX-2, item IV) to fulfill its terms of reference entrusted to the Group by the VIIIth Plenary Assembly in 1984.

GAS 10 - Planning data and forecasting methods

GAS 10 has set up a handbook consisting of three volumes:

Volume I: The main volume focuses on the problems of data acquisition and forecasting of future requirements of subscribers and traffic in telecommunications development. This volume contains 10 chapters on subjects such as data required for planning, quantitative forecasting methods, overcoming lack of usable data, subscriber forecasting, forecasting non-voice services, etc.

Volume II: This volume contains detailed case studies on:

- international telephone traffic forecasting,
- traffic and routing observations from a digital exchange,
- demand forecasting with a socio-economic model,
- overall and localized forecasts for an entire country.

Volume III: This volume consists of the operating manual for forecasting software packages. The Swedish Telecommunications Administration Training Centre has kindly offered to prepare the software disks and distribute these together with the Operating Manual until 31 December 1989, after which date the ITU is expected to fulfill this function.

With the compilation of the Handbook GAS 10 fulfilled its mandate, and there are no other plans nor need to continue this GAS.

GAS 11 - Strategy for a public data network in developing countries

Experts from developed as well as from developing countries participated in the meetings of GAS 11, thus contributing to draft a handbook on "Strategy for the introduction of a Public Data Network in developing countries" which was completed towards the end of 1987; this handbook comprises 10 chapters and 4 case studies. Taking into account the complexity of circuit- and packet-switched data networks, it is expected that this handbook will help solving various problems that may arise when introducing Public Data Networks in developing countries.

With the completion of this handbook, GAS 11 complied with its mandate, and there are no other plans nor need to continue this GAS.

Note - The attention of the Plenary Assembly is invited to verify the proposed new Question AE/XV "Guide for the application of new technologies in local networks" (AP IX-62) which might be a new matter to be tackled by a GAS. It will be for the Plenary Assembly to take an appropriate decision.

1.4.2 *Comments by the Director*

Several new measures were implemented between 1985 and 1988 with a view to accelerate and economize work of the GAS and the production of their handbooks.

The VIIIth Plenary Assembly in 1984 suggested that:

"... the Senior Chairman of these GAS Groups could be appointed as Special Rapporteur for coordination activities of the GAS and other activities of technical assistance provided by the CCITT, ensuring the liaison on these matters with the Plan Committees" (Red Book, Vol. I, Report of Committee B, page 185).

Mr. Maurice Ghazal (Lebanon), Chairman of GAS 9 and Senior Chairman of all 5 GAS, was entrusted with this function which focuses primarily on the challenge of coordinating the GAS Groups. In his role as Coordinator, Mr. Ghazal convened two meetings with GAS Chairmen and Vice-Chairmen in which also the Director of the CCITT participated. The first meeting (February 1985) provided guidelines for the work of all GAS with a view to have all handbooks completed by the end of 1987 at the latest. In the past, texts of the handbooks had been submitted to the CCITT Secretariat for editing at the same time as the texts of the CCITT Books had to be processed; this resulted in a considerable delay (up to three years !) for the GAS handbooks as the CCITT Books received necessarily priority over the GAS handbooks. During the second meeting (September 1987), the results of work done so far were reviewed and remaining tasks were coordinated between the GAS.

These coordinating efforts in the two meetings proved to be successful: the GAS 10 Handbook has already been published in February 1988, GAS 11 followed in April 1988, GAS 9 is due for publication in August 1988, and also the GAS 3 and GAS 7 Handbooks are to be published within the next few months. This is the first time that all GAS handbooks are on sale prior to the production of the new CCITT Blue Book (after the Plenary Assembly in November 1988), thus avoiding the delay that always occurred in the past.

In order to promote the sale of the GAS handbooks, particularly in the interest of users in developing countries (for whom the handbooks are intended in the first place), the Director proposed to the Secreary-General of the ITU a new layout, in-house offset printing, etc. of the books with a view to reduce production costs and prices, thus enabling a wider distribution of the handbooks especially in developing countries. Following these consultations, the Secretary-General approved these newly proposed measures for the GAS handbooks, which resulted in price reductions of 50% or more per handbook compared to production methods used formerly. It is the hope of the Director that these price reductions will enable a wider distribution of the GAS handbooks and thus meet the request put forward by many preceding Plenary Assemblies.

Finally, the Director suggests that - if a Plenary Assembly sets up new GAS - it should at the same time also be evaluated whether there is a sufficient number of qualified experts ready to participate actively in a GAS; there have been considerable problems to find appropriate contributors for some of the GAS set up by the last Plenary Assembly, leading to a delay until work actually started. It should be kept in mind that in at least some cases contributions to GAS work do not only consist of writing texts but that it may include considerable computer work for which resources must be available.

In this context, it should be recalled that Opinion No. 3 (Red Book, Volume 1) requests *inter alia* that Administrations and RPOAs should hand in the text of a proposal for the preparation of a new or revised manual to the CCITT Secretariat at *least two months* prior to the opening date of the last meeting of the Study Group or any other group concerned preceding the Plenary Assembly. The need for compliance with this provision has also been endorsed by Special Group S (AP IX-1).

The Plenary Assembly may also wish to consider whether CCITT Study Groups might be more appropriate for the production of certain handbooks rather than setting up a new GAS for this purpose. So far, quite a few handbooks have been produced by CCITT Study Groups with good results (see part 2.1 of this report) and it should therefore be explored by the Plenary Assembly whether a Study Group or a GAS would be the appropriate body to compile a planned handbook.

1.5 *CCITT Laboratory*

1.5.1 *Summary*

This document reports on the present situation of the CCITT Laboratory and measures already taken during the 1985-1988 study period with a view to obtain clarification on its further need. The objective of this document is to enable the Plenary Assembly to take a decision whether to continue or discontinue the CCITT Laboratory.

1.5.2 *General*

The CCITT Laboratory is basically a telephonometry laboratoy and evaluates in principle transmission parameters of telephone sets, using subjective tests or objective electro-acustic measurements. Because of its specialized nature - telephonometry and electro-acustics may be seen as border areas but are important for telecommunications in general - its activities have not found widespread attention. This may well be one reason (but not the only one) why there have been, already in the past, discussions on the need and usefulness to have such a laboratory within CCITT's scope of work. Arguments in favour and against have been voiced without changing the "status-quo" for quite some time.

However, in CCITT's present environment which is marked by a dramatic increase in workload and, on the other hand, by severe budget constraints it is timely to investigate in depth this long-pending matter with a view to drive at a well-based, fair decision taking into account all relevant parameters. Such a decision is not only mandatory for technical or economic reasons; by the end of 1988, several decisions concerning restaffing of the CCITT Laboratory is to be continued or discontinued. And, finally, another point should be borne in mind: in the case of discontinuing the CCITT Laboratory, No. 325 of the Nairobi Convention could be modified conveniently by the next Plenipotentiary Conference in 1989, if necessary, which will be held only a few months after the CCITT Plenary Assembly.

1.5.3 *Work areas of the CCITT Laboratory*

Work of the Laboratory comprises mainly two areas:

a) To carry out tests, measurements, etc. under the supervision of Working Party XVII/1 ("Laboratory Working Party") of Study Group XII, related to study Questions 3, 8, 9, 12, 15 and 19/XII.

   Results of this work are summarized in "Technical reports" submitted to Working Party XII/1 and Study Group XII, respectively. For the 1985-1988 study period, technical reports have been prepared as follows:

   March 1985 -May 1985: 8

   June 1985 - March 1986: 9

   April 1986 - July 1986: 3

   August 1986 - March 1987: 9

   April 1987 - January 1988: 11

b) To carry out, upon request and against payment, tests (subjective tests of telephone sets) and measurements [objective measurements of telephone sets for customers (Administrations, RPOAs, SIOs, etc.)].

For the 1985-1988 study period, the numbers of customers were the following:

January 1985 - December 1985: 13

January 1986 - December 1986: 15

January 1987 - December 1987: 12

January 1988 - May 1988: 3

Income from such tests and measurements is paid into the Laboratory Reserve Fund from which, in turn, expenses for fitting and equipping of the Laboratory (test and measuring equipment, repairs, material, etc.) are drawn. Table 1 shows the development of this fund;

c) in addition to the work described under a) and b), representing the bulk of work, the CCITT Laboratory staff undertook during this study period miscellaneous other tasks like e.g. the entire construction of the new reference system (NOSFER-84), construction of special filters, equalizers, etc. needed for measurements under a), development of computer programmes for objective measurements and statistical purposes, etc. as well as general maintenance, repair and construction work related to the day-to-day functioning of the Laboratory.

TABLE 1

Figures for the Laboratory Reserve Fund (1984-1987)

Item / Year	Position on 1 January	Expenditures for fitting and equipping of Laboratory	Income from tests and measurements	Position on 31 December
1984	236,335.65	94,638.--	68,455.--	110,152.65[a)]
1985	110,152.65	45,532.35	58,210.--	122,830.30
1986	122,830.30	70,384.60	65,350.--	117,795.70
1987	117,795.70	84,829.30	39,190.--	72,156.40
1988	72,156.40			

a) Allowing for the transfer of Sfr. 100,000.-- to the ITU Reserve Fund in accordance with Decision 401/CA39.

1.5.4 *Evaluation of work of the CCITT Laboratory*

For a detailed evaluation the two main work areas as described under 3a) and 3b) will be discussed separately; miscellaneous work (see 3c) will not be investigated as this part depends directly on 3a) and 3b) and is therefore not significant for the evaluation.

1.5.4.1 *Work carried out under supervision of Working Party XII/1 and Study Group XII, respectively*

Tests and measurements related to Questions 3, 8, 9, 12, 15 and 19/XII provide (via technical reports) input material for Study Group XII to prepare draft Recommendations under the Questions mentioned above. This situation is unique in CCITT: there is no other CCITT Study Group with its "own" laboratory for such purposes. It is true that such work was originally not the main task of the Laboratory and that it participated in the work of Study Group XII only when it was not occupied by

work for Administrations etc. which had priority. However, this ratio has meanwhile turned into exactly the opposite due to the fact that less and less customers request the services of the Laboratory thus providing more time for work for Study Group XII. Apart from such considerations, the basic fact is that all other Study Groups draw up their draft Recommendations on the basis of Contributions submitted by Member organizations, including those who have extensive test and development other Study Groups, why should it not also be the case for Study Group XII? Some CCITT Member organizations are running quite a few reputable electroacoustical laboratories - could draft Recommendations in Study Group XII not be developed on the basis of Contributions submitted from such Member organizations?

The argument has been put forward that powerful Member organizations may press for their proposals which might lead to "biased" draft Recommendations whilst the technical reports of the CCITT Laboratory secures an impartiality. However, practical results in other Study Groups render this argument invalid. Only one example: the algorithms for speech coding at various bit rates have been developed and tested voluntarily by a number of interested CCITT Member organizations. Each proposal put forward was tested and veryfied by the other Members of this team, results were exchanged, discussed openly and modified, if necessary. Because of this "open" approach, no Member of this team could override the others and the draft Recommendations were supported by all participants in this work; therefore, there are all reasons to believe that this approach ought to be also applicable for Study Group XII without relying any longer on "its" own Laboratory.

1.5.4.2 *Work carried out for Administrations, RPOAs, etc. against payment*

The fact that, for this area of work, the Laboratory generates a certain revenue does not represent a strong argument in the discussion of pro's and contra's for the CCITT Laboratory. A brief look at the Table (page 3) shows that, over the years, this income did not even cover the fitting and equipping expenditures. To put this income in the right perspective against the total annual Laboratory costs (salaries, pension fund, insurances, etc.) of some Sfr. 650 000 this income represents less than 10% of the total cost per year.

The actual question to be answered is the very same applicable to *all* other CCITT activities: is there a justified need for such activities? Do CCITT Member organizations request such activities? *This* is the basic question governing CCITT work as a whole - in Study Groups, in GASs, in Plan Committees - and the very same question is hence also applicable to the CCITT Laboratory. In other words: are the services offered by the CCITT Laboratory required and used by Administrations, RPOAs, SIOs and others?

In order to answer this question we have to look first at the changing situation in the field of subjective tests and objetive mesurements of telephone sets which used to constitute the bulk of work for the CCITT Laboratory.

Over many years, the CCITT Laboratory has carried out subjective tests of reference equivalents of telephone sets. Recent progress in the development of subjective measurement methods and equipment have now reached a sufficiently mature stage so that subjective tests are no longer necessary and can now be replaced without difficulty by objective measurements. Consequently, as announced in CCITT Circular No. 71, the subjective tests were ceased as of 31 March 1988; the permanent test team so far needed for subjective tests has been relinquished, resulting in the elimination of two posts.

This rather fundamental change in the CCITT Laboratory activities raises a number of issues listed below:

First, for the past 60 years the CCITT Laboratory has been the "custodian" of the CCITT telephonometry reference system (NOSFER); subjective reference equivalent tests were carried out against NOSFER. Equipped with a permanent test team, the CCITT Laboratory held, therefore, practically a "monopoly" on such tests altough some replica of NOSFER existed in other countries as well. Now, with the transition to objective measurements this situation has changed; objective measurements for telephone sets can be carried out by any independet laboratory with the required measuring equipment which is now available on the market at quite resonable prices.

Such laboratories are not only operated by industry; many laboratories, including test and development centres, have been established in a number of developing countries as a result of technical cooperation efforts. These laboratories could be available for such measurements as well as for other tests and calibrations, if required.

Second, and as a consequence of the foregoing, it is impossible for CCITT to predict how many customers will seek the Laboratory's services for objective measurements in the future. For subjective tests we had about 10-20 customers per year; if, for objective measurements, these figures were shared between the CCITT Laboratory and other independent laboratories, the number of customers for the CCITT Laboratory would certainly drop, thus challenging the economic justifications even more than in the past. It seems that practice confirms this supposition: between January and May 1988, only 3 customers were registered.

Third, the CCITT Laboratory is equipped to carry out other measurements, but as a matter of fact, such services have hardly ever been requested by any customers. Here again, we do not know whether such services are indeed simply not requested, whether potential customers have been unaware of the availability of these laboratory services, or whether such services were carried out by other laboratories.

In order to inform Administrations, RPOAs, SIOs, etc. on the test and measuring capabilities of the CCITT Laboratory, CCITT Circular No. 71 was prepared in consultation with Study Group XII. Attached to the circular was a questionnaire in which recipients were requested to mark which laboratory services they intend using short-/mid-/long-term. Table 2 lists the number of circulars/questionnaires mailed according to the general CCITT mailing list, as well as the completed questionnaires received.

TABLE 2

Circular No. 71 (mailed 17/03/1988)	Sent to (number)	Questionnaire returned (number)	Questionnaire returned (%)
Administrations	161	17	9
RPOAs	63	9	14
SIOs, etc.	165	23	13

Investigating the returned questionnaires (which is statistically somewhat dubious because of the non-representative number of replies), we have the following situation:

TABLE 2a

Questionnaires returned (number)	set at 100%	Will not use any laboratory facility		Will use partly laboratory facility		Remarks to partial use of laboratory facility
		number	%	number	%	
Administr. 17	100%	14	82	3	18	F : partly HNG: future tasks YUG: 1 year more
RPOAs 9	100%	9	100	0	0	
SIOs, etc. 23	100%	21	91	2	9	CSELT (I): 1 year more ISKRA (YUG): 2 years more

These results of the survey do not need any further discussion; it is rather obvious that services of the CCITT Laboratory are no longer needed and requested by CCITT Member organizations.

1.5.5 *Concluding remark*

The CCITT Plenary Assembly is invited to consider the situation of the CCITT Laboratory as set out in this report and to decide accordingly, after which decision the ITU Secretary-General will initiate the appropriate measures (re-demployment of staff, posts, etc.).

1.6 *CCITT technical assistance*

Apart from the work of the GAS, there are more areas in which CCITT provides technical assistance to developing countries, for example the Regional Plan Committees.

1.6.1 *Regular activities*

The CCITT Secretariat participates regularly in relevant internal meetings of the ITU Technical Cooperation Department (TCD) for the recruitment of experts, proposing lecturers for seminars, etc.

Moreover, the CCITT Secretariat reviews, as another standing activity, technical reports (field reports, master plans, etc.), drawn up by ITU teams and ITU experts, with a view to bring them up-to-date with the latest CCITT Recommendations, if necessary.

Finally, as a day-to-day activity, provides the CCITT Secretariat technical information by replying to requests received either directly from developing countries or via the TCD referring to CCITT's scope of work.

1.6.2 *Activities under CCITT Resolution No. 14*

Resolution No. 14 (CCITT technical assistance to developing countries) requests, *inter-alia*, the CCITT to take special measures in various areas for providing technical assistance to developing countries. During the 1985-1988 study period, special attention has been given to this Resolution and it has been fully implemented.

A key element in Resolution No. 14 is the request to the CCITT Secretariat to support seminars actively by providing lecturers to participate in such seminars implemented through the TCD. In addition, and in quite a few cases, organized the CCITT Secretariat seminars and workshops either in cooperation with other organizations or in conjunction with CCITT meetings held outside Geneva in which the Director and/or staff of the CCITT Secretariat participated as lecturers.

Hereafter seminars and workshops are listed in which staff of the CCITT Secretariat participated as lecturers:

1985:
- Séminaire sur les questions de comptabilité et de règlement des comptes internationaux de télécommunications,
  Cotonou, 24-28 June 1985;
- Seminar on Digital Switching and Transmission,
  Dubrovnik, 21-30 October 1985;
- Telecommunication Maintenance Seminar,
  Manila, 12-20 November 1985;
- SARC Seminar on Data Transmission,
  Haripur, 16-18 November 1985;
- Séminaire sur les prix de revient et la tarification en Afrique,
  Accra, 16-20 December 1985;
- SARC Seminar on Digital Switching,
  Kathmandu, 18-20 December 1985;

1986:
- Seminar on Network Management,
  Malta, 10-18 February 1986;
- Maintenance Workshop,
  Abidjan, 24-28 February 1986;

- ISDN Seminar (MEDARABTEL Project),
  Dubrovnik, 14-17 April 1986;

- Séminaire sur la planification et l'ingénierie des télécommunications, Douala, 9-17 October 1986;

- Workshop-type seminar on Digital Systems,
  Mbabane, 15-17 October 1986;

- Cycle d'études sur les modèles de transition de réseaux analogiques vers les réseaux numériques,
  Lisbon, 27 October - 7 November 1986;

1987:
- Séminaire sur les télécommunications rurales,
  Dakar, 26-30 January 1987;

- ISDN seminar,
  Brasilia, 16-19 February 1987;

- First international seminar on ISDN,
  Sao-Paolo, 3-31 July 1987;

- ATU/CCITT Seminar on ISDN,
  Sanaa, 16-24 November 1987.

1988: Final Study Group meetings, preparation of final reports and AP-documents during the first half of 1988 did not permit participation of the CCITT Secretariat in seminar activities. For the second half of 1988, some involvements are pending.

1.7 *Relations with other organizations*

1.7.1 *Relations with CCIR*

Cooperation between CCITT and CCIR has a permanent basis and continued to be close as in previous study periods.

The CCIR and the CCITT maintain Joint Study Groups CMV and CMTT which are administered by the CCIR. The CCIR participated very actively in Regional and World Plan Committees and Special Autonomous Groups GAS 3, 7, 9, 11. Many topics of coordination between CCITT and CCIR Study Groups exist, major of which are: multidestination service, interconnection with mobile services, maintenance of international circuits, protection of telecommunication lines and installations against dangers and disturbances of electromagnetic origin, digital networks including ISDN. The last topic was a reason for an extensive relationship between CCITT Study Group XVIII and CCIR Study Groups 4, 7, 9, 10, 11 and CMTT. Many Liaison Officers, appointed by Study Groups I, II, IV, XV, XVIII coordinated studies. Relevant documents were transferred for examination between the two CCIs, avoiding any information gap or contradiction on closely related matters (see also in this regard Document AP IX-66 by the Director of the CCIR).

1.7.2 *Relations with IEC and ISO*

Collaboration with the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO) was intensified on the basis of CCITT Resolution No. 7, accepted by the VIIIth Plenary Assembly in 1984.

Interchange of documentation, consultations between Secretariats, joint meetings of particular specialists, continuous liaison activities between CCITT Study Groups and Technical Committees of IEC and ISO ensured necessary contacts and efforts to avoid a duplication of work and promote mutual studies. Rapporteurs and experts from each organization were invited as liaison attendees to each other's meetings.

CCITT representatives participated in meetings of IEC Advisory Committee on Safety (ACOS), Advisory Committee on Electronics and Telecommunication (ACET), Information Technology Coordination Group (ITCG), ISO/IEC Information Technology Management Group (ITMG).

CCITT is cooperating with TC1 of the IEC in order to provide an internationally agreed vocabulary of telecommunication terms, and for this purpose participated in the work of IEC/ITU Joint Coordination Group on vocabulary (JCG) and its Working Group.

There were working relations of 12 CCITT Study Groups with 15 Technical Committees of the IEC, particularly with TC 46, 56, 75, 77, 81, 83, 86 and ISO TC 97.

The programme of work on generic information technology and links between ISO/IEC TCs and CCITT Study Groups was developed. Formation of the ISO/IEC Joint Technical Committee One (JTC1) demands a new effort for coordination of study programmes to avoid an overlapping and a duplication of work. Therefore, the Special Study Group S proposed a draft Recommendation "Collaboration with other international organizations on information technology" (A.22 - new Recommendation) which identifies areas of mutual interest of ISO/IEC and CCITT.

1.7.3 *Relations with UPU*

Collaboration with the Consultative Council for Postal Studies (CCPS)

ITU is participating in the work of CCPS Sub-Group 503 and paying particular attention to problems relating to electronic mail.

In view of the excellent relations maintained between the ITU and the UPU and the flexibility of the Contact Committee, Resolution No. 11 setting out the terms of reference of the Contact Committee does not require any amendment for the next study period.

As stated in the report of Study Group I, "good cooperation and liaison was maintained with UPU on studies of mutual interest to postal and telecommunication Administrations". Your attention is also drawn in this regard to Document AP IX-155 submitted by UPU.

1.7.4 *Relations with other international and regional organizations*

Several international organizations participate in the work of the CCITT on subjects of mutual interest. These organizations help to make the CCITT's work a success, and we hope to see this cooperation expand in future, in order to secure further progress in our respective fields. The regional telecommunication organizations (CEPT, CITEL, APT, UAPT, PATU, CAPTAC), the organizations for the development of telecommunications (ATU, INTELSAT, INMARSAT, EUTELSAT, ARABSAT) and the telecommunication users' organization (INTUG) as well as other organizations such as IATA, IPTC, SITA, IUR, CIGRE, UNIPEDE have collaborated at some stage with the CCITT.

2 Part II - Report on the CCITT Specialized Secretariat; statistics, tables and graphs

2.1 *Introduction*

In accordance with Additional Protocol VI to the Nairobi Convention (1982), in 1984 the Director of the CCITT was elected for the last time by the CCITT Plenary Assembly. He is assisted in his work by a Specialized Secretariat.

2.2 *Structure of the CCITT Specialized Secretariat*

The Specialized Secretariat comprises four departments, listed below:

Technical Department A: Plan and general affairs

Technical Department B: Telecommunication networks and network components

Technical Department C: Telecommunication services and tariffs

Technical Services Department: Technical editing and terminology.

Each Department, except the Technical Services Department, is responsible, within its area of activity, for circulating contributions submitted by members, preparing work programmes for meetings, assisting Study Group Chairmen, providing the secretariat for meetings and preparing meeting reports. The Specialized Secretariat lends its assistance to Chairmen and participants at meetings. It handles liaison with other organizations and with the CCIR, reviews the technical characteristics of projects and reports prepared by experts recruited by the Department of Technical Cooperation (TCD) and, when required, provides lecturers for TCD seminars. It contributes to TCD meetings for the purchase of equipment and selection of experts.

Department A also coordinates relations with the General Secretariat (Finance, Conferences and Common Services, Personnel, Computer, etc. Departments). It includes an administrative service and a documents service which handle the organization of and documentation for meetings, in cooperation with the relevant services of the General Secretariat.

The activities of the CCITT Laboratory are supervised by Technical Department B.

2.3 The manning table of permanent staff in the CCITT Secretariat and Laboratory is given in Appendix II/1. The holders of the 18 posts in the Professional category and above represent 17 nationalities (see Appendix 2).

2.4 *Officials who took retirement during the 1984-1988 study period*

- Mr. Y. Bozec (France), Counsellor
- Miss J. Campbell (United Kingdom), Assistant
- Mr. K. Elter (Fed. Rep. of Germany), Professional Laboratory Assistant
- Mrs. C. Mateo (Switzerland), Assistant
- Mr. T. Okabe (Japan), Senior Counsellor
- Mr. R. Voltolini (Switzerland), Draughtsman

APPENDIX 1

Permanent posts in the CCITT Secretariat and Laboratory approved by the Administrative Council

Grade	Number			
	1985	1986	1987	1988
D1	2	3	3	3
P5	10	7	7	7
P4	4	5	5	5
P3	1	2	1	2
P2	2	2	2	1
P1	-	-	1	1
G7	4	3	2	2
G6	20	18	19	18
G5	1	2	2	2
G4	1	1	1	1
Total	45	43	43	42

APPENDIX 2

Geographical distribution of posts in the professional category in the CCITT Secretariat

	D1	P5	P4	P3	P2	P1
Afghanistan	1					
Australia		1				
Belgium			1			
Canada		1				
China				1		
Spain			1			
United States of America			1			
France	1		1			
Haiti		1				
Hungary						1
India				1		
Italy		1				
Japan		1				
Mexico		1				
Poland			1			
Switzerland		1			1	
USSR	1					

2.5 *General statistical information on the activities of the CCITT*

2.5.1 *List of meetings*

Appendix 3 below contains the full list of the meetings (including final meetings) held by the various Study Groups (and their Working Parties), the Special Autonomous Groups and the Plan Committees. These meetings are listed in chronological order for each Committee.

Table 1 - Number of meetings and their duration

The general list was used as a basis for Table 1 below, which provides a more concise presentation both of the number of meetings and their duration (working days).

It should be pointed out that the Study Groups hold so-called "restricted" meetings of groups of rapporteurs working without interpretation or even the participation of a member of the CCITT Secretariat. Such meetings, as was pointed out at the last Plenary Assembly, offer certain advantages, particularly in that they often prove useful for the purpose of preparing the ground in connection with difficult and extremely specific issues. It is a means of decentralizing the work of some Study Groups in order to expedite the solution of the problems raised.

2.5.2 *Participation in meetings*

Appendix 4 lists the Member countries, represented by an Administration or a recognized private operating agency, which participated in Study Group meetings. It will be seen that, in this period, the number of countries represented in Study Groups I, II, III, VII, XI, XV and XVIII was greater than that in the past periods and that more than 40 countries have attended meetings of these Study Groups. In all, 113 countries have been represented at meetings of at least one Study Group (there was greater participation than in the past by the countries concerned in regional Plan meetings, while 76 countries were represented at the meetings of the World Plan Committee).

TABLE 1

Number of meetings and their duration

(See also Graph 1 which illustrates this Table)

Study Group or Working Party	Number of meetings	Number of working days of meeting				
		with interpretation		without interpretation		Total
		In Geneva	Outside Geneva	In Geneva	Outside Geneva	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I	8	40	6	-	10	56
II	14	44	-	3	38	85
III	12	66	27	-	4	97
IV	9	42	-	29	18	89
V	9	15	-	20	10	45
VI	7	15	-	-	16	31
VII	5	40	-	9	-	49
VIII	5	20	8	16	-	44
IX	4	24	-	4	-	28
X	7	26	-	10	25	61
XI	8	45	-	33	20	98
XII	9	39	-	-	16	55
XV	7	42	-	17	-	59
XVII	5	12	-	8	6	26
XVIII	13	22	15	31	39	107
World Plan	3	3	12	-	-	15
Plan AF	2	-	9	-	-	9
Plan AL	2	-	8	-	-	8
Plan AS	2	3	6	-	-	9
Plan EU	2	-	8	-	-	8
GAS 3	4	12	-	3	-	15
GAS 7	4	12	-	-	5	17
GAS 9	9	-	13	14	20	47
GAS 10	3	10	-	2	-	12
GAS 11	5	17	-	-	4	21
TAF	1	-	2	-	-	2
TAL	-	-	-	-	-	-
TAS	2	-	2	-	5	7
TEUREM	3	14	-	-	-	14
COM S	3	17	-	-	-	17
PC/WATTC	4	20	-	-	-	20
Meeting of Chairmen	3	8	-	2	-	10
Total	174	608	116	201	36	1.161

2.5.3 *Table 2 - Registered members of Study Groups*

Table 2 shows the number of registered members of Study Groups, i.e., the list of those who registered for the receipt of reports, contributions and collective letters relating to the Study Group meetings.

The meaning of the columns is as follows:

A: Administrations of Member countries;

B: Recognized private operating agencies authorized to participate in the work of the CCITT (number 88 of the Convention);

C: Industrial or scientific organizations admitted to participate, in an advisory capacity, in the work of the CCITT (number 400 of the Convention);

D: International and regional telecommunication organizations admitted to participate, in an advisory capacity, in the work of the CCITT (number 398 of the Convention).

TABLE 2

Number of registered members of Study Groups

Study Group	A	B	C	D	Total
I	106 (112)	49 (51)	103	21	279 (287)
II	108 (114)	45 (47)	100	18	271 (279)
III	106 (111)	50 (52)	72	20	247 (254)
IV	104 (110)	50 (52)	87	15	256 (264)
V	100 (105)	43 (44)	97	12	251 (257)
VI	101 (106)	39 (40)	80	9	228 (234)
VII	103 (109)	51 (53)	131	26	311 (319)
VIII	102 (108)	51 (53)	124	18	295 (303)
IX	105 (111)	43 (45)	89	14	251 (259)
X	102 (108)	46 (48)	94	12	254 (262)
XI	107 (113)	51 (53)	116	14	288 (296)
XII	106 (112)	46 (48)	94	10	256 (264)
XV	106 (112)	47 (49)	115	17	285 (293)
XVII	104 (110)	50 (52)	124	21	299 (307)
XVIII	103 (109)	52 (54)	135	23	313 (321)
World Plan	161 (168)	50 (52)	53	17	282 (291)
Plan AF	61 (65)	19 (20)	22	10	113 (118)
Plan AL	41 (46)	28 (29)	22	10	101 (107)
Plan AS	55 (61)	30 (32)	25	8	119 (127)
Plan EU	48 (52)	25 (26)	41	9	124 (129)
TAF	56 (58)	- -	-	8	64 (66)
TAL	36 (39)	- -	-	8	44 (47)
TAS	50 (55)	14 (16)	1	6	71 (78)
TEUREM	41 -	- -	2	5	49 -
GAS 3	102 (108)	44 (46)	76	12	234 (242)
GAS 7	100 (106)	39 (41)	70	9	218 (226)
GAS 9	102 (108)	44 (46)	79	13	238 (246)
GAS 10	106 (111)	42 (44)	59	11	218 (225)
GAS 11	99 (105)	44 (46)	70	11	225 (233)
COM S	93 (99)	44 (46)	51	15	203 (211)
PC/WATTC	159 (166)	45 (47)	45	15	264 (273)

Note - The figures in brackets indicate the total number of addresses (per Study Group) to which CCITT contributions and reports are dispatched.

Attention is drawn to the considerable participation by industrial organizations; they are displaying a growing interest in the work of the CCITT and particularly of Study Groups VII, VIII, XI, XV, XVII and XVIII.

Under the provisions of Article 68 of the International Telecommunication Convention (Nairobi, 1982), further admissions were authorized by the Administrations of the Member countries in study period 1985-1988.

At 31 July 1988 [1], the following participated in the work of the CCITT:

65 recognized private operating agencies;

164 scientific or industrial organizations;

36 international organizations concerned with telecommunications (not including the specialized agencies of the United Nations).

Graph 2 shows the growth in the number of private recognized operating agencies and scientific or industrial organizations participating in the work of the CCITT since 1956.

2.5.4 *Tables 3 and 4 - Contributions, Recommendations and Questions*

Table 3 provide statistical data on the number of contributions (normal, late, delayed) to the work of the Study Groups.

Graph 3 shows the growth in the number of reports and contributions since 1956.

Contributions received

The number of contributions (excluding delayed contributions) received and published increases constantly, reaching 10,341 (including reports) and therefore exceeding by 20% the number of contributions in the previous period (i.e., 8,589).

As has been stated in the past, this may be the best criterion of the ever-increasing interest displayed by Administrations and other participating organizations in the work of the CCITT and the extent to which they cooperate in this activity. However, the workload involved in the processing of documents and cost of postage are raising serious problems at ITU headquarters and it is in the interest of the efficient functioning of the CCITT that this matter should be given thorough consideration.

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1) These figures were: 50, 136 and 31 in 1980 (VIIth Plenary Assembly), and 57, 146 and 36 in 1984 (VIIIth Plenary Assembly).

TABLE 3

Contributions and Reports published

Study Group	Number of contributions received and their mode of publication				Number of Reports
	Normal	Late	Delayed	Total	
I	143	61	484	688	30
II	75	66	208	349	41
III	108	70	170	348	38
IV	106	50	208	364	32
V	83	24	63	170	12
VI	63	25	79	167	12
VII	79	208	656	943	73
VIII	75	126	401	602	28
IX	61	25	132	218	9
X	22	21	308	351	39
XI	42	42	1.660	1.744	185
XII	184	54	220	458	31
XV	57	158	362	577	49
XVII	24	21	212	257	12
XVIII	68	78	1.694	1.840	131
World Plan	75	11	55	141	3
Plan AF	21	-	7	28	3
Plan AL	17	-	4	21	3
Plan AS	27	-	17	44	3
Plan EU	30	2	8	40	3
TAF	-	-	-	-	1
TAL	-	-	-	-	-
TAS	2	-	-	2	2
TEUREM	2	-	14	16	3
GAS 3	3	-	-	3	3
GAS 7	1	-	-	1	6
GAS 9	1	-	8	9	10
GAS 10	3	1	32	36	5
GAS 11	-	-	17	17	4
COM S	21	5	23	49	3
PC/WATTC	13	2	65	80	4
TOTAL	1.406	1.050	7.107	9.563	778

Number of Laboratory Reports: 50
Number of Collectives Letters: 218
Number of Circular Letters: 74

Recommendations and Questions

Table 4 shows the number of Questions assigned to each Study Group together with the number of new and substantially amended Recommendations submitted to the Plenary Assembly for approval.

TABLE 4

Questions and Recommendations

Study Group	Number of Questions		Number of Recommendations		
	Studied 1985-1988	For study 1989-1992	Series	New	Substantially modified
(1)	(2)	(3)	(4)	(5)	(6)
I	19	24 [a]	F	38	30
II	35	28 [a]	E	37	37
III	29	31	D	25	40
IV	23	21	M, N, O	23	64
V	15	16	K	6	2
VI	19	13	L	3	3
VII	42	35	X	46	43
VIII	30	27	T	36	13
IX	23	20	R, S, U	11	14
X	9	11	Z	6	16
XI	21	26	Q	45	53
XII	39	30	P, G	9	10
XV	32	31	G, H, J	20	34
XVII	17	15	V	6	6
XVIII	33	22	G, I	57	23
TOTAL	386	350 [b]	--	368	388

a) If the proposals of Special Study Group S are approved by the IXth Plenary Assembly, ten Questions assigned to Study Group II will be transferred to Study Group I.

b) Number of Questions proposed at the final Study Group meetings.

Note - The Plan Committees do not issue Recommendations and the GAS prepare Handbooks; they are assigned subjects for study, not Questions.

The full significance of the figures given in columns 5 and 6 of Table 4 on Recommendations will be appreciated only if they are compared with those of the previous study periods:

	1969-1972	1973-1976	1977-1980	1981-1984	1985-1988
New Recommendations	67	127	204	266	368
Recommendations substantially amended	199	225	187	373	388

These figures show that the Study Groups made maximum use of the results of the contributions submitted to them and of the meetings which were organized and that they were able to reach agreement on many points. See also Graph 4 which shows the number of new Recommendations, substantially amended Recommendations and the number of pages in the CCITT Books since 1968. These latter data show that Recommendations have become increasingly voluminous.

2.5.5 *Overall view of CCITT activities*

Work statistics (excluding meetings of the Plenary Assembly) (see also Graphs 1 and 3)

	1st period (1956-1960)	2nd period (1961-1964)	3rd period (1965-1968)	4th period (1969-1972)
Meeting days	628	808	1107	810
Contributions published	1000	1500	2015	2625
Circulars issued	120	140	160	200

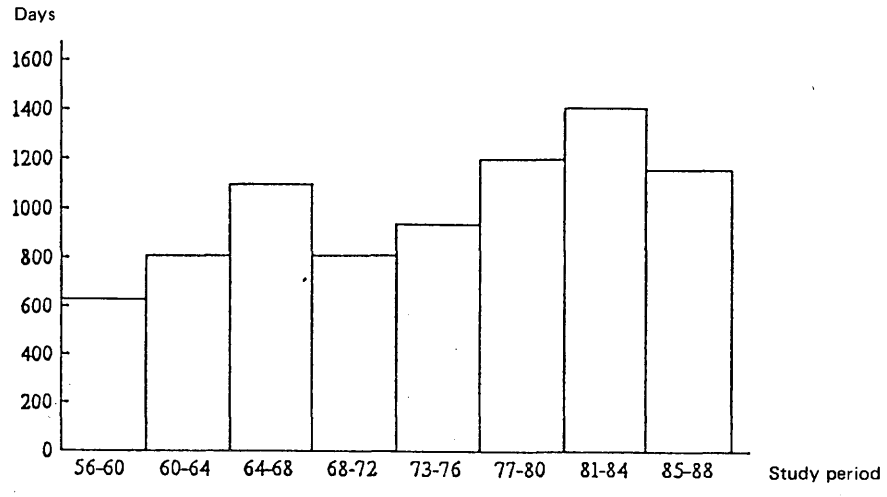
	5th period (1973-1976)	6th period (1977-1980)	7th period (1981-1984)	8th period (1985-1988)
Meeting days	943	1206	1411	1161
Contributions published	4335	6054	8127 (and 462 reports)	9563 (and 778 reports)
Circulars issued	211	186	71	74

Participation (see also Graph 2)

	1st period (1956-1960)	2nd period (1961-1964)	3rd period (1965-1968)	4th period (1969-1972)
Registered members Study Groups	2615	4496	8000 env.	9946
Private operating agencies taking part	20	25	39	43
Industrial organizations taking part	22	61	83	97

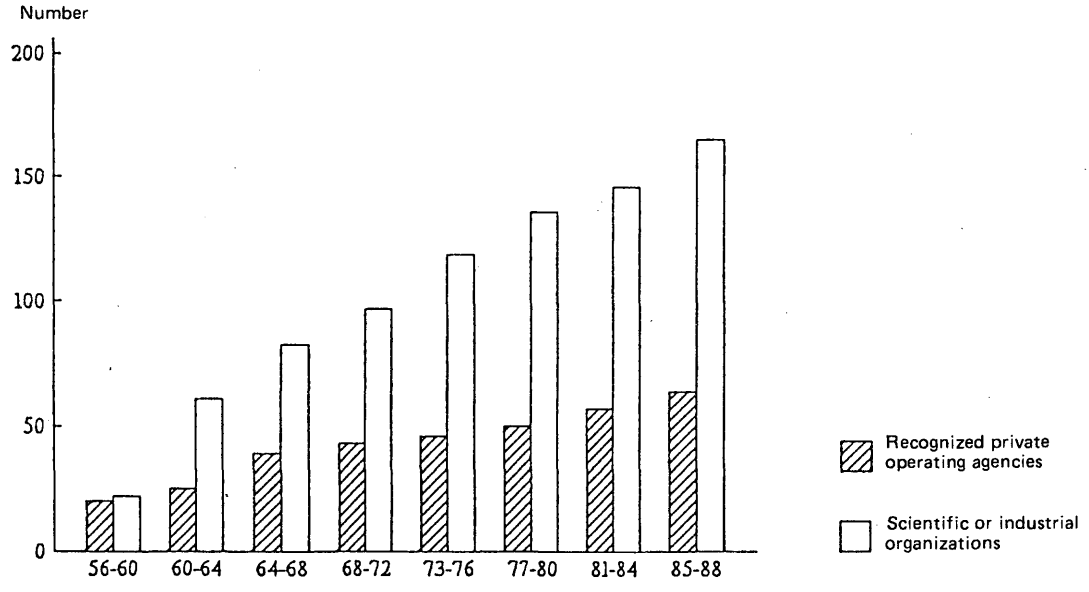
	5th period (1973-1976)	6th period (1977-1980)	7th period (1981-1984)	8th period (1985-1988)
Registered members of Study Groups	9833	7969	410 [1]	455 [1]
Private operating agencies taking part	46	50	57	65
Industrial organizations taking part	119	136	146	164

[1] For economy reasons, documents were dispatched in bulk.



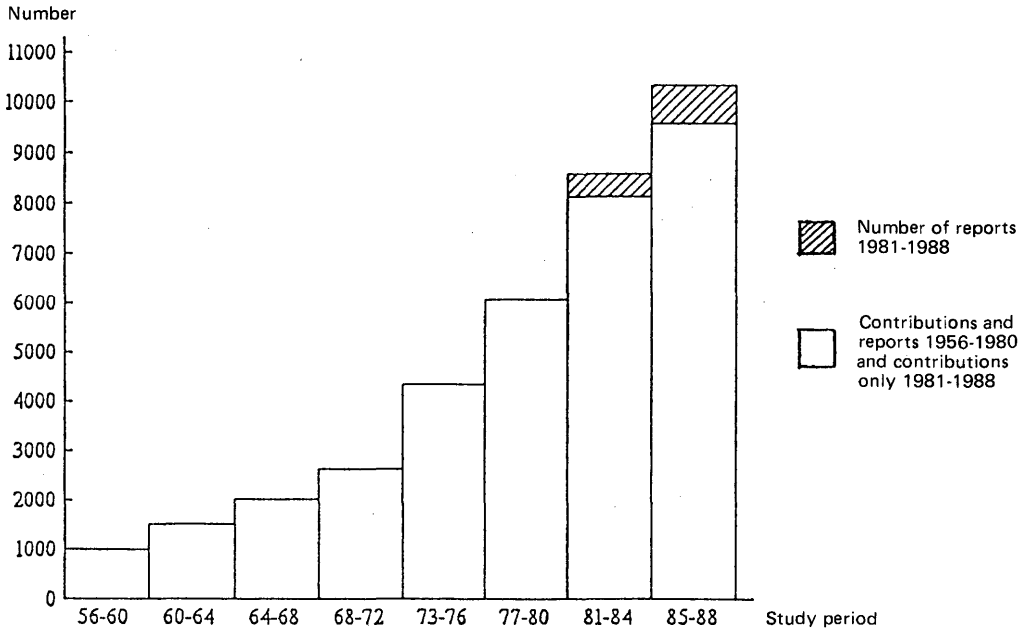
GRAPH 1

Number of CCITT meeting days



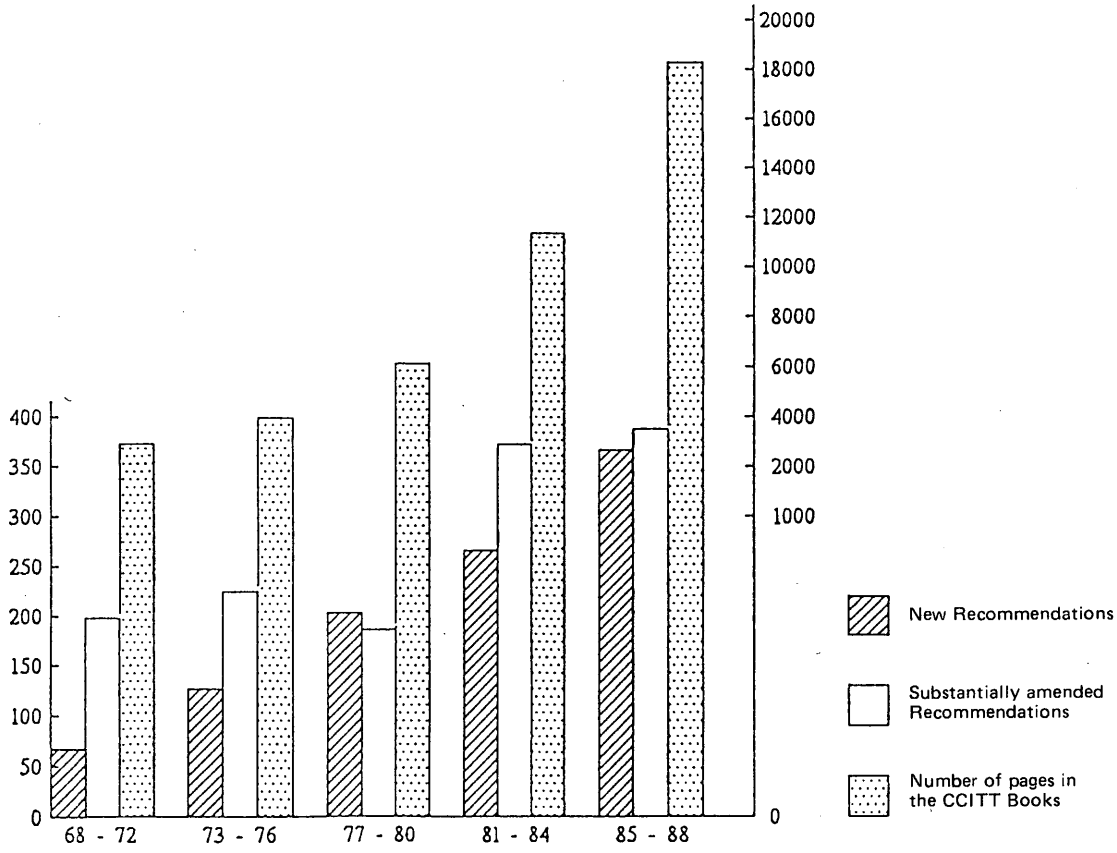
GRAPH 2

Number of recognized private operating agencies and scientific or industrial organizations participating in the work of the CCITT 1956-1988



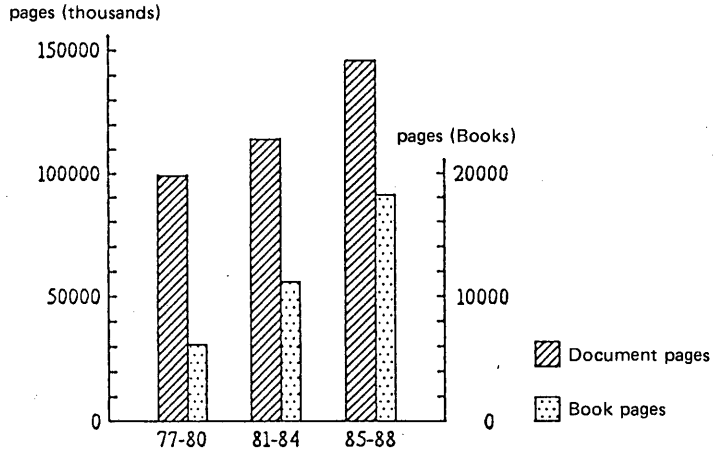
GRAPH 3

Number of reports and contributions 1956-1988



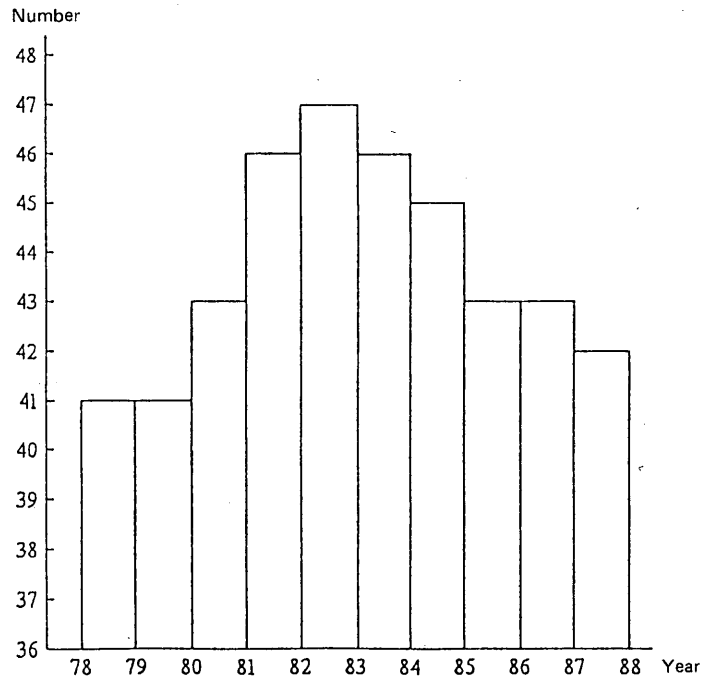
GRAPH 4

New Recommendations, substantially amended Recommendations, and number of pages in the CCITT Books by study period



GRAPH 5

Number of document pages distributed and number of pages in the CCITT Books for the last three periods



GRAPH 6

Number of officials in the CCITT Specialized Secretariat 1978-1988

APPENDIX 3

List of the meetings of CCITT Study Groups and Working Parties held during the 1985-1988 study period

I - *Study Groups*

Study Group I - Definition, operation and quality of service aspects of telegraph, data transmission and telematic services (facsimile, teletex, videotex, etc.)

9-17 May 1985	Plenary meeting
8-11 October 1985	Working Party I/3 (Teletex, ISDN and teleconference)
21-29 November 1985	Working Parties I/1 (Telex, telegram and mobile services), I/2 (Message handling system services and Directory services), I/4 (Facsimile, data and Videotex) and meeting of the Group of Special Rapporteurs for Questions 1/I and 3/I
11-18 April 1986	Working Parties I/2 (Message handling system services and Directory services), I/3 (Teletex, ISDN and teleconference) and I/4 (Facsimile, data and videotex)

18-28 November 1986	Plenary meeting
7-14 April 1987	Working Party I/3 (Teletex, ISDN and teleconference) and Rapporteur's Group for Question 19/I
5-16 October 1987	Working Parties I/1 (Telex, telegram and mobile services), I/2 (Message handling system services (MHSS) and Directory services), I/3 (Teletex, ISDN and teleconference) and I/4 (Facsimile, data and Videotex)
10-18 May 1988	Final meeting

Study Group II - Operation of telephone network and ISDN

7-15 March 1985	Plenary meeting
14-17 May 1985	Quality of service development group (QSDG)
20-23 May 1985	Network management development group (NMDG)
26-27 June 1985	Group of experts for Question 31/II
16-20 September 1985	Working Party II/2 (Human factors)
7-11 October 1985	Working Parties II/4 (Traffic engineering, forecasting, network planning), II/5 (Quality of service, network management, mobile service) and II/6 (Availability, reliability)
10-11 October 1985	Coordination Group for Questions 16/II and 17/II (Working Parties II/5 and II/3) and Coordination Group for Questions 17/II and 19/II (Working Parties II/3 and II/4)
10-17 October 1985	Working Party II/3 (Numbering, routing and interworking)
14-18 October 1985	Working Party II/1 (Operation and services)
8-19 September 1986	Plenary meeting
2-4 March 1987	Joint meeting of Study Groups II, VII and XVIII on Questions 13/XVIII, 17/XVIII, 31/II, 35/II and 29/VII
2-5 March 1987	Network management development group (NMDG)
18-29 May 1987	Working Parties II/1 (Operation and services), II/3 (Numbering, routing and interworking), II/4 (Traffic engineering, forecasting, network planning), II/5 (Quality of service, network management, mobile service) and II/6 (Availability, reliability)
8-12 June 1987	Working Party II/2 (Human factors)
5-8 October 1987	Coordination meeting of Working Party II/3 (Numbering, routing and interworking)
26-30 October 1987	Coordination meeting of the Rapporteurs of Working Party II/6 (Availability, reliability)
2-6 November 1987	Working Party II/2 (Human factors)
15-23 February 1988	Final meeting

Study Group III - General tariff principles including accounting

19-22 February 1985	Meeting to organize the work of the Study Group
7-10 May 1985	Plenary meeting
11-13 November 1985	Working Party III/6 (Tariffs and accounting for the services offered on the ISDN)

14-19 November 1985	Working Party III/2 (Tariff and accounting principles to be applied in public international data networks)
20-22 November 1985	Working Party III/5 (Revision of the provisions of the Regulations relating to charging and accounting and the settlement of accounts. Tariffs for the value added services)
25-26 November 1985	Working Party III/1 (Private leased international telecommunications circuits)
20-22 January 1986	Working Party III/3 (Tariffs and accounting in the international telegram and telematic services)
23-28 January 1986	Working Party III/5 (Revision of the provisions of the Regulations relating to charging and accounting and the settlement of accounts. Tariffs for the value added services)
29-31 January 1986	Working Party III/4 (Tariffs and accounting in the international telephone service and the sound and television transmission services)
3-6 February 1986	Working Party III/8 (Tariffs and accounting for the maritime, land and aeronautical mobile services)
17-20 June 1986	Working Party III/5 (Revision of the provisions of the Regulations relating to charging and accounting and the settlement of accounts. Tariffs for the value added services)
23-26 June 1986	Working Party III/6 (Tariffs and accounting for the services offered on the ISDN)
1-3 October 1986	Working Party III/7 (Determination of costs and establishment of tariffs)
6-15 October 1986	Plenary meeting
16-17 October 1986	Working Party III/2 (Tariff and accounting principles to be applied in public international data networks)
19-21 January 1987	Working Party III/8 (Tariffs and accounting for the maritime, land and aeronautical mobile services) and Special Rapporteur's Group for the land mobile service
31 March 1987	Special Rapporteur's Group for Question 23/III
1-3 April 1987	Working Party III/6 (Tariffs and accounting for the services offered on the ISDN)
6-7 April 1987	Working Party III/5 (Revision of the provisions of the Regulations relating to charging and accounting and the settlement of accounts. Tariffs for the value added services)
8-10 April 1987	Working Party III/4 (Tariffs and accounting in the international telephone service and the sound and television transmission services)
13-16 April 1987	Working Party III/3 (Tariffs and accounting in the international telegram and telematic services)
10-12 June 1987	Working Party III/7 (Determination of costs and establishment of tariffs)
13-15 October 1987	Working Party III/6 (Tariffs and accounting for the services offered on the ISDN)
16-20 October 1987	Working Party III/2 (Tariff and accounting principles to be applied in public international data networks)

19-21 October 1987	Working Party III/8 (Tariffs and accounting for the maritime, land and aeronautical mobile services)
21-23 October 1987	Working Party III/5 (Revision of the provisions of the Regulations relating to charging and accounting and the settlement of accounts. Tariffs for the value added services)
2-5 February 1988	Working Party III/3 (Tariffs and accounting in the international telegram and telematic services)
30 May - 7 June 1988	Final meeting

Study Group IV - Transmission maintenance of international lines, circuits and chains of circuits; maintenance of automatic and semi-automatic networks

4-6 March 1985	Working Party IV/1 (Maintenance of telephone-type, leased and special circuits)
7-8 March 1985	Working Party IV/2 (Measuring equipments)
16-18 September 1985	Working Party IV/4 (Investigations and network maintenance)
19-24 September 1985	Working Party IV/5 (Maintenance of systems)
25-27 September 1985	Working Party IV/3 (Maintenance organization)
30 Sept.-2 Oct. 1985	Working Party IV/6 (Maintenance of sound programme and television transmissions)
15-18 April 1986	Working Party IV/1 (Maintenance of telephone-type, leased and special circuits)
21-23 April 1986	Working Party IV/2 (Measuring equipments)
9-12 September 1986	Experts Group on Question 23/IV
15-18 September 1986	Working Party IV/5 (Maintenance of systems)
22-25 September 1986	Working Party IV/6 (Maintenance of sound programme and television transmissions)
4-6 November 1986	Working Party IV/3 (Maintenance organization)
7 November 1986	Seminar on Maintenance, network performance and management)
10-12 November 1986	Working Party IV/4 (Investigations and network maintenance)
23-27 March 1987	Plenary meeting
31 March-3 April 1987	Working Party IV/1 (Maintenance of telephone-type, leased and special circuits)
6-9 April 1987	Working Party IV/2 (Measuring equipments)
31 Aug.-4 Sept. 1987	Special Rapporteur's Group for Question 17/IV
8-11 September 1987	Working Party IV/4 (Investigations and network maintenance)
14-18 September 1987	Working Party IV/3 (Maintenance organization)
21-24 September 1987	Working Party IV/6 (Maintenance of sound programme and television transmissions)
5-9 October 1987	Working Party IV/5 (Maintenance of systems)
7 March 1988	Working Party IV/1 (Maintenance of telephone-type, leased and special circuits)
8 March 1988	Working Party IV/2 (Measuring equipments)
9 March 1988	Working Party IV/3 (Maintenance organization)
10 March 1988	Working Party IV/5 (Maintenance of systems)

11 March 1988	Working Parties IV/4 (Investigations and network maintenance) and IV/6 (Maintenance of sound programme and television transmissions)
14-18 March 1988	Final meeting

Study Group V - Protection against dangers and disturbances of electromagnetic origin

4-8 February 1985	Editing Group for the Directives
20-24 May 1985	Plenary meeting
2-6 December 1985	Editing Group for the Directives
18-22 August 1986	Editing Group for the Directives
1-5 December 1986	Editing Group for the Directives
16-20 March 1987	Plenary meeting
22-26 June 1987	Editing Group for the Directives
30 Nov.-4 Dec. 1987	Editing Group for the Directives
2-6 May 1988	Final meeting

Study Group VI - Outside plant

27-31 May 1985	Plenary meeting
8-10 October 1985	Working Party on Question 11/VI
21-23 May 1986	Working Group for Question 6/VI (Protection of cables against fire)
15-17 October 1986	Working Party on Questions 15, 16, 17 and 18/VI (Construction, installation, jointing and protection of optical fibre cables)
20-23 October 1986	Working Party on Question 11/VI (Amendments and additions to the "Recommendations concerning the construction, installation and protection of telecommunications cables in public networks")
9-13 March 1987	Plenary meeting
14-16 October 1987	Working Party on Question 11/VI (Amendments and additions to the "Recommendations concerning the construction, installation and protection of telecommunications cables in public networks")
9-13 May 1988	Final meeting

Study Group VII - Data communication networks

22 April-3 May 1985	Plenary meeting
10-20 February 1986	Meeting of the Working Parties
21 February 1986	Plenary meeting
29 Sept.-10 Oct. 1986	Plenary meeting
2-4 March 1987	Joint meeting of Study Groups II, VII and XVIII on Questions 13/XVIII, 17/XVIII, 31/II, 35/II and 29/VII
8-19 June 1987	Plenary meeting
21-31 March 1988	Final meeting

Study Group VIII - Terminal equipment for telematic services (facsimile, teletex, videotex, etc.)

5-14 June 1985	Plenary meeting
11-20 March 1986	Working Parties VIII/1 (Terminal characteristics) and VIII/2 (Common protocols, interworking)
1-12 December 1986	Plenary meeting
23 June-2 July 1987	Working Parties VIII/1 (Terminal characteristics) and VIII/2 (Common protocols, interworking)
8-19 February 1988	Final meeting

Study Group IX - Telegraph networks and terminal equipment

6-10 May 1985	Plenary meeting
5-8 May 1986	Working Parties IX/1 (Terminals and customer facilities) and IX/4 (Transmission standards)
9-14 May 1986	Working Parties IX/2 (Signalling and interworking) and IX/3 (TDM multiplex systems)
15-16 May 1986	Plenary meeting
1-3 June 1987	Working Parties IX/1 (Terminals and customer facilities) and IX/4 (Transmission standards)
3-5 June 1987	Working Parties IX/2 (Signalling and interworking) and IX/3 (TDM multiplex systems)
8-9 June 1987	Plenary meeting
8-12 February 1988	Final meeting

Study Group X - Languages and methods for telecommunications applications

29 April-8 May 1985	Plenary meeting
27-31 January 1986	Working Party X/2 (Environment, software quality assurance and software reliability)
27 Jan.-4 Feb. 1986	Working Party X/1 (Man-machine language - MML)
27 Jan.-7 Feb. 1986	Working Party X/3 (Specification and description language, formal description techniques)
21-25 April 1986	Working Party X/3 (Specification and description language, formal description techniques)
23-27 June 1986	Working Party X/4 (CCITT high level language - CHILL)
24 June-1 July 1986	Working Party X/1 (Man-machine language - MML)
24 June-4 July 1986	Working Parties X/2 (Environment, software quality assurance and software reliability) and X/3 (Specification and description language, formal description techniques)
12-23 January 1987	Plenary meeting and Working Parties meeting
12-20 October 1987	Working Party X/4 (CCITT high level language - CHILL)

12-21 October 1987	Working Party X/1 (Man-machine language - MML)
12-23 October 1987	Working Party X/2 (Environment, software quality assurance and software reliability)
14-22 October 1987	Working Party X/3 (Specification and description language, formal description techniques)
21-30 March 1988	Final meeting

Study Group XI - ISDN and telephone network switching and signalling

18-29 March 1985	Plenary meeting
2-11 July 1985	Meeting of Special Rapporteurs for Questions 7/XI and 8/XI and joint group of experts of Working Parties XI/2 and XI/6
21-25 October 1985	Working Parties XI/1 (Interworking, satellite, mobile service, updating of Q. Recommendations) and XI/5 (Signalling and switching functions)
24 Oct.-6 Nov. 1985	Working Party XI/2 (Signalling System No. 7)
28-30 October 1985	Joint meeting of Working Parties XI/2 (Signalling System No. 7) and XI/6 (Digital subscriber line signalling)
28 Oct.-8 Nov. 1985	Working Party XI/6 (Digital subscriber line signalling)
31 Oct.-1 Nov. 1985	Working Party XI/3 (Field trial of digital switching equipment)
4-8 November 1985	Working Party XI/4 (Digital switching)
30 April-7 May 1986	Working Party XI/5 (Signalling and switching functions)
5-9 May 1986	Working Party XI/1 (Interworking, satellite, mobile service, updating of Q. Recommendations)
7-9 May 1986	Working Party XI/3 (Field trial of digital switching equipment)
8, 9 and 19 May 1986	Joint Experts Group of Working Parties XI/2 and XI/6
8-23 May 1986	Working Party XI/6 (Digital subscriber line signalling)
12-16 May 1986	Working Party XI/4 (Digital switching)
12-23 May 1986	Working Party XI/2 (Signalling System No. 7)
3-14 November 1986	Plenary meeting
17-21 November 1986	Joint Experts Group of Working Parties XI/2 and XI/6
23-27 March 1987	Working Party XI/1 (Interworking, satellite, mobile service, updating of Q. Recommendations)
23-31 March 1987	Working Party XI/5 (Signalling and switching functions)
23 March-10 April 1987	Working Party XI/6 (Digital subscriber line signalling)
25-27 March 1987	Joint Group of experts on Interworking
30 March-9 April 1987	Working Party XI/2 (Signalling System No. 7)
1-9 April 1987	Working Party XI/4 (Digital switching)
6 April 1987	Ad hoc Group on Operation, Administration and Maintenance

17-21 August 1987	Working Party XI/1 (Interworking, satellite, mobile service, updating of Q. Recommendations)
17-25 August 1987	Working Party XI/5 (Signalling and switching functions)
19-21 August 1987	Joint Group of experts on Interworking
24 Aug.-3 Sept. 1987	Working Party XI/6 (Digital subscriber line signalling)
24 Aug.-4 Sept. 1987	Working Party XI/2 (Signalling System No. 7)
26 August 1987	Joint ad hoc group on Operation, Administration and Maintenance
26 Aug.-2 Sept. 1987	Working Party XI/4 (Digital switching)
16-27 May 1988	Final meeting

Study Group XII - Transmission performance of telephone networks and terminals

30-31 January 1985	Meeting to organize the work of the Study Group
20-21 February 1985	Working Party XII/1 (CCITT Laboratory and Electroacoustics)
3-5 June 1985	Working Parties XII/1 (CCITT Laboratory and Electroacoustics) and XII/3 (Transmission quality and opinion models)
6-10 June 1985	Working Parties XII/2 (Telephone terminals) and XII/4 (Transmission objectives and planning)
11-13 June 1985	Plenary meeting
10-12 March 1986	Working Party XII/1 (CCITT Laboratory and Electroacoustics)
13-14 March 1986	Working Party XII/2 (Telephone terminals)
1-3 September 1986	Working Parties XII/1 (CCITT Laboratory and Electroacoustics) and XII/3 (Transmission quality and opinion models)
4-8 September 1986	Working Parties XII/4 (Transmission objectives and planning) and XII/2 (Telephone terminals)
9-11 September 1986	Plenary meeting
23-27 April 1987	Working Party XII/1 (CCITT Laboratory and Electroacoustics)
28-30 April 1987	Working Party XII/2 (Telephone terminals)
4-6 May 1987	Working Party XII/3 (Transmission quality and opinion models)
7-11 May 1987	Working Party XII/4 (Transmission objectives and planning)
12-15 October 1987	Rappporteurs' experts meeting of Working Parties XII/1 CCITT Laboratory and Electroacoustics) and XII/2 (Telephone terminals)
16 October 1987	Meeting of the Experts Group on speech quality
21-26 January 1988	Working Parties XII/1 (CCITT Laboratory and Electroacoustics) and XII/3 (Transmission quality and opinion models)
27-29 January 1988	Working Parties XII/2 (Telephone terminals) and XII/4 (Transmission objectives and planning)
1-4 February 1988	Final meeting

Study Group XV - Transmission systems

30 Jan.-1 Feb. 1985	Working Party on Optical fibres
1-12 July 1985	Plenary meeting
24-27 February 1986	Working Party XV/1 (Sound programme, video and multiservices transmission)
24-28 February 1986	Working Party XV/2 (Voice processing and operation functions)
3-7 March 1986	Working Parties XV/3 (Digital equipments) and XV/5 (Optical cables and systems)
6-7 March 1986	Working Parties XV/4 (Optical fibre system planning guide) and XV/6 (Metallic cables and systems)
20-31 October 1986	Plenary meeting
13-16 April 1987	Working Parties XV/1 (Sound programme, video and multiservices transmission), XV/2 (Voice processing and operating functions), XV/4 (Optical fibre system planning guide) and XV/5 (Optical cables and systems)
12-27 November 1987	Working Parties XV/1 (Sound programme, video and multiservices transmission), XV/2 (Voice processing and operation functions), XV/3 (Digital equipments), XV/4 (Optical fibre system planning guide), XV/5 (Optical cables and systems) and XV/6 (Metallic cables and systems)
11-22 April 1988	Final meeting

Study Group XVII - Data transmission over the telephone network

15-19 April 1985	Plenary meeting
21-25 April 1986	Working Parties XVII/1 (Modems), XVII/2 (ISDN), and XVII/3 (Maintenance and interfaces)
6-13 May 1987	Working Parties XVII/1 (Modems), XVII/2 (ISDN) and XVII/3 (Maintenance and interfaces)
28 Sept.-2 Oct. 1987	Plenary meeting and Working Parties meeting
25-29 April 1988	Final meeting

Study Group XVIII - Digital networks including ISDN

21-25 January 1985	Group of experts on ISDN matters
16-19 April 1985	Rapporteurs meeting on wideband speech coding
17-27 June 1985	Plenary meeting
2-13 December 1985	Group of experts on ISDN matters
24-27 March 1986	Working Party XVIII/8 (Speech processing)
1-4 April 1986	Rapporteurs' meeting of Working Party XVIII/3 (User-network interfaces, layer 1)
30 June-9 July 1986	Working Party XVIII/4 (Architecture and models)
30 June-11 July 1986	Working Parties XVIII/1 (Service aspects) and XVIII/5 (Maintenance and general aspects)
30 June-14 July 1986	Working Party XVIII/2 (Network aspects)

1-8 July 1986	Working Party XVIII/7 (Transmission aspects)
7-15 July 1986	Working Party XVIII/6 (Performance aspects)
8-15 July 1986	Working Parties XVIII/3 (User-network interfaces, layer 1) and XVIII/8 (Speech processing)
16-18 July 1986	Plenary meeting
2-13 February 1987	Group of experts on ISDN matters of Study Group XVIII, Working Party XVIII/7 (Transmission aspects) and task group on broadband aspects of ISDN (BBTG)
25 Feb.-6 March 1987	Working Party XVIII/6 (Performance aspects)
2-4 March 1987	Joint meeting of Study Groups II, VII and XVIII on Questions 13/XVIII, 17/XVIII, 31/II, 35/II and 29/VII
29 June-14 July 1987	Working Parties XVIII/1 (Service aspects), XVIII/2 (Network aspects), XVIII/3 (User-network interfaces, layer 1), XVIII/4 (Architecture and models), XVIII/5 (Maintenance and general aspects), XVIII/6 (Performance aspects), XVIII/7 (Transmission aspects), XVIII/8 (Speech processing) and BBTG (Task Group on broadband aspects of ISDN)
15-17 July 1987	Plenary meeting
9-11 November 1987	BBTG (Task Group on broadband aspects of ISDN)
25 Jan.-2 Feb. 1988	Working Party XVIII/3 (User-network interfaces, layer 1)
25 Jan.-3 Feb. 1988	Working Parties XVIII/2 (Network aspects) and XVIII/5 (Maintenance and general aspects)
25 Jan.-4 Feb. 1988	Working Party XVIII/1 (Service aspects)
25 Jan.-5 Feb. 1988	Task Group on broadband aspects of ISDN (BBTG)
26 Jan.-3 Feb. 1988	Working Party XVIII/4 (Architecture and models)
27 Jan.-2 Feb. 1988	Working Party XVIII/7 (Transmission aspects)
1-5 February 1988	Working Party XVIII/6 (Performance aspects)
25 Jan. and 5 Feb. 1988	Plenary meeting
6-17 June 1988	Final meeting

II - *Plan Committees*

World plan - General plan for the development of the international telecommunication network

10-17 April 1985	Plenary meeting
4-6 February 1987	Working Party meeting
3-10 February 1988	Plenary meeting

Plan for Africa - General Plan for the development of the Regional Telecommunication Network in Africa

11-13 March 1986	Meeting of the Coordination Committee
18-25 March 1987	Plenary meeting

Plan for Latin America - General Plan for the development of the Regional Telecommunication Network in Latin America

2-6 December 1985	Plenary meeting
10-12 August 1988	Meeting of the Coordination Committee

Plan for Asia and Oceania - General Plan for the development of the Regional Telecommunication Network in Asia and Oceania

30 Sept.-2 Oct. 1985	Meeting of the Coordination Committee
22-29 October 1986	Plenary meeting

Plan for Europe - General Plan for the development of the Regional Telecommunication Network in Europe and the Mediterranean Basin

9-11 July 1986	Meeting of the Coordination Committee
23-29 September 1987	Plenary meeting

III - *Special Autonomous Groups*

GAS 3 - Economic and technical aspects of the choice of transmission systems

3-6 September 1985	Plenary meeting
23-26 September 1986	Plenary meeting
8-10 April 1987	Authors coordination meeting
31 Aug.-3 Sept. 1987	Final meeting

GAS 7 - Rural telecommunications

9-11 September 1985	Plenary meeting
26-30 May 1986	Authors coordination meeting
22-25 September 1986	Plenary meeting
24-28 August 1987	Final meeting

GAS 9 - Economic and technical aspects of transition from an analogue to a digital telecommunication network

2-4 October 1985	Plenary meeting
13-17 January 1986	Working Party A (Case Study of Senegal)
30 Jan.-4 Feb. 1986	Working Party B (Case Study of Thailand)
7-11 April 1986	Meeting of the Authors
24-26 September 1986	Working Party B (Case Study of Thailand)
29-30 September 1986	Working Party A (Case Study of Senegal)
1-2 October 1986	Working Party C (Case Studies of Iran, Lebanon and Madagascar)
1-3 October 1986	Plenary meeting
20-26 January 1987	Working Party B (Case Study of Thailand)

19-24 February 1987	Working Party A (Case Study of Senegal)
14-18 September 1987	Meeting of the authors for Chapters IV, V, VII, VIII and IX and editing group of Working Party A (Case Study of Senegal)
2-4 December 1987	Working Parties A (Case Study of Senegal) and B (Case Study of Thailand)
7-11 December 1987	Final meeting

GAS 10 - Planning data and forecasting methods

1-4 October 1985	Plenary meeting
22-25 September 1986	Plenary meeting
1-4 June 1987	Final meeting

GAS 11 - Strategy for public data networks

6-8 May 1985	Plenary meeting
28 April-2 May 1986	Plenary meeting
3-6 November 1986	Plenary meeting
26-29 January 1987	Plenary meeting
7-11 September 1987	Final meeting

IV - *Regional Tariff Groups of Study Group III*

GR TAF - Tariffs (Africa)

26-27 March 1987	Meeting

GR TAS - Tariffs (Asia and Oceania)

30-31 October 1986	Meeting
29 Feb. - 4 March 1988	Meeting

GR TEUREM - Tariffs (Europe and the Mediterranean Basin)

10-13 September 1985	Meeting
22-26 September 1986	Meeting
14-18 September 1987	Meeting

V - *Special Study Group "S" and Preparatory Committee WATTC-88*

Special Study Group "S" - CCITT Study Group Structure

25-26 February 1985	Plenary meeting
27 May-4 June 1986	Plenary meeting
7-16 December 1987	Plenary meeting and Working Parties meeting

Preparatory Committee WATTC-88 - Preparatory Committee for the World Administrative Telegraph and Telephone Conference, 1988

27 Feb.-5 March 1985	Plenary meeting
3-7 March 1986	Plenary meeting
15-19 December 1986	Plenary meeting
27 April-1 May 1987	Plenary meeting

VI - *Meetings of Chairmen*

28-29 January 1985	Meeting of CCITT Study Group Chairmen
1-3 September 1987	Meeting of CCITT Study Group Chairmen
18-22 July 1988	Meeting of CCITT Study Group Chairmen

APPENDIX 4

Participation of Member countries in CCITT meetings

COUNTRY (Administration or recognized private operating agency)	Study Groups and their Working Parties															Plan Committees					Regional Tariff Groups			Special Autonomous Groups					Special Study Group S	PC/WATTC	TOTAL
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XV	XVII	XVIII	AF	AL	AS	EU	W	TAF	TAS	TEU-REM	GAS 3	GAS 7	GAS 9	GAS 10	GAS 11			
Afghanistan																						X									1
Algeria	X		X												X	X			X	X						X		X			8
Germany (Fed. Rep. of)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X			X			X			X	X	21
Angola			X																												1
Saudi Arabia		X					X				X	X	X	X	X			X		X									X		10
Argentina	X		X																	X				X						X	5
Australia	X	X	X		X		X	X	X	X	X	X	X		X					X		X							X	X	16
Austria	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X			X	X	X		X								19
Bahrain			X															X		X		X									4
Bangladesh																						X									1
Barbados																	X														1
Belgium	X	X	X	X		X	X	X	X	X	X	X	X	X	X				X	X			X						X	X	19
Benin																X				X	X										3
Burma				X																		X									2
Brazil	X		X				X	X		X	X	X	X	X	X		X								X				X	X	14
Brunei Darussalam																						X									1
Bulgaria	X	X				X	X		X	X	X									X						X		X		X	11
Burkina Faso																X				X	X										3
Cameroon		X					X		X							X				X	X				X			X		X	9
Canada	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X			X				X	X	X	X	X	X	X	24
Cape Verde																X															1
Central African Rep.			X				X									X				X	X					X	X			X	8
Chile							X							X	X		X			X								X			6
China	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		X		X		X	X		X	X	X	X	24
Cyprus																			X												1
Congo																X				X	X										3

COUNTRY (Administration or recognized private operating agency)	Study Groups and their Working Parties															Plan Committees					Regional Tariff Groups			Special Autonomous Groups					Special Study Group S	PC/WATTC	TOTAL
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XV	XVII	XVIII	AF	AL	AS	EU	W	TAF	TAS	TEU-REM	GAS 3	GAS 7	GAS 9	GAS 10	GAS 11			
Costa Rica																	X														1
Côte d'Ivoire																X				X	X										3
Cuba																				X										X	2
Denmark	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X			X				X		X	X	21
Egypt																				X											1
Spain	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X			X	X	X	X		X	X	X	26
United States	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	X	X	X	X	X	28
Ethiopia																X				X											2
Finland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X			X	X		X	X				21
France	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	30
Gabon																X				X	X										3
Greece		X	X		X		X	X	X		X		X		X				X	X			X			X				X	14
Guinea		X											X			X				X											4
Guinea-Bissau																				X											1
Guyana																	X														1
Haiti																				X											1
Honduras				X																											1
Hungary	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X				X						X	X	18
India	X	X	X	X	X	X	X	X	X		X	X	X	X	X			X		X		X		X	X		X	X		X	22
Indonesia			X	X			X				X				X			X		X		X			X	X		X		X	12
Iran (Islamic Rep. of)	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X		X		X		X	X	X	X		X	X	23
Ireland	X	X	X	X	X		X	X	X		X	X	X	X	X					X											14
Israel	X	X	X												X					X			X								6
Italy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X			X	X	X	X	X	X	X	X	27
Jamaica																	X			X											2
Japan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	29
Korea (Rep. of)	X	X	X	X			X	X	X	X	X	X	X	X	X			X										X			15
Kenya			X													X				X	X									X	5
Kuwait	X			X					X		X				X			X		X		X								X	9

COUNTRY (Administration or recognized private operating agency)	Study Groups and their Working Parties															Plan Committees					Regional Tariff Groups			Special Autonomous Groups					Special Study Group S	PC/WATTC	TOTAL
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XV	XVII	XVIII	AF	AL	AS	EU	W	TAF	TAS	TEU-REM	GAS 3	GAS 7	GAS 9	GAS 10	GAS 11			
Lebanon	X									X									X	X			X		X	X		X	X	X	10
Liberia			X																	X						X					3
Libya							X												X	X											3
Madagascar																										X					1
Malaysia																		X		X		X								X	4
Malawi																				X											1
Maldives																						X									1
Mali			X										X			X				X	X										5
Malta																			X												1
Morocco																				X											1
Mauritius																				X											1
Mauritania													X			X				X											3
Mexico	X	X									X						X			X										X	6
Monaco	X																														1
Mozambique																				X											1
Nepal				X																		X									2
Niger																X															1
Norway	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X			X				X			X	20
New Zealand	X	X	X				X				X		X		X							X									8
Oman																		X		X		X							X	X	5
Pakistan													X					X		X										X	4
Panama																	X													X	2
Papua New Guinea		X																X		X		X					X				5
Netherlands	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X			X				X		X	X	23
Peru																				X											1
Philippines		X		X											X			X		X		X								X	7
Poland			X			X							X						X	X			X							X	7
Portugal	X	X	X	X					X	X	X		X		X	X			X	X	X	X	X	X		X	X			X	19
Qatar			X															X				X				X					4

COUNTRY (Administration or recognized private operating agency)	Study Groups and their Working Parties															Plan Committees					Regional Tariff Groups			Special Autonomous Groups					Special Study Group S	PC/WATTC	TOTAL
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XV	XVII	XVIII	AF	AL	AS	EU	W	TAF	TAS	TEU-REM	GAS 3	GAS 7	GAS 9	GAS 10	GAS 11			
Syria																			X				X								2
German Dem. Rep.	X	X	X		X	X	X	X		X	X		X		X				X	X		X							X	X	16
Ukraine									X																						1
Romania																							X								1
United Kingdom	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X				X	X	X	X	26
Rwanda																X					X										2
St. Vincent and the Grenadines																	X														1
Senegal							X									X				X	X					X		X	X	X	8
Singapore	X	X	X	X			X	X	X	X	X		X	X	X			X				X								X	15
Sri Lanka				X																X		X									3
Sweden	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X			X			X	X		X	X	22
Switzerland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X			X			X				X		X	X	21
Suriname	X		X														X			X											4
Tanzania																													X	X	2
Chad																X				X	X										3
Czechoslovakia	X		X	X			X	X	X	X	X		X	X					X	X			X				X			X	15
Thailand	X	X	X	X			X	X	X		X	X	X					X		X		X			X	X	X	X			17
Togo			X													X					X						X				4
Trinidad and Tobago																				X											1
Tunisia	X		X						X		X	X	X		X	X			X	X			X						X		12
Turkey		X				X					X														X						4
USSR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X									X	X	19
Uruguay	X														X		X			X											4
Viet Nam																						X									1
Yemen (P.D.R. of)																							X	X							2
Yugoslavia		X		X	X	X	X		X	X	X	X	X		X				X	X										X	14
Zaire																X															1
Zambia	X		X	X				X			X																				5
Zimbabwe																X															1
Total	43	40	48	36	25	24	40	31	35	30	41	28	40	28	40	27	20	23	29	76	16	28	24	13	16	23	20	19	26	45	

APPENDIX 5

Participation in CCITT meetings and contributions received

	Study Groups and their Working Parties															Plan Committees					Regional Tariff Groups			Special Autonomous Groups					Special Study Group S	PC/WATTC
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XV	XVII	XVIII	AF	AL	AS	EU	W	TAF	TAS	TEU-REM	GAS 3	GAS 7	GAS 9	GAS 10	GAS 11		
Administrations	41	40	48	32	21	22	40	31	32	29	39	26	40	24	39	24	14	20	26	73	13	26	22	11	13	23	15	16	26	45
Recognized private operating agencies	24	25	28	19	9	9	29	17	12	13	31	13	17	12	27	4	10	12	8	24	3	9	10	4	7	5	9	7	14	14
Scientific or industrial organizations	22	29	9	24	19	16	48	38	13	34	54	18	45	51	84	5	6	8	6	16	-	-	-	4	17	9	2	11	1	1
International organizations	10	5	11	3	2	3	9	4	1	2	4	3	3	4	8	4	3	4	5	9	-	-	1	-	2	1	-	-	4	3
Contributions received — normal	143	75	108	106	83	63	79	75	61	22	42	184	57	24	66	21	17	27	30	75	-	2	2	3	1	1	3	-	21	13
Contributions received — delayed	484	208	170	208	63	79	656	401	132	308	1660	220	362	212	1694	7	4	17	8	55	-	-	14	-	-	8	32	17	23	65
Reports	30	41	38	32	12	12	73	28	9	39	185	31	49	12	131	3	3	3	3	3	1	2	3	3	6	10	5	4	3	4

3.2 REPORT BY COMMITTEE A TO THE PLENARY ASSEMBLY

(as approved by the Plenary Assembly)

ORGANIZATION AND WORKING METHODS OF THE CCITT

1 General

In accordance with CCITT Resolution No. 1 the Plenary Assembly set up Committee A with the following terms of reference:

a) organization and evolution of Study Groups;

b) working methods of the CCITT: Resolutions Nos. 1 and 2, Opinion No. 3, Recommendation A.1 and others;

c) cooperation and coordination with international organizations.

The following documents were reviewed by Committee A in fulfilling its mandate:

Source	*Title*	*Document AP IX*
Special Study Group S	Report of Special Study Group S to the IXth Plenary Assembly of the CCITT	1
Study Group IX	Report to the IXth PA, Part I	10
Study Group IV	Final report of Study Group IV to the IXth PA	29
Study Group VII	Final report to the PA, Part I	39
Director, CCIR	Information report on CCIR/CCITT liaison	66
Director, CCITT	Report on the activity of the CCITT between the VIIIth and IXth Plenary Assemblies	68
Director, CCITT	Revision of CCITT Resolution No. 1	70
Director, CCITT	Revision of CCITT Resolution No. 8	74
Study Group I	Final report of the IXth CCITT PA, Part I	81
Study Group XVII	Report of the IXth PA, Part I	88
ISO and IEC	Statement on CCITT-ISO/IEC liaison activity	137
Hungary	Development of working methods	138
Hungary	Restructure of CCITT Study Groups	139
Study Group XVIII	Final report to the IXth PA, Part I	141
Chairmen of Study Groups I, II and III	Clarification of the mandates of Study Groups A and B proposed by Special Study Group S	151
Australia	The provisional approval procedure for Recommendations	TD 2/COM A(Rev.)
United Kingdom	Revision of Resolution No. 1	TD 3/COM A
CCITT Secretariat	Extract from the report of the final meeting of Study Group XII COM XII-R 33, Geneva, 1-4 February 1988	TD 4/COM A
United Kingdom	Revision of Recommendation A.10 Terms and definitions	TD 5/COM A
China	A suggestion on the revision of CCITT Resolution No. 1	TD 6/COM A
China	About reform the method on accelerating the establishment of Recommendations	TD 7/COM A
Japan	Review of the CCITT structure and its working methods	TD 9/COM A

Canada	Proposed future initiatives for CCITT Study Group restructuring and operation	TD 10/COM A
Canada	Proposal to provide a new procedure for the final approval of CCITT Recommendations and to require consultation and concurrence between appropriate Study Groups on Recommendations to be approved	TD 11/COM A
Australia	Revision of Resolution No. 1 (Methods of work in the CCITT)	TD 12/COM A
Republic of India	Proposed amendment to Opinion No. 1	TD 13/COM A
Federal Republic of Germany	Amendment of Resolution No. 2	TD 14/COM A

In addition to these documents the Committee also considered the temporary documents of the Plenary Assembly relevant to the work of Committee A.

At its first Plenary Meeting after the presentation of the Report of Special Study Group S and discussion, Committee A set up two Working Groups:

1) structure and evolution of Study Groups;

2) working methods.

The minutes of the Plenary Meetings of Committee A are reproduced as Annex E.

2 Organization and future evolution of CCITT Study Groups

2.1 There was a general agreement with the results of the work of Special Study Group S as contained in Document AP IX-1.

2.2 It is proposed that a Group with open participation be set up to continue the work of Special Study Group S.

The Chairmen of the CCITT Study Groups should be invited to participate.

2.3 The setting up of a Group will not preclude coordination of the CCITT Director with e.g. the Chairmen of the CCITT Study Groups, and initiation of any short-term action deemed necessary.

2.4 It was stressed the need to coordinate the CCITT work with regional organizations, broadly in the areas of work programmes and timetables.

2.5 The improvement of the cost efficiency relationship of CCITT work should not reduce the quality and the universality of the output.

2.6 *Annexes A through C* contain texts proposed for inclusion in Volume I of the CCITT Blue Book as background information. General work areas of Study Groups I, II, VII, XI, and XVIII: these annexes offer guidelines for the principles for the studies of service-related issues by interested Study Groups.

2.7 A draft new Question for the new Group on the future structure of the Study Groups and their working methods was prepared (based on TD.10/A Canada) and is included in *Annex D*.

2.8 In the discussion it was recognized that apart from the structure of the Study Groups, the working methods will need to be examined and possibly further adapted. Whereas some reference to working methods is contained in the proposed Question (Annex D) for the new "Group", it was recognized that further input may be provided from the discussions from Working Group 2/A.

3 Examination of Resolution No. 1 and No. 2

Committee A agreed to present to the Plenary Meeting modified Parts III and IV of Resolution No. 1 (TD 31/PLEN) for approval.

A draft revision of Resolution No. 2 (TD 17/COM A) which accommodates various proposals was not adopted by Committee A. A drafting group under the chairmanship of Mr. W. Staudinger (Federal Republic of Germany) will continue the work and will report directly to the Plenary Meeting.

4 Examination of Opinion Nos. 1 and 3

Opinion No. 1 was amended in accordance with proposals of the Republic of India and Senegal (TD 13/COM A) and presented for approval in TD 34/PLEN.

Opinion No. 3 modified in accordance with the proposal of Special Study Group S and AP IX-1 (Annex G) is presented in TD 32/PLEN.

5 Recommendation A.1

Committee A accepted amended Recommendation A.1 which is given in AP IX-1 (Annex E).

6 Resolution No. 8

Committee A accepted modified Resolution No. 8 which is given in AP IX-74 with small amendments (Electromagnetic and mechanical protection studies will replace the word "screening" at she end of the text of § A.1 of Annex A).

Annexes to the report by Committee A

ANNEX A

General work areas of Study Groups

Study Group I - Services

Responsible for Questions relating to service definitions, service operation, principles of service interworking and user quality of service. Work embraces consideration of proposals from other Study Groups on both the definition of bearer services and the technical aspects of services development.

Study Group II - Network operation

Responsible for Questions relating to ISDN and telephone network operation. Subjects assigned include routing, numbering, network management and service quality of networks (traffic engineering, operational performance and service measurements).

Study Group III - Tariff and accounting principles

Responsible for Questions relating to tariff and accounting principles for services studied by the CCITT.

Study Group IV - Maintenance

Responsible for Questions relating to maintenance of services and networks (including their constituent parts such as circuits, signalling systems, etc.) as well as the use and application of specific maintenance mechanisms provided by other Study Groups. This includes the maintenance of digital networks including ISDN.

Study Group V - Protection against electromagnetic effects

Responsible for Questions relating to the protection of telecommunications plant and equipment from dangers and disturbance of electromagnetic origin.

Study Group VI - Outside plant

Responsible for Questions relating to outside plant including the construction, installation, jointing, terminating, protection from corrosion and other forms of damage and associated structures for all types of cable for public telecommunications.

Study Group VII - Data communication networks

Responsible for Questions relating to dedicated data networks, message handling systems, directory systems and the overall responsibility for the reference model of Open Systems Interconnection for CCITT applications.

Study Group VIII - Terminals for Telematics services

Responsible for Questions relating to terminals for Telematics services such as facsimile, Teletex, Videography and Telewriting including the higher level protocols relating to terminals for Telematics services and document architecture.

Study Group IX - Telegraph networks and telegraph terminal equipment

Responsible for Questions relating to telegraph transmission and related terminal equipment including telegraph, telex and gentex networks.

Study Group X - Languages for telecommunication applications

Responsible for Questions relating to technical languages for telecommunications applications.

Study Group XI - Switching and signalling

Responsible for Questions relating to ISDN and telephone network switching and signalling.

Study Group XII - Transmission performance of telephone networks and terminals

Responsible for Questions concerning the end-to-end transmission performance and related transmission planning implications as applied to telephone services on the PSTN and to other services utilizing voice band transmission connections or channels. This work includes the transmission aspects of all signals as normally carried on the PSTN, e.g., speech, in-band signalling and voice band data. This work also includes speech quality aspects of ISDN.

Study Group XV - Transmission systems and equipment

Responsible for Questions concerning transmission systems and equipment including speech coding.

Study Group XVII - Data transmission over the telephone network

Responsible for Questions relating to data transmission over circuits and networks that are accessed via an analogue interface. Additionally responsible for subject matter relating to the application of modems and terminal adaptors on ISDN, interworking between data terminals using modems on the PSTN and data terminals on an ISDN.

Study Group XVIII - ISDN

Responsible for Questions concerning ISDN and related network aspects of services as well as general network aspects. Has overall responsibility for the continuing studies of ISDN taking into account the functional responsibilities of other Study Groups.

ANNEX B

Allocation of studies on service aspects

The methodology described in Recommendations I.130 and Q.65 for specifying services will, in principle, be used.

The definition and description of the services as they are used and seen by the user will be made by Study Group I.

Network aspects of services relevant to network capabilities will be studied in the relevant network related Study Groups, (e.g., Data Service Characteristics would lie in Study Group VII). This would enable the close relationship between technical characteristics of services and network design to be readily maintained.

Switching functions and signalling information flows and requirements for switching and signalling to support implementation of basic and supplementary services will be studied in the relevant network related Study Group (e.g., Study Group XI for ISDN and telephone network switching and signalling).

The following principles for the organization of work apply:

a) Study Group I defines and describes all voice and non-voice services, supplementary services including all operational and Quality of Service aspects from a user's point of view.

This would include the provision of and the responsibility for service Recommendations.

b) Study Group XVIII studies technical aspects of services and network capabilities for the support of services in an ISDN, i.e., Study Group XVIII defines the network architecture, continues to further develop the protocol reference model, the fundamental service concept and the description method and specifies the user-network interface (layer 1).

Study Group XVIII has therefore the overall responsibility to develop the concepts for the support of services which can then be used by Study Group XI to specify individual components, e.g., switching, signalling, etc.

This would include the provision of and the responsibility for the relevant Recommendations.

Study Group XVIII should primarily concentrate on the further development of ISDN and provide the necessary concepts for the support of new areas of services which do not have a well defined architecture, e.g. broadband services, additional packet mode services, intelligent network services, etc.

c) Study Group VII studies technical aspects of services and network capabilities for the support of services in Dedicated Data Communications Networks, i.e., Study Group VII defines the network architecture, continues to further develop the protocol reference model, the fundamental service concept and the description method and specifies the user-network interface.

ANNEX C

Allocation of studies on aspects of network operation

In addition to the general description of work areas of Study Groups I and II included in Annex A, this Annex C gives: a) further clarification on the respective responsibilities of these Study Groups and b) explains in some detail how the working areas and cooperation requirements with several Study Groups should be interpreted.

Study Group I - Services - is responsible for the definition and the operation of the services from a user's point of view, Study Group II is responsible for operation of networks to meet users' requirements (with the exception of the dedicated data and telegraph networks which are assigned to Study Groups VII and IX, respectively).

Study Group II should therefore address:

- ISDN and PSTN network operational requirements including the interconnection of mobile systems;

- routing and numbering requirements, including interworking implications;
- the operational performance of ISDN and PSTN including network planning, traffic engineering and service quality of the networks, achieved by network service monitoring and measurement programs, network management techniques and data analysis.

Close cooperation will be required with:

- Study Group I, especially in the area of Quality of Service to ensure that the user requirements and network capabilities are carefully coordinated;
- Study Group XVII to ensure that the transmission of data over the PSTN and ISDN is accommodated;
- Study Groups XI, XII, XV and XVIII to ensure that technical developments meet network requirements; and
- Study Group IV to ensure that network maintenance mechanisms are complementing network services requirements.

ANNEX D

New draft Question: Future evolution of the CCITT working methods and Study Group structure

Considering

(a) that there is general agreement regarding the need for the future evolution towards a CCITT functional Study Group structure;

(b) that with the development of ISDN many aspects of the traditionally separate voice and non-voice services are likely to be drawn closer together;

(c) that related CCITT studies should take into account such growing commonality of service provision;

(d) that the work of the CCITT will increasingly need to take account of the needs of broadband/broadcast services and that increasing liaison with CCIR for these and other converging areas will be required;

(e) that there is continuing pressure to increase the efficiency of working in CCITT Study Groups and to reduce costs;

(f) that any proposed reorganization must take account of the needs of both developed and developing countries;

(g) that the relation between the working methods of CCITT and the working methods of relevant bodies outside the ITU should be taken into account including harmonization of the respective work programmes to the extent possible;

(h) that the working methods of CCITT Study Groups may be affected by the structure of the Study Groups and that this should be taken into account;

(i) that the further evolution of CCITT organization and working methods may be affected by the decisions of WATTC-88, as well as those of the ITU Plenipotentiary Conference;

what further changes need to be made to the CCITT Study Group structure and working methods in order to conduct the work of the CCITT as efficiently and effectively as possible and what will be the financial implications of these changes? In particular, resolution of the following issues should be considered:

1 The extent in which a functionalized structure should be applied to aggregate network operation studies in Study Group II in 1992 or later needs further consideration. The general trend toward functionalization should be taken into account. Whether either or both Study Groups VII and IX need to continue their network operations efforts is relevant and yet to be decided.

2 The transfer of remaining maintenance work in Study Groups VII and XVIII to Study Group IV in 1992 or later will require further study.

3 The value, if any, of combining Study Groups V and VI in 1992 or later has not been determined. The continuing need for Study Group IX after the 1989-1992 study period should also be addressed.

4 The desirability of maintaining the overall responsibility for the OSI layered model for the CCITT in Study Group VII or VIII in 1992 or later should be considered.

5 The need to retain Study Group XVII in 1992 or later should be further studied. This will depend on the completion of some of its current work and the desirability of transfer of any remaining work to other Study Groups such as VII or XV.

6 To consider the possibility of further functionalization of the work relating to ISDN in 1992 or later so that what remains to be done in Study Group XVIII would be included in a Study Group with an overall network study mandate.

7 To keep under constant review all existing Resolutions, A-Series Recommendations and other provisions pertaining to CCITT working methods for the purpose of improving the efficiency of CCITT working methods.

Note - The Group will be expected to complete its work and publish the results of its studies one year before the 1992 Plenary Assembly, so that:

i) Administrations can consider the proposals in advance of the 1992 Plenary Assembly;

ii) Study Groups shall take the proposals into account in formulating their study Questions for the 1993-1996 study period; and

iii) the Group may take into account comments on the proposals when completing its final report to the Plenary Assembly.

ANNEX E

Minutes of the meetings of Committee A

Chairman: Mr. P. Tarjanne (Finland)

FIRST MEETING

Tuesday, 15 November 1988, at 1440 hrs

Subjects discussed:

1 Preliminary remarks by the Chairman of the Committee.

2 Report of Special Study Group "S".

3 Organization of the Committee's work.

4 Establishment of Working Parties and their mandates.

5 Calendar of meetings of Committee A and Working Parties.

1 Preliminary remarks by the Chairman of Committee A

1.1 The *Chairman* welcomed the participants to Committee A and reminded them of their mandate to examine the organization and working methods of the CCITT, stressing the urgent need for proposals to improve the efficiency of the CCITT in order that it might successfully face the challenges of a rapidly changing environment.

While emphasizing the hugeness of the task before them, he acknowledged the preparatory work already done by Special Study Group "S" in producing its excellent report, and Document AP IX-70 from

the Director of the CCITT concerning the revision of Resolution No. 1. He appealed to the Committee to set a good example by ensuring that a constructive and balanced report be submitted to the Plenary by the end of the week.

He reiterated the need for steps to be taken at the Assembly to ensure efficient preparation for the ITU Plenipotentiary Conference in Nice the following year in the hope that that Conference would modernize the ITU, enabling it to survive the changing environment and ever-increasing competition.

He proposed that the meeting proceed with the presentation of the Report of Special Study Group "S" by its Chairman, followed by a general discussion, after which the meeting would split into two Working Parties.

1.2 The *delegate of Canada* pointed out that, in view of the fact that Working Parties 1 and 2 would be meeting in parallel, those Administrations which had submitted contributions on the question of structure would welcome the opportunity to present them at the Plenary meeting of the Committee.

1.3 The *Chairman* observed that the general discussion following the presentation of the Report would allow for the main points from delegations to be presented and duly noted, leaving the detailed discussion to the respective Working Parties.

2 Report of Special Study Group "S" (Document AP IX-1)

2.1 *Presentation of the Report*

2.1.1 The *Chairman of Special Study Group "S"* (Mr. Simpson, United Kingdom) recalled that the Study Group had been set up because of the difficulty encountered by Committee A in completing its work and making progress within the timescale available at a Plenary Assembly.

Part A of the Report showed that the Study Group had held three meetings, the first to organize the work, the second to make preliminary proposals which had been circulated to all Administrations, and the final meeting in December 1987 to produce the Report well in advance of the Plenary Assembly.

Referring to the timetable, objectives and criteria for evaluation of the Special Study Group "S" Report, he drew particular attention to the questionnaire which had been sent out and to the additional informative meetings which had been held in the Asia and Oceania, the Latin American and the African Regions, in the hope of eliciting the maximum number of proposals from all delegations.

Part B contained the reports of the five Working Groups set up to handle various aspects of the work and the proposals for revision of the texts which would be submitted to the Plenary Assembly for approval through Committee A. He pointed out that those reports also contained the reasons for the specific amendments proposed, and expressed the hope that the Working Parties would find time to discuss such information.

In respect of the question of Study Group structure - the major task of Special Study Group "S" - it had been proposed to reorganize the work of Study Groups 1 and 2 on a more functional basis, with a Study Group A dealing with services aspects related to definitions and operation, and a Study Group B dealing with interworking and subscriber quality of service.

Letters were used for the proposed new Study Groups in place of the usual numbers to avoid confusion, but the intention was to revert to roman numerals after restructuring the Study Groups.

A mandate had been proposed for each Study Group (Annex A) setting out a short description of the task of the Study Group. It was felt that such a mandate would ensure that questions were directed to the appropriate Study Groups.

In addition to the proposals on working methods, a draft Recommendation A.2it (Annex H, page 49) on collaboration with other international organizations on information technology had been produced, following a communication from the ISO/IEC JTC1.

The Chairman of Special Study Group "S" expressed his wish to attend the Working Party meetings and answer more detailed questions; he noted the presence of several Chairmen of Working Groups of Special Study Group "S" who would likewise be of assistance.

In conclusion, he thanked the Working Group Chairmen and Vice-Chairmen for their skilful handling of the many delicate issues dealt with, the Director of the CCITT and his staff for their contributions, and the participating delegations, without whom the Report could not have been produced.

2.2 *General discussion of the Report*

2.2.1 The *delegate of the USSR* expressed his Administration's support for the proposals aimed at improving efficiency and suggested that the transmission systems and the quality thereof, terms and definitions, and signalling should be supported, and that the results achieved should be assessed at the end of a study period, thus establishing a solid basis for implementation of an international network for interworking and the integration of services within the ISDN.

He also expressed his Administration's support for the proposals for restricting the number of questions and for setting up an order of priority. In future, the number of Rapporteurs should probably be reduced as, well in the attempt to avoid duplication of work in Study Groups and ensure close liaison between the CCIR and the CCITT in problems involving international security, etc. To further increase efficiency, he suggested that all information available be disseminated in the form of a publication.

2.2.2 The *delegate of Sweden* suggested a new consideration of the issue of separating the studies on services operation from those on standardization, and stressed the importance of better coordination between the CCIs and cooperation between the ITU and regional standardization organizations.

2.2.3 The *delegate of Lebanon* expressed his support for the proposals made by the delegates of the USSR and Sweden on standardization. He proposed that Annex K on technical assistance to developing countries, however, be transferred to Committee D for consideration.

It was so *decided*.

2.2.4 The *delegate of Canada* expressed his Delegation's full support for the report's proposals on the structure of the CCITT, which he considered to be in line with Canada's proposals for a functional type of structure. He went on to stress the need for a comprehensive discussion on working methods and recalled that the Secretary-General had posed the crucial question of the continuing validity of the four-year study period.

In connection with the Director of the CCITT's comments on the volume of documentation, the Delegation of Canada had submitted TD 11/COM A proposing a working process which would minimize the amount of work of Plenary Assemblies. It was based on current Resolution No. 2 regulating the "accelerated procedure for the provisional approval of Recommendations" with a view to its becoming a more regular process for the approval of Recommendations, thus avoiding a four-year wait before a Recommendation was sanctioned, overcoming inefficiencies and bringing the CCITT more in line with other international organizations.

2.2.5 The *delegate of Australia* seconded the remarks concerning efficiency and the question of the four-year delay. The Delegation of Australia had contributed TDs 2/COM A(Rev.) and 12/COM A. TD 2/COM A(Rev.) dealt with improving the process of handling provisional Recommendations, and TD 12/COM A with working methods. In view of the constraints imposed upon the Plenary Assembly by the existing Convention, his Administration felt that it might be useful to establish a Group within Committee A to consider more appropriate ways of operating in the future and to submit a report for consideration at the Plenipotentiary Conference.

2.2.6 The *delegate of Japan* thought that a more gradual approach than that suggested by Canada and Australia on the procedure for producing Recommendations would be preferable. He appealed for more efficient distribution of documents to distant countries. He also felt some concern that a uniform working procedure for all Study Groups might create problems and, in view of the many differences between Study Groups, he urged that some degree of flexibility should be maintained.

2.2.7 The *delegate of the United Kingdom* stressed the need for speeding up the processing of Recommendations and appealed to all Administrations to make the necessary commitment on their part. He observed that, with new services such as cellular radio, effective coordination between the two CCIs was of vital importance, and deserved careful consideration. He expressed support for the point made by the delegate of the USSR regarding a reduction in the number of Special Rapporteurs.

In reference to the competitiveness of regional standardization organizations alluded to, he drew attention to the fact that the European Telecommunication Standards Institute was to be regarded as a very supportive regional organization in its relationship with the CCIs.

3 **Organization of the Committee's work - Review of work and allocation of AP documents** (TD 1/COM A)

3.1 The *Chairman* proposed that the following documents be added to those listed in TD1/COM A.
under point 1 : TD 9 (Page 1) and TD 10;
under point 2a: TDs 6, 9, 12 and 13;
under point 2b: TDs 7, 11 and 14.

3.2 The *delegate of Japan* proposed the addition of TD 9 to part 2b).

It was so *agreed*

4 **Establishment of Working Parties and their mandates**

4.1 The *Chairman* proposed the establishment of two Working Groups:

- WG 1 - Evolution of the CCITT Study Group structure
- WG 2 - Working methods of the CCITT.

It was so *agreed.*

He further proposed that Vice-Chairman Mr. H. K. Pfyffer (Switzerland) be designated Chairman of Working Group 1 and Vice-Chairman Mr. G. Lajtha (Hungary) Chairman of Working Group 2.

It was so *agreed.*

5 **Calendar of meetings of Committee A and Working Parties**

5.1 The *Chairman* proposed that the Working Parties meet separately and in parallel until the full Committee A meeting on Thursday morning, 17th November, at which the report to be submitted to the Plenary Assembly would be prepared.

It was so *decided.*

The meeting rose at 1600 hours.

SECOND MEETING

Thursday, 17 November 1988, at 0900 hrs

Subjects discussed:

1 Report of Working Group 1 Chairman

2 Report of Working Group 2 Chairman

1 **Report of Working Group 1 Chairman** (Temporary Document 20/COM A)

1.1 The *Chairman of Working Group 1* (Mr. H.K. Pfyffer, Switzerland) introduced the report of his Working Group. Mr. Pfyffer explained that the report was constituted by two parts: an introductory part and four annexes containing the following background information for inclusion in Volume I of the Blue Book:

- Annex A - General work areas of Study Groups

- Annex B - Allocation of studies on service aspects

- Annex C - Allocation of studies on aspects of network operation

- Annex D - Draft new Question: Future evolution of the CCITT working methods and Study Group structure.

1.2 The *delegate of Spain* suggested an amendment to item 2.5 of the introductory part of the report to better express its intention. The Committee agreed with the proposal and the modified item 2.5 reads as follows:

"2.5 The improvement of the cost efficiency relationship of CCITT work should not reduce the quality and the universality of the output."

1.3 the *delegate of France* proposed the replacement of "subscriber" by "user" in the work area of Study Group I, in Annex A. Committee A accepted this change.

1.4 The *delegate of Australia* proposed in Annex B, first paragraph, the addition of "Recommendation Q.65", for completeness. Also, in order to allow for the judgement of Study Group I when specifying services, the words "in principle" should be inserted before "be used", in the same paragraph. These proposals were accepted by the Committee. The modified paragraph reads as follows:

"The methodology described in Recommendations I.130 and Q.65 for specifying services will, in principle, be used."

1.5 The *delegate of Japan* (and Chairman of Study Group IX) proposed, in Annex C, second paragraph, to clarify the text, and to recognize the responsibility of Study Group IX to read the text as indicated hereafter. The Committee agreed with the proposals:

"Study Group I - Services - is responsible for the definition and the operation of the services from a user's point of view; Study Group II is responsible for operation of networks to meet users' requirements (with the exception of the dedicated data and telegraph networks which are assigned to Study Groups VII and IX respectively)."

1.6 In Annex D, the *delegate of the United Kingdom* proposed to amplify the text of item (d) to take account of another area of common interest with CCIR. The amended text reads as follows:

"(d) that the work of the CCITT will increasingly need to take account of the needs of broadband/broadcast services and that increasing liaison with CCIR in these and other converging areas will be required."

1.7 Some additional editorial corrections were made to Annexes A through D. The full final text of Annexes A through C will appear in Volume I of the Blue Book. Annex D has been communicated to Committee B.

2 Report of Working Group 2 Chairman

The Chairman of Working Group 2 (Mr. G. Lajtha, Hungary) gave the verbal report on the results of Working Group 2 meetings and presented temporary documents.

Proposed revisions to sections III and IV of Resolution No. 1 outlined in Temporary Document 22/COM A and Temporary Document 23/COM A were discussed.

Some delegations proposed to merge § III.4.3 and § III.6.2 and to prepare a new § III.6.2 to avoid ambiguities.

Some editorial remarks were proposed to be made to §§ III.4.3, III.5.7 and III.8.4.

It was proposed to clarify how to express the minimum time for delayed contributions (7 working or 7 calendar days).

Amendments were incorporated in the revised text of Resolution No. 1 and appeared in Temporary Document 31/PLEN. The merging of § III.4.3 and § III.6.2 was decided to be proposed to the Plenary.

In principle, the amendments to Resolution No. 1 were *approved*.

3 Opinion No. 1 was approved (Temporary Document 13/COM A) with amendments of the delegates of India and Senegal concerning the assistance of CCITT to developing countries and seminars.

4 Opinion No. 3 modified in accordance with the proposal of Special Study Group S (AP IX-1, Annex G) was approved.

5 Recommendation A.1 was accepted by delegates as it was amended by Special Study Group "S" and presented in AP IX-1 (Annex E).

6 Committee A accepted modified Resolution No. 8 which was given in AP IX-74 with small amendments proposed by the delegate of France (electromagnetic and mechanical protection studies will replace screening at the end of the text of § A.1 of Annex A). The representative of IEC agreed with these amendments.

7 A draft revision of Resolution No. 2 (Temporary Document 17/COM A) which accommodates various proposals was not adopted by Committee A. A Drafting Group under the chairmanship of Mr. W. Staudinger (Federal Republic of Germany) was asked to continue the work and to report directly to the Plenary Meeting.

8 The minutes of the first meeting of Committee A, as set out in TD 24/COM A, were adopted. Reservations were made by the Delegations of Spain and Cuba, because the document was not avaliable in Spanish.

3.3 REPORT BY COMMITTEE B TO THE PLENARY ASSEMBLY

(as approved by the Plenary Assembly)

WORK PROGRAMME OF STUDY GROUPS

I. General

1 In accordance with No. 464 of the International Telecommunication Convention (Nairobi, 1982) and the instructions contained in section I.6.b of the Additional Rules of Procedure of the CCITT (Resolution No. 1, Malaga-Torremolinos, 1984), the Plenary Assembly set up Committee B to deal with the work programmes of the Study Groups.

The Chairman and Vice-Chairman of the Committee were designated as follows:

Chairman: Mr. M. Israel (Canada)
Vice-Chairman: Mr. S. Kano (Japan)

The Committee held four Plenary Meetings, in the morning and the afternoon of 21 November and in the mornings of 22 and 23 November.

2 Committee B had the following documents to consider:

a) Study Programmes proposed by the Study Groups and the Joint Study Groups:

Source *Study Group*	*AP IX Documents*
I	84
II	17
III	80
IV	30
V	87
VI	65
VII	57
VIII	26
IX	13
X	34
XI	92
XII	3
XV	62
XVII	91 + Add.
XVIII	149
CMV	154
CMTT	152

b) Contributions of interest to Committee B, submitted by Administrations:

AP IX	*Source*	*Title*
156	France	Proposed Questions for Study Group IX

c) Contributions submitted by the Director of the CCITT:

AP IX-76 + Add. Proposed allocation of Questions

d) In addition to the above documents, the Committee considered the reports of Committee A and the temporary documents of the Plenary Assembly and other Committees relevant to its work, as well as the temporary documents expressly addressed to Committee B by Administrations (in particular, the Administrations of the USSR, the Islamic Republic of Iran, Japan and the United Kingdom).

3 Consideration of contributions

The contributions submitted by Administrations were presented in connection with the analysis of Questions.

4 Setting up of ad hoc Groups

In order to expedite work, the Committee set up ad hoc Groups to draft the texts of those modifications approved by Committee B to the Questions initially submitted by the Study Groups which were not of a drafting nature.

The results of the work of these ad hoc Groups will be found in the documents of the corresponding Study Groups.

5 Proposal for the next study period

In order to increase the effectiveness of Study Groups' work in the next study period, it seems reasonable:

1) to include in the list of Questions assigned to each Study Group a special Question entitled "Working programme for the future", as has already been done in Study Group XII (Question 1/XII);

2) to recommend that each Study Group reflect on the date of completion of each Question, and besides, define the composition of the Recommendations to be studied after the period of study of the Question, and the time required for the completion of each Recommendation.

II. Results of work

In accordance with the conclusions of Committee A concerning the organization of the Study Groups, as approved by the Plenary, the Committee studied the allocation of Questions to the Study Groups.

In this connection, it noted a number of points, in particular:

1 The preliminary work carried out by the Director of the CCITT and the Chairmen of the Study Groups which reflects the guidelines proposed by Study Group S in Document AP IX-76.

2 The list of Questions which did not elicit more than five contributions during the period 1984-1988 (Addendum to Document AP IX-76).

3 The terms of reference of the Study Groups as proposed by Committee A and approved by the Plenary as well as the information given in Annexes A, B, C and D of the Report of Committee A.

4 Indication of the urgency of Questions

Committee B does not make any proposals in this connection. The urgency of the studies to be carried out is determined by the number of contributions received on any particular subject.

5 Collaboration with the other Study Groups and the outside organizations concerned

The Committee noted the importance of collaborating with the other Study Groups and external organizations concerned in connection with the study of Questions of common interest. The need for such liaison will be clearly indicated in Contribution 1 of each Study Group. The new ad hoc Group which will continue the work of Study Group S will have to deal with the problem of improving the liaison procedure.

However, the Director of the CCITT emphasizes that coordination can best be achieved at the national level.

As to collaboration with outside organizations, the Chairman made the following statement:

"Collaboration with other international organizations

The Committee was of the opinion that the broad basis for collaboration between CCITT and other international organizations as reflected in the A-Series Recommendations was adequate and had produced satisfactory results in various areas of common interest. One example of such positive results was the joint CCITT/ISO/IEC publication on the CHILL language during the 1985-1988 study period.

It was concluded that, in general, collaboration was best achieved at the Study Group level where international organizations have the opportunity to contribute directly to the development of CCITT Recommendations."

6 The results of the work of Committee B, as approved by the Plenary Assembly, are recapitulated in Part III of the present report.

III. Allocation of Questions to Study Groups

The present Report contains only the modifications to the Study Programmes proposed by each Study Group in its final Report to the Plenary Assembly.

1 **Study Group I** (Relevant document: AP IX-84)

1.1 *Question 8/I*

i) *Change* title of Q.8/I as follows:

"Mobile *Telephone*, Telegraph, Telematic and data services."

ii) *Delete considering* (i) (transferred to Question 16/II).

iii) *Add* a new *considering* (k), as follows:

"(k) the rapid development of Integrated Services Digital Network (ISDN)".

iv) *Add* a new study item 1, as follows:

"1. new or revised mobile telephone services"; and *renumber* the following study items.

v) *Delete* study items 11 to 14 (transferred to Question 16/II).

1.2 *Amendments to Questions 21/I and 23/I*

1) *Note to Question 21/I*

"This Question should be studied in close conjunction with Question 23/I."

2) *Note to Question 23/I*

"This Question should be studied in close conjunction with Question 21/I."

1.3 *Revision of the text of Question 24/I*

Question 24/I - Suitability of new services and facilities to meet the needs of users

Considering

(a) that many telematic services have been developed during the last study period;

(b) that many services are being offered in the ISDN;

(c) that the introduction of many new services may create confusion among users;

(d) that a number of services are very similar in their facilities;

the following should be studied

How will the needs of users be shown to be satisfied by the new services? The study should take account of the range of existing and planned services.

Note 1 - This information should facilitate the marketing efforts of the service providers.

Note 2 - In defining new services, close attention should be given to user needs.

1.4 Question 25/I is deleted and is the subject of a new Question for Study Group II.

1.5 Questions 1/II, 2/II, 3/II, 4/II, and 7/II, 8/II, 9/II, 10/II, 11/II and 12/II also become Questions for Study Group I.

1.6 The following text is to be reproduced in Contribution 1 of Study Group I in connection with Question 9/I.

"CLARIFICATION OF THE STUDY PROGRAMME OF STUDY GROUP I

The USSR Administration thinks it would be reasonable to modify the Study Programme of Study Group I. The modifications concern Question 9/I, which is to be found in Document AP IX-84.

1 **Question 9/I**

1.1 Section 1 (updating of Recommendation F.200), page 12, last line but one. It would be advisable to make it clear what is meant by the word "security", which is used in a wide variety of ways, making the problem difficult to grasp.

In particular, it should be made clear what is meant by:

a) security of data transmission;

b) prevention of data transmission to an unauthorized addressee, etc.

1.2 *Section 2* (types of document)

It seems reasonable to begin studying questions concerning the service documents which facilitate Teletex maintenance.

One might mention, for example, the registers containing lists of documents sent and received, etc.

These facilities are part of the Teletex service and should therefore be studied by Study Group I.

1.3 (Document transfer). In view of the fact that Teletex terminals at present use three types of modems, which do not interwork directly with each other although this would be desirable from the standpoint of service integrity, it seems to us reasonable to stress the need to study as a matter of urgency the problems raised by direct interworking of Teletex terminals connected to the public switched telephone network."

2 **Study Group II** (Relevant document AP IX-17)

2.1 *Question 16/II*

i) *Change* title of Question 16/II, as follows:

"International interconnections of the different mobile services and the public switched telephone network or ISDN."

ii) *Insert* a new *considering* 11, as follows:

"11. The need to study the numbering and selection procedures for VHF/UHF maritime mobile radiotelex service in view of the deletion of Recommendation F.121";

(transferred from *considering* (i) of Question 8/I) and,

renumber considerings 11 and 12.

iii) *Add* the following sentence to the end of the existing study item:

"The following items should, in particular, be included in the studies:
i) numbering and selection procedures for VHF/UHF maritime mobile radio telex service;
ii) numbering and selection procedures for interconnection between mobile systems, in particular INMARSAT, and terrestrial networks;
iii) numbering and selection procedures for group coast station calls;
iv) network Quality of Service".

(Items i) to iv) above are transferred from study items 11 to 14 of Question 8/1.)

2.2 *Question 22/II - Service quality of networks, including operational performance and service measurements (PSTN/ISDN)* (Continuation of Question 22/II, amended, studied during the 1985-1988 study period)

Introduction

This Question has two parts:

The first part (*considering* a) to e) and items 1 and 2 of the Question) involves a continuation of the studies on the operational performance of networks including service measurements. It recognizes the previous development of Recommendations on operational guidance, connection establishment and connection retention. This Question will focus mainly on connection quality and the effects of common channel signalling systems, as well as the migration towards the ISDN.

The second part (*considering* 1) to q) and items 1 and 3 of the Question) addresses the general framework of future studies on service quality requirements and operational performance of networks.

In this study period studies will focus on PSTN and ISDN.

Considering

(a) that the main parameters describing the perception of service quality by users are given in Recommendation E.420;

(b) that the CCITT has adopted Recommendations E.426 on connection establishment and E.428 on connection retention;

(c) that common channel signalling systems (C6 and C7) are being introduced into the international network and the enhanced capabilities of these systems could provide additional information to enable a detailed analysis to be made of call failures;

(d) that delays in call establishment, e.g., post-dialling delay, and in particular variation in the delay, significantly influence service quality;

(e) that techniques based on speech envelopes may be applicable for the automatic measurement of connection quality;

(f) that billing integrity is adversely affected by absence of answer signals on answered calls or by the presence of false answer signals;

(g) that service quality measurements and improvement programmes are integrally related to network management and network maintenance activities;

(h) that significant input is obtained from the Quality of Service Development Group (QSDG);

(i) the necessity to identify the contact points within each Administration for service quality improvements.

(j) that the Telecommunications Management Network (TMN) can be used to transport measurements including test call and observation data;

(k) that, in view of the increasing complexity of networks and services, the timely publicizing of number plan changes is an important means of maintaining service quality at the time of such changes;

(l) that a framework is necessary to harmonize future studies on service quality of networks;

(m) that Recommendation I.350 on general principles of Quality of Service and network performance in ISDN has been prepared;

(n) that Recommendations X.134-X.137 and X.140 adopting these principles for data services are already available;

(o) that relevant studies will continue especially in Study Groups VII, XII and XVIII;

(p) that the principles, results and future work mentioned should be taken into account in studies relevant to service quality of networks;

(q) that guidelines are necessary now to handle Quality of Service and network performance problems in Study Groups A and B.

1. What modifications should be made to the E.420-Series of Recommendations and to other relevant Recommendations to reflect the need to ensure the operational performance and service quality of networks?

2. What benefits can be gained by improving the service quality of networks?

3. What general framework of further studies on the operational performance and service quality of networks should be applied?

Note 1 - Reference should be made to the study of Question 23/II (Network management) and Question 33/II (Traffic measurement requirements on telecommunication networks (including the ISDN)) because the outcome of the study will most likely involve the inclusion of more Quality of Service parameter measurements in Recommendation E.425. Close liaison will be required with other Study Groups.

Note 2 - Close liaison is needed with Study Groups VII, XII and XVIII.

2.3 *Questions 1/II, 2/II, 3/II and 4/II*

Transferred to Study Group I.

2.4 *Questions 7/II, 8/II, 9/II, 10/II, 11/II and 12/II*

Also transferred to Study Group I.

2.5 *Question 17/II*

Wording remains unchanged. A proposal to amend considering (d) was rejected.

2.6 *Revised text of Question 25/I* (transferred to Study Group II)

Question 25/I - Network operational aspects of international telephone service (New Question 1989-1992 study period)

Considering

(1) that Study Group I is studying:

a) telephone services and their related human factor issues (i.e. former Questions: 7/II, 9/II, 10/II, 11/II and 12/II);

b) computerized information service for telephone subscriber numbers in foreign countries (Directory Assistance), reserved for operators, (the current Question 16/I and the former Question 2/II);

c) International Telecommunication Credit Card service (the former Question 4/II);

decides that Study Group II should study the following Question:

the network operational aspects of the international telephone service for the provision of optimum services to the customer.

3 Study Group III

No change to Document AP IX-80.

4 Study Group IV (Relevant document: AP IX-30)

4.1 *Question 9/IV*

Amend as follows the text of item 4 in the list of points for study (after the *consideranda* of Question 9/IV):

"4) the difference as regards the parameters (Recommendation M.495, section 6.1) between a restoration link and a normal link and the associated necessary procedures:"

4.2 *Question 21/IV*

The following annex should be studied:

"ANNEX

(to Question 21/IV)

Study items proposed by Study Group XVIII

1 Continuation of studies on general maintenance principles of ISDN subscriber access and subscriber installations (I.601).

This includes definition of interfaces between the already defined functional blocks (e.g. SAME...) and the Telecommunications Management Network (TMN).

2 Continuation of study on "Application of maintenance principles to ISDN subscriber installations" (I.602).

This also includes study of requirements for the NT2, TA and TE1 with regard to the overall (user-to-user) maintenance activities including performance measurement and evaluation.

3 Continuation of study on "Application of maintenance principles to ISDN basic accesses" (I.603).

4 Continuation of study on "Application of maintenance principles to ISDN primary rate access" (I.604).

5 Continuation of study on "Application of maintenance principles to static multiplexed ISDN basic rate accesses" (I.605).

6 Study of application of maintenance principles to ISDN higher rate accesses.

7 Study of relationship between ISDN and TMN regarding maintenance and management aspects.

8 Study of maintenance principles and activities related to interworking between ISDN and other networks, e.g. PSTN, PSPDN and private networks."

4.3 *TMN Study - Question 23/IV*

On the basis of a proposal from the Islamic Republic of Iran, it was agreed by the Plenary Assembly to record its suggestion to Study Group IV to include the following in the study of Question 23/IV:

- a clear definition of the relationship of monitoring and control functions in TMN and network supervision together with a description of the tasks assigned to each (TMN and network supervision);
- future consideration for telecommunication networks to provide for TMN capabilities.

5 Study Group V (Relevant document: AP IX-87)

5.1 *Add* new Question 20/V:

"Question 20/V - Survey on provisions intended to mitigate adverse effects (danger and disturbance) of electromagnetic origin

Considering

- that adverse effects caused by electromagnetic fields are dealt with in detail in several CCITT documents (Recommendations and Manuals);

- that some interdependence between effects generated by different sources of inducing electromagnetic fields exists;

- that measures to mitigate adverse effects caused by one source may influence such effects originated from other sources;

CCITT should establish guidelines on the following points in connection with the application of relevant Recommendations and Manuals concerning the mitigation of danger and disturbance:

1. classification of disturbances in telecommunication services and danger to telecommunications equipment and personnel;

2. specification of the sources of danger and disturbance and ways to control them;

3. tolerable levels of adverse effects;

4. reference to CCITT related documents."

Note - In the study of this Question, the work of IEC (CISPR and other bodies) should be taken into account.

6 Study Group VI

6.1 *Question 1/VI* Change in the title: *Add* the word "conductive" before the words "plastic material".

6.2 *Question 6/VI* a) modification of the note: *delete* the reference to a "Special Rapporteur". The text should read: "The study will be coordinated....";

b) concerns French text only.

6.3 *Question 10/VI Add* a Note 3:

"Resolutions Nos. 7 and 8 are relevant to this Question."

6.4 The following document (Annex 6 of Temporary Document 11/COM B) will form part of Contribution 1 of Study Group VI.

STUDY OF ENGINEERING ASPECTS OF OUTSIDE PLANT IN SEVERE ENVIRONMENTAL CONDITIONS

Abstract

Such a study is required because of the fact that every country has its own special environmental and climatic conditions.

Where these conditions are severe, the design and engineering of outside plant should be such as to minimize the degradation of the network.

Introduction

Investigations into network degradation caused by severe environmental conditions carried out in most countries indicate that special guidelines and a detailed analysis of the prevailing situation is necessary in order to choose and select the best available materials and accessories that will suit the needs of each country for the proper design of its network.

Proposal

1 Study of the corrosivity, deformation and deterioration of plastic and non-plastic materials, optical fibres and metallic cables which are used as a part of outside plant, especially when they are located in the vicinity of gas and oil resources, mines and various chemically corrosive substances, etc.

2 Study of the effects of radioactive radiation on the molecular structure of optical fibres both in the short and the long term and the resulting impact on the mechanical and optical properties of the fibres.

3 Study of specific type of optical fibre cables suitable for use in severe environmental conditions:

3.1 Specification of materials recommended for the protective layers of optical cables from the point of view of compatibility in order to protect the fibres inside cables and to enable them to withstand mechanical forces due to severe environmental conditions.

3.2 Study of different types of optical fibres subject to severe environmental conditions, such as strain and stress forces, high and low temperature, high humidity, etc. and their effects on the lifetime of optical fibres.

4 Study of the use of specific cables as well as outside plant accessories in various soils having different corrosive compositions.

5 Study of the implementation of outside plant in different severe environmental conditions.

7 **Study Group VII** (Relevant document: AP IX-57)

7.1 *Question 18/VII* - Transferred to Study Group IX.

7.2 *Question 22/VII* - Transferred to Study Group VIII.

7.3 *Editorial amendments*

The following amendments should be made:

1) *Question 1/VII*

Amend beginning of title to read: "Standardization of the technical characteristics of user classes ...";

2) *Question 1/VII*

Amend considering (f) to read: "that Study Group I is responsible for the definition and operational aspects...";

3) *Question 3/VII*

Amend beginning of title to read: "Technical characteristics of connectionless services...";

4) *Question 3/VII*

Add a new considering (g) "that Study Group I is responsible for the definition and operational aspects of data transmission services";

5) *Question 10/VII*

Amend the title to read: "General technical principles for interworking...";

Reason for 1-5 above: Clarification of the responsibilities of Study Group I and Study Group VII;

6) *Question 22/VII* (which is to be transferred to Study Group VIII)

Amend the final note to read: "*Note* - This Question is to be studied in close cooperation with Study Group VII".

Reason: Question transferred to Study Group VIII;

7) *Question 25/VII* paragraph 3, 2nd sentence

Replace the word "clarification" by "classification".

Reason: Typing error;

8) *Question 29/VII* Considering (f)

Replace "X.224" by "X.244".

Reason: Typing error.

8 **Study Group VIII** (Relevant document: AP IX-26)

8.1 *Question 22/VII* - Transferred to Study Group VIII

9 **Study Group IX** (Relevant document: AP IX-13)

9.1 *Question 10/IX*

Modify as follows:

"*Question 10/IX - TDM systems for telegraphy employing a new technique of multiplexing* (continuation of Question 10/IX, 1985-1988, revised title and wording) (concerns Study Group VII)

Considering

(a) that Recommendation R.100 provides the establishment of telegraph and synchronous data channels, based generally on a two-stage multiplexing scheme;

(b) that the TDM systems which are based on envelope-interleave technique, i.e. X.50/X.51, X.55/X.56 TDM systems, are being used for data communication;

(c) that R.111 TDM systems for telegraph transmission were not implemented on a large scale for international connections;

(d) that X.50/X.51, X.55/X.56 TDM systems are not really effective for direct telegraph signal transmission;

(e) that new TDM systems for telex as well as data will be developed, which are likely to employ a new technique of multiplexing not restricted to bit interleaving;

(f) that the one-stage multiplexing system for telegraph and data signals can be used to produce integrated transmitting and switching equipment economically;

what technical aspects will be required for such TDM systems in terms of telex usage?"

9.2 *Add* new Question 25/IX.

"*Question 25/IX - Numbering plan for telex networks*

Considering

(a) that the International Numbering Plan for telex networks is standardized in Recommendation F.69 and is implemented on a large number of telex networks;

(b) that numbering solutions to various ISDN-telex networks, ISDN-PDN-telex network and PDN-telex network interworking issues will be required;

what revisions or enhancements to the existing numbering and numbering plan interworking Recommendations should be made, and what new Recommendations should be developed?

Note - This Question should be studied in close cooperation with Study Groups II and VII."

9.3 *Add* new Question 24/IX

"Question 24/IX - Transmission aspects of data communication networks

1 Study arising from the implementation of CCITT Recommendations X.40 through X.58.

This study point comprises all aspects of the above Recommendations. Specific points to be studied are:

- comparison of Recommendations X.52 and V.14 potentially leading to the adoption of V.14 as the single or the preferred async to sync conversion technique;
- comparison of Recommendations X.57 and X.30 potentially leading to the adoption of X.30 techniques as the single or the preferred rate adaptation technique.

2 Study of other transmission aspects of data communication networks."

10 Study Group X (Relevant document: AP IX-34)

The close collaboration between Study Group X on the one hand, and Study Group IV, ISO and IEC on the other hand, must be clearly brought out in Study Group X's Contribution 1.

10.1 *New Question*

10.1.1 *Introduction*

In its report to the Plenary Assembly, Study Group X proposes terminating the study of existing Questions 8b/X and 9/X related to software quality assurance, software testing and verification, and software reliability.

Study Group X proposes continuing the study of Question 6/X, incorporating only aspects related mainly to a system support environment.

Taking into account that Study Group X is the only CCITT Group involved in studies on software for telecommunication systems, the proposal is to maintain the study on the subjects in existing Questions 8b/X and 9/X, even if they are merged into a single Question.

10.1.2 *Proposed new Question - "Software quality, software testing and verification for telecommunication systems*

Considering

that in the last 20 years we have witnessed an ever-growing incorporation of software into converging telecommunication systems;

that maintaining a high quality of service now implies the correctness of a growing number of software modules which may interact in an open systems interconnection environment;

that software may contain inherent faults and these faults can cause interruptions in the service;

that methods and procedures are being developed as to specifications testing and verification of software related to open systems interconnections;

that Administrations, RPOAs and large users are involved in the evaluation of telecommunications software alternatives, whether developed in their own research and development programmes, offered by outside suppliers, or available wholly or in part in CCITT Recommendations, as well as in ISO and IEC standards;

decides to study the following Question:

what studies, Recommendations or other provisions, if any, are appropriate for:

i) testing and verification methods applicable to telecommunications software; and

ii) uniform minimum acceptable requirements for a high quality of telecommunications software?

What concepts, terms, definitions and measures should be used to measure the correct performance of telecommunications software?

What models are recommended to assess the correct performance of telecommunications software with respect to specified parameters or erroneous data?

Note - This Question should be studied in close collaboration and cooperation with ISO, IEC and other standardization bodies working on the matter."

10.2 Document to be annexed to Study Group X's Contribution 1

TITLE: STANDARDIZATION OF OPERATION AND MAINTENANCE CENTRES (OMC) AND MML COMMANDS SUPPLIED BY DIFFERENT MANUFACTURERS

Abstract

Experience indicates that in a country with sufficiently large demand, there is a tendency to have more than one switching system in service, and that, due to the advantages of centralized operation and maintenance in a digital switching system, Administrations are going to introduce OMC in their network. The CCITT should therefore consider the matter in order to enable telecommunication Administrations to utilize a single OMC and operators, command code for different systems.

Introduction

In order to maintain competition between suppliers and to prevent a single manufacturer from monopolizing the market, telecommunication Administrations intend to use at least two digital switching systems manufactured by different companies.

At the moment, an OMC offered by one supplier cannot be utilized to maintain and control a local/transit digital switching system manufactured by another supplier. In order to have unified OMC in the network and to facilitate maintenance outside existing interface standards, there should be a Recommendation to unify OMC software, especially with regard to input/output format.

Moreover, despite the availability of a command list manual according to MML rules by different manufacturers, command codes differ from one supplier to another.

The following is an example of creating a subscriber in two systems, A and B:

System A → CR SUB: DN = XXX, EQN = XXX, SCOS = XXX, ...
System B → SOD: N = XXX, EL = XXX, LC = XXX, ...

In both systems, commands are used for the same purposes.

Proposal

It is proposed that in drawing up Recommendations the CCITT should consider the following objectives:

1) Defining a standard OMC with the required facilities and unifying the necessary functions with a view to providing Administrations with a unique OMC for maintaining and controlling different switching systems supplied by different manufacturers.

2) Unifying all command codes which are not system-dependent.

11 **Study Group XI** (Relevant document: AP IX-92)

11.1 The following note on the terms of reference of Study Group XI will be inserted in Contribution 1.

"TITLE: TERMS OF REFERENCE FOR STUDY GROUP XI ON ASPECTS OF MOBILE SYSTEMS

For the forthcoming study period, Study Group XI will direct its efforts to the study of Questions relating to mobile satellite systems of all three mobile services: land, maritime and aeronautical, as well as to the study of Questions concerning only the land mobile service. This is clearly stated in Document AP IX-92 (page 10, paragraph 3 at the top of the page) and is evident from draft Questions P/XI and Q/XI (pages 61 and 62 of Document AP IX-92).

It is most desirable in the forthcoming period not to lose sight of the problems concerning the maritime mobile service operating not only in the INMARSAT satellite system but also in traditional VHF and HF bands.

In these bands, increasing use is being made of the automatic telephone service between ships and land subscribers as well as of the systems of the automatic printing service with their switching to the telex network.

The types of services mentioned above will play a decisive role in a new Global Maritime Distress and Safety System (GMDSS), the main provisions of which were adopted by the WARC on Mobile Services in 1987.

Some parts of the new GMDSS are already in operation, e.g., the COSPAS-SARSAT system, which has already saved more than 1,500 human lives.

Regarding the problem of GMDSS, CCIR Study Group 8, which met in April 1988, requested that the CCITT's attention be drawn to the importance and urgency of studies of Questions connected with the introduction of the GMDSS.

The Delegation of the USSR requests that CCITT Study Group XI in its future work should take into account this concern expressed by CCIR Study Group 8 for an urgent decision on important problems related to a noble task, namely the saving of human lives."

11.2 *Question B/XI* - *Amend considering* (c) to read: "that Study Group XVIII has developed Recommendations I.324 on ISDN network architecture and I.320 on ISDN protocol reference model and that close cooperation will be maintained with Study Group XVIII".

11.3 *Question W/XI* - *Add* the following note: "This Question should be studied in liaison with Study Group II."

11.4 *Question Y/XI* - Transferred to Study Group XV as new Question AF/XV.

11.5 *TITLE: "QUESTION AA/XI - GUIDELINES FOR IMPLEMENTING SYSTEM No. 7 IN NATIONAL NETWORKS*

The CCITT,

Considering

(a) that rapid developments in digital technology, together with demands for a broad range of advanced communications services, have resulted in a shift from analogue to digital networks;

and that this trend is being carried further to create a multi-media integrated digital network which transmits voice characters, data, video images, facsimile, etc.;

(b) that the implementation of System No. 7 is particularly significant as it can be used in the circuit switched public data network (CSPDN) and in the public switched telephone network (PSTN);

(c) and that the procedures for implementing data and voice networks may not be applied to CCS networks, so that there is a need for advice by the CCITT on procedures for implementing CCS in the transition from analogue to digital networks.

What guidelines can be given on the following aspects of System No. 7 implementation:

1) routing techniques in CCS No. 7 networks;

2) implementation of communication procedures with network management centres;

3) implementation of interconnection between CCS No. 7 networks and public data networks;

4) signalling network topologies for the different hierarchial levels in a national network;

5) possible constraints due to delay in the signalling network for real time applications;

6) signalling network performance;

7) software aspects of CCS No. 7."

12 **Study Group XII** (Relevant document: AP IX-3)

12.1 Page 17 - *Question 19/XII*, after *considering delete* (a) and *insert* "the following Question should be studied".

12.2 Page 21 - *Question 24/XII*, points 2-4 *are missing*. Please *add*:

"2) What assessment method should be used and what values should be recommended for noise in mobile systems?

3) Aspects of non-speech signal transmission.

4) Requirements of special services such as roaming."

Note - A preliminary draft Recommendation G.173 is given in Supplement 1.

ANNEX 1

(to Question 24/XII)

Reply given to the Question at the end of the 1984-1988 study period.

ANNEX 2

(to Question 24/XII)

Reply given to Question 33/XII at the end of the 1984-1988 study period.

13 **Study Group XV** (Relevant document: AP IX-62)

13.1 *Question B/XV - Characteristics of equipment for the digital transmission of television signals* (continuation of Question 3/XV, 1985-1988)

Considering

(1) that CMTT is studying coding standards to be used in the transmission of broadcast-type television signals over the digital network;

(2) that it is becoming increasingly difficult to carry television signals over standardized digital paths;

(3) that CMTT Recommendations 604 and 658 refer to Digital Television Transmission and Mixed Analogue and Digital Transmission of Analogue Composite Television Signals, respectively;

(4) that CMTT Report 646 describes the CMTT's studies on digital and mixed analogue-and-digital transmission of television signals.

decides to study the following Question:

Part 1 What should be the characteristics of equipment for the digital transmission of television signals over the digital network?

Part 2 What should be the characteristics of transmission equipment for the digital transmission of television signals over standardized digital paths in a mixed analogue-and-digital network?

Study points:

1. Characteristics of video interfaces
2. Characteristics of digital transmission interfaces
3. Test methods
4. Maintenance aspects
5. Application of operations, administration and maintenance interfaces as given in Recommendation G.TMN - any unique feature required
6. Characteristics of the equipment when signals are presented in a variety of forms - including:
   - 6.1 Composite analogue signals
   - 6.2 Multiplexed digital component signals
   - 6.3 Digital component signals
   - 6.4 Encrypted analogue signals
   - 6.5 Encrypted digital signals
   - 6.6 High Definition Television (HDTV) signals
7. Characteristics when the equipment is used for:
   - 7.1 Contribution
   - 7.2 Primary distribution
   - 7.3 Secondary distribution, taking into account potential needs for harmonization with non-distributive services, see Question C/XV (Visual telephone systems)

Note 1 - CMTT is responsible for recommending standards for the digital encoding of television signals of broadcast type and testing methods for television transmission, and account should be taken of its work in this area.

Note 2 - Study Group IV is responsible for the maintenance of television transmission links, and account should be taken of its work in this area.

Note 3 - Account should be taken of the studies of broadband ISDN undertaken by Study Group XVIII.

Note 4 - The study of this Question should be coordinated with the study of Question C/XV (Visual telephone systems).

Note 5 - Operations, administration and maintenance interfaces on transmission equipment are studied under Question I/XV.

Note 6 - Study Group XVIII is responsible for general network issues and should be kept informed of any likely network implications arising from the study of this Question, including coding standards originating in CMTT.

13.2 *Question J/XV* - *Add* the following fifth Question: "Is a 16 kbit/s overload channel operation desirable, and if so, how should Recommendations G.723 and G.763 be modified to accommodate this".

13.3 *Question P/XV* - *Amend* as follows:

a) *Delete* point 2 of the Question ("What characteristics should be recommended for digital line on metallic pairs to be used in the local network including narrow-band ISDN access") and *renumber* point 3 accordingly.

b) *Delete* "Metallic pairs" in study point 1.

c) *Add* the following new Note 7:

"Note 7 - Study of this Question should be coordinated with Question T/XVIII."

13.4 *Question S/XV* - *Delete* "new" before "synchronous" in the title and text of this Question.

13.5 *Question U/XV*

a) *Modify* point 7 as follows: "Network constraints and considerations, e.g. delay and interaction with echo control".

b) *Add* an annex giving the terms of reference of the ad hoc Group on 16 kbit/s speech coding.

13.6 *Question V/XV*

Insert a new Note 3 and *renumber* existing Notes 3 and 4 accordingly. New Note 3 will read:

"Note 3 - Algorithms developed under Questions U/XV and W/XV could also be used for the encoding of stored voice, especially when associated with suitable methods for silent periods suppression."

13.7 *Question W/XV*

a) *Modify* study point 5 as follows: "Network considerations and constraints, e.g. delay and interaction with echo control".

b) *Add* a new Note 5 as follows:

"Note 5 - Land mobile satellite use of voice codecs operating between 4.8 and 9.6 kbit/s is also subject to activities in several organizations for commercial telephone communications."

13.8 *Question X/XV*

a) *Modify* Question 3 as follows: "What protocol characteristics at layers 2 and 3 should be recommended for packetized voice? Are these protocol characteristics also suitable for data communication?"

b) *Modify* study point 3 by adding "time stamping" in brackets after synchronization.

c) *Modify* study point 4 as follows: "Implications for network equipment, e.g. packet cross-connect and packet switching systems".

d) *Add* an annex on the algorithm and protocol for speech packetization.

13.9 *Question Z/XV*

Add an annex giving the list of remaining items for further study in Recommendation G.722.

13.10 *Question AE/XV* - *Add* the following annex:

"ANNEX

Optimization of the subscriber network through the introduction of new services and techniques

Abstract

Due to the vast development of sophisticated and reliable communication systems, most of which are adaptable to the subscriber network, and with regard to the fact that the design of such new techniques will improve the quality of transmission and could solve major problems such as space limitation this is considered to be an appropriate subject for study.

Introduction

With regard to the fact that subscriber network will utilize the new techniques and services in the near future, we recommend that a study concerning the following facilities and services be undertaken:

a) ISDN services;

b) digital subscriber multiplexing systems[1];

c) concentrators[1];

d) application of ADPCM to double the capacity of 2048 Mbit/s links.

In order to implement the above facilities and services more efficiently, the following criteria should be taken into account:

1) the needs of developing countries for the planning of telecommunication networks;

2) with the development of ISDN, many aspects of the traditionally separate voice and non-voice services are likely to be drawn closer together;

3) the need to optimize subscriber network planning.

Proposal

Due to the widespread application of new techniques in the subscriber network, we propose a study on the following subjects:

The study should take into account, from a practical standpoint, planning, maintenance, management (technical and commercial operation), cost and tariff aspects, etc.

1) Recommendation concerning the introduction of subscriber concentrators or digital subscriber multiplexing system (DSMS) for improvement or upgrading the existing subscriber network.

2) Bit rate plan for application of different speed of DSMS on tree networks.

3) Recommendation concerning the application of ADPCM.

4) Recommendation concerning the network planning of the basic ISDN services in a multiplexing mode in existing and expansion cable networks."

13.11 Question AF/XV is transferred from Study Group XI (Question Y/XI in Document AP IX-92).

14 **Study Group XVII** (Relevant documents: AP IX-91 + Add.)

14.1 *Question 6/XVII*

Amend to read:

14.2 *Question 6/XVII - Characteristics of a device used to interface a DTE to digital channels other than ISDN* (new Question)

Considering

(a) that there is an increasing need for leased circuits with data signalling rates of 64 kbit/s and multiples thereof;

(b) that most applications at these data signalling rates do not require more interchange circuits than the data and timing circuits;

(c) that PCM transmission paths capable of conveying 64 kbit/s or multiples thereof are internationally available;

(d) that Recommendations V.36 and V.37 already specify DCEs for data signalling rates of up to 144 kbit/s using analogue transmission paths according to Recommendations of the H-Series;

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1) It is recognized that certain aspects are being examined by other Study Groups.

(e) that ISO 4902 and ISO 4903 specify DCE/DTE interface connectors which are, by their nature, not restricted to data signalling rates of 64 kbit/s or 144 kbit/s;

(f) that Recommendations V.36 and V.37 already address an optional PCM interface;

A study should be made of the characteristics of a device interfacing a DTE to existing PCM transmission paths.

The study shall comprise:

- control of remote loops according to Recommendation V.54,
- rate adaption techniques for 48 kbit/s and 56 kbit/s,
- definition of scramblers,
- definition and allocation of framing for G-Series interfaces,
- definition of characteristics of interface connectors for G-Series interfaces in close cooperation with ISO/IEC.

15 **Study Group XVIII** (Relevant document: AP IX-149)

15.1 The following note should be added to Question B/XVIII:

"The study should be conducted in close relation with Question M/XVIII".

15.2 *Add* to Question M/XVIII a note reading: "The study should be conducted in close relation to Question B/XVIII".

15.3 *Questions E/XVIII and I/XVIII*

Add the following Note:

"Note - To be studied in close consultation with Study Group II and other related Study Groups."

15.4 *Question M/XVIII*

Add the following new *considering* (g):

"(g) that strong coordination of activities in the broadband field will still be necessary early in this study period, at least until there is a consensus on a number of basic assumptions and parameters".

15.5 *Question S/XVIII*

Add at the end of Note 2:

"The work done in connection with Question 16/II should be taken into account."

15.6 *Question W/XVIII - Guidelines for implementing ISDN field trials in developing countries*

Considering

(a) the need, in particular for developing countries, for guidelines on field trials of ISDN systems and associated networks and terminals;

(b) that Administrations need to have a defined period together with a defined set of parameters for embarking on the field trial of ISDN capabilities and demand requirements;

(c) the impact of ISDN on future network planning;

the following points should be specifically addressed:

1) What parameters influencing the field trial period for ISDN should be taken into account in drawing up guidelines?

2) What guidelines are required for the steps to be taken by Administrations during the ISDN field trial period?

3) What guidelines are required for the trial methods and parameters influencing the said objectives?

This Question should be studied in consultation with other Study Groups, such as Study Groups II, IV, XI, XV.

16 **Joint Study Group CMV** (Relevant document: AP IX-154)

Since the Plenary Assembly is to take a decision on the future of Vocabulary studies, Committee B is not proposing any Questions.

17 **CMTT activities** (Relevant document: AP IX-154)

Committee B proposes the following text concerning the revision of the terms of reference of the CMTT:

EXAMINATION OF THE PROPOSED REVISION OF THE TERMS OF REFERENCE OF CMTT AND COORDINATION WITH CCITT STUDY GROUPS XV AND XVIII

CMTT, in their report to the IXth Plenary Assembly, proposed a revision of the Terms of Reference of CMTT (AP IX-152) to include standards for distribution of sound and television to the end user (i.e. secondary distribution).

This proposal has arisen from CCITT studies during the 1985-88 study period on providing broadband cabled access to the end-user, i.e. the broadband ISDN studies in CCITT Study Group XVIII.

CCITT studies on broadband ISDN in Study Group XVIII provide Recommendations for a broadband multiservices network, capable of supporting both communicative and distributive services. As such these B-ISDN studies impact directly on video coding studies which are addressed in CCITT Study Group XV for communicative services (including videotelephony) and those which are proposed by CMTT for future distributive services applications.

In examining the CMTT proposal, the Plenary Assembly highlights the need for close coordination between these related Study Groups to ensure consistency in video standards resulting from the work of the CCITT (in particular Study Group XV and Study Group XVIII) and CMTT.

To ensure that these studies are aligned with broadband ISDN, the Plenary Assembly decides that CMTT should undertake their projected video coding studies in the secondary distribution with the objective of consistency with the broadband ISDN being developed in CCITT Study Group XVIII and with coding for videotelephony in CCITT Study Group XV. Consistency with the video coding for broadcasting services should also be considered.

In Study Group XVIII, Question V/XVIII (Broadband ISDN impact on the principles for video coding) has been established to provide direction for the video coding studies in the secondary distribution for both CCITT Study Group XV and CMTT.

Such conformity with broadband ISDN studies will allow the advantages available through a multiservices network to be extended to the end user with respect to a potentially limited family of video codecs and display parameters for a range of communicative and distributive services.

Note was taken of Decision 18-5 of CMTT which has resulted in the establishment of IWP CMTT/1 to examine cross relationships between CCIR Study Groups 10 and 11 and the CMTT and the liaison with CCITT. It is anticipated that the direction provided by the IXth Plenary Assembly may impact on these studies and should be further addressed by CMTT. The Chairmen of CCITT Study Group XV and XVIII or their representatives should be in attendance at these discussions in IWP CMTT/1.

With the objective of this consistency with broadband ISDN studies, the CCITT Plenary Assembly endorses the proposed revision of terms of reference of CMTT.

Note - The text should also be communicated to CCITT Study Group XV, XVIII and CMTT, together with Decision 18-5 of CMTT.

18 **Consideration of the report of Committee D**

The Chairman of Committee B having pointed out that Committee D is examining the GAS programmes to ensure that they are consistent with the topics assigned to the Study Groups, the topics dealt with by GAS 7, 9 and 11 were presented by Mr. Ghazal; certain changes were proposed by Committee B.

The Director of the CCITT said that the number of GAS 11 should be changed to GAS 12, in view of the development of the proposed topic, to avoid any confusion with the GAS 11 Manual already published.

3.4 REPORT BY COMMITTEE C TO THE PLENARY ASSEMBLY

(as approved by the Plenary Assembly)

BUDGET CONTROL AND FINANCIAL NEEDS FOR THE CCITT

The terms of reference of the Budget Control Committee set up by the Plenary Assembly pursuant to No. 476 of the International Telecmmunication Convention (Nairobi, 1982) were:

- to determine the organization and the facilities available to delegates,
- to examine and approve the accounts for expenditure incurred throughout the duration of the Plenary Assembly and to present a statement to the Plenary Assembly setting out, as accurately as possible, the estimated total expenditure of the Assembly.

In accordance with No. 439 of the Nairobi Convention and the Additional Rules of Procedure of the CCITT, the Budget Control Committee also has to examine an estimate of the financial needs of the CCITT up to the next Plenary Assembly.

During the IXth Plenary Assembly, the Budget Control Committee held two meetings and considered the various items of its terms of reference. As a result of this work, the present report is submitted to the Plenary Assembly for consideration; it will then be transmitted, with the latter's comments, to the Secretary-General for submission to the Administrative Council.

1 Organization of the Plenary Assembly and facilities available to delegates

The Budget Control Committee considered that the organization of the Plenary Assembly was thoroughly satisfactory and that the facilities available to the delegates were excellent.

2 Expenditure incurred since the VIIIth Plenary Assembly

The Committee took note of the information provided by the General Secretariat and the Director of the CCITT in connection with the operating expenditure of the Secretariat between 1985 and 1988 and the expenditure incurred by the Study Groups during this period.

3 Financial needs of the CCITT until the next Plenary Assembly

The Budget Control Committee took note of the provisions of Article 80 of the Nairobi Convention relating to the financial responsibilities of CCI Plenary Assemblies and of the provisions of Plenipotentiary Conference Resolution No. 48.

Committee C considered the report of the Director of the CCITT mentioning the financial needs of the CCITT until the Xth Plenary Assembly and it took note of the estimated credits included in the report (see Document AP IX-72, Part 3).

In summary, these expenditure estimates are based on the following programme of meetings:

Year	Weeks of meetings
1989	32
1990	50
1991	53
1992	36 + 2 (AP)

It is understood that this programme could be modified.

On this basis and considering that all the meetings of Study Groups and their Working Parties will be held in Geneva, the overall credit estimates for the budget are as follows:

Year	Section 13[a)]	Section 17[a)]	Total
	- Swiss francs -		
1989	2,620,000	2,338,000	4,958,000
1990	3,663,000	3,169,000	6,832,000
1991	4,020,000	4,280,000	8,300,000
1992	4,775,000	4,705,000	9,480,000

a) Credits under Section 13 refer to expenditure related to meetings (such as interpretation, document production and postage). Credits under Section 17, on the other hand, refer to expenditure related to supernumerary staff of the Common Services of the General Secretariat (translation, typing and document reproduction).

The Committee noted that expenditure on the production and dispatch of Study Group and Plenary Assembly documentation was rising steadily and it considered that ways and means should be sought to reduce such expenditure as far as possible.

4 Budget of the IXth Plenary Assembly of the CCITT

The Budget Control Committee took note of the budget of the IXth Plenary Assembly as approved by the Administrative Council at its 42nd session (1987) and adjusted pursuant to Resolution No. 647 of the Administrative Council. The budget amounted to 1,001,000 Swiss francs at 1 November 1988.

That budget does not cover expenditure for the Common Services of the General Secretariat, which are charged to a separate section of the Union budget.

The Committee was informed that the budget of the Plenary Assembly had been established for a meeting held in Geneva and that the difference between the cost of a meeting in Geneva and in Melbourne was borne by the inviting Administration.

5 Situation of the accounts of the IXth Plenary Assembly

The situation of the accounts of the IXth Plenary Assembly as approved by the Budget Control Committee is annexed hereto. It shows the breakdown of credits in the budget as well as expenditure as at 23 November 1988. It also indicates the expenditure committed by this date as well as an estimate of the expenditure to be envisaged for the IXth Plenary Assembly.

The situation of the accounts shows that the total expenditure for the Plenary Assembly is estimated at 1,410,000 Swiss francs as compared to 1,001,000 Swiss francs provided for in the budget. Credits have therefore been exceeded by some 409,000 Swiss francs. The Budget Control Committee noted that this substantial overexpenditure had been caused exclusively by the volume of documentation produced for the Plenary Assembly and the cost of dispatching it.

6 Agreement concluded between the Australian Government and the Secretary-General of the Union concerning the organization of the IXth CCITT Plenary Assembly and the WATTC

The Budget Control Committee took note of the agreement concluded between the Australian Government and the Secretary-General of the Union concerning the organization of the Plenary Assembly and the WATTC in Melbourne and it proposes that the Plenary meeting should express its full appreciation to the host Government for the measures taken and the facilities made available to participants in the IXth CCITT Plenary Assembly.

ANNEX A

Statement of the Accounts of the IXth CCITT Plenary Assembly

Subhead Item	Title	Adjusted Budget	Actual Expenditure	Committed + Estimated Expenditure	Total Expenditure
			Swiss francs		
	Subhead 1 - Salaries and related expenses				
13.201	Meeting Staff	366,000	-	311,000	311,000
13.202	Travel (recruitment)	92,000	-	93,000	93,000
13.203	Insurance	8,000	-	8,000	8,000
		466,000	-	412,000	412,000
	Subhead 2 - Premises and equipment				
13.205	Premises, furniture, machines	15,000	-	15,000	15,000
13.206	Document production	264,000	437,000	37,000	474,000
13.207	Office supplies	33,000	7,000	23,000	30,000
13.208	Postage	220,000	446,000	30,000	476,000
13.209	Sundry and unforeseen	3,000	-	3,000	3,000
		535,000	890,000	108,000	998,000
	Total for Section 13.2	1,001,000	890,000	520,000	1,410,000

ANNEX B

Report of the Director of the CCITT - Estimate of the financial needs of the CCITT until the Xth Plenary Assembly

Introduction

1 Chapter X, Article 74, No. 439 of the General Regulations of the Convention (Nairobi, 1982) provides that the Director of the CCITT, after consultation with the Secretary-General, shall submit for the approval of the Plenary Assembly an estimate of the financial needs of the CCITT up to the next meeting of the Plenary Assembly. According to the provisions of this Chapter X, Article 69, No. 410 of the Convention, the Assembly is to approve this estimate, if appropriate, for submission to the Administrative Council.

2 The Additional Rules of Procedure of the CCITT, set out in Resolution No. 1 of the VIIIth Plenary Assembly, Malaga-Torremolinos, 1984, specify that "in his estimate of the financial needs of the CCITT until the next PA, the Director shall communicate to the PA (for information) a summary of the accounts for the years which have elapsed since the preceding PA and the estimated expenses of the CCITT to cover the latter's financial requirements until the next PA."

3 Lastly, No. 440 of the Convention provides that the Director of the CCITT, when preparing the annual estimates of the Committee's expenses for inclusion in the annual budget of the Union, shall base himself on the estimate of the financial needs approved by the CCITT Plenary Assembly.

The summaries of the accounts of past years are to be found in Part II of this Report and the estimates of needs in Part III.

PART I

Cost of the operation of the Secretariat during the period 1985-1988 and budget estimates for 1989

1.1 Since staff expenditure depends on the staff employed, which is decided by the Administrative Council, Appendix 1 gives the figures for permanent staff from 1985 to 1988. There were also two unestablished posts of CCITT laboratory operator, which were terminated on 31 March 1988 (see report on the Laboratory - Document AP IX-68). Appendix 2 shows the position of the Laboratory Reserve Fund.

APPENDIX 1

Permanent staff of the CCITT Secretariat and Laboratory, as approved by the Administrative Council (actual strength)

Grade	Number			
	1985	1986	1987	1988
D1	2	3	3	3
P5	10	7	7	7
P4	4	5	5	5
P3	1	2	1	2
P2	2	2	2	1
P1	-	-	1	1
G7	4	3	2	2
G6	20	18	19	18
G5	1	2	2	2
G4	1	1	1	1
Total	45	43	43	42

APPENDIX 2

Figures for the Laboratory Reserve Fund, 1984-1987

	Position on 1 January	Expenditure on equipping the Laboratory	Income from calibration tests	Position on 31 December
1984	236,335.65	94,638.-	68,455.-	110,152.65[a)]
1985	110,152.65	45,532.35	58,210.-	122,830.30
1986	122,830.30	70,384.60	65,350.-	117,795.70
1987	117,795.70	84,829.30	39,190.-	72,156.40
1988	72,156.40			

a) Allowing for the transfer of 100,000 Swiss francs to the ITU Reserve Account in accordance with Decision 401/CA39.

PART II

Expenditure incurred for CCITT meetings and for the IXth Plenary Assembly (Melbourne, 1988)

2.1 The budgets for meetings in 1985-1988, taking into account the annual adjustments made by the Administrative Council in application of Protocol I annexed to the Nairobi Convention (1982), and also the meeting expenses actually incurred from 1985 to 1988, are shown in Appendix 3. This annex does not include expenditure for the Common Services of the General Secretariat, which appears in a separate section of the budget (Section 17).

2.2 A document containing combined tables of expenditure on meetings and the related common services is being prepared and will be submitted separately to the Plenary Assembly.

2.3 In accordance with Articles 15 and 79 (Numbers 616 and 617) of the Nairobi Convention (1982), the cost of CCITT meetings is borne by all members, together with recognized private operating agencies and scientific or industrial organizations which have participated or have agreed to participate in meetings and the international organizations which have not been exempted under Administrative Council Resolution No. 925, as amended. For organizations other than members, since the Nairobi Convention (1982) came into effect, that is, since 1 January 1984, the contributory unit has been fixed at 1/5 of that of Union Members.

2.4 The organization and facilities made available to participants in the IXth Plenary Assembly and the interim statement of expenditure incurred for the Plenary Assembly will be communicated to the Assembly in a separate document.

2.5 It will be recalled that the Plenipotentiary Conference (Nairobi, 1982) fixed limits in Additional Protocol I for the Union's expenditure over the period 1983-1989, and in particular for CCITT meetings.

Under Additional Protocol I credits can also be carried over from one year to another or, alternatively, charged to a future year.

The following table shows, for the years 1983-1989, the position with regard to expenditure for CCITT meetings, including common services expenditure, in relation to the limits set by the Plenipotentiary Conference (Nairobi, 1982).

Year	Expenditure under Sections 13/17	Ceiling	Surplus
	- in 1 September 1982 Swiss francs -		
1983	4,356,000	4,800,000	444,000
1984	6,042,800	6,900,000	857,200
1985	3,541,000	6,100,000	2,559,000
1986	5,251,000	6,300,000	1,049,000
1987	6,034,500	6,500,000	465,500
1988	7,764,000 a)	6,650,000	-1,114,000
1989	4,448,000 a)	7,000,000	2,552,000
	37,437,300	44,250,000	6,812,700

a) Expenditure planned in the budget

APPENDIX 3

Expenditure for 1985 to 1987 and budget estimates for 1985 to 1988

	Budget 1985	Expenditure 1985	Budget 1986	Expenditure 1986	Budget 1987	Expenditure 1987	Budget 1988
Number of days of meetings		360		452		460	195 + AP
Salaries and related expenditure							
Meetings staff	1,708,000	1,401,907	2,008,400	1,428,993	1,816,700	880,876	2,230,000
Travel (recruitment)	155,000	156,360	169,000	105,007	134,000	103,895	200,000
Insurance	42,000	23,554	57,000	18,602	56,000	17,237	60,000
	1,905,000	1,581,821	2,234,400	1,552,602	2,006,700	1,002,008	2,490,000
Travel outside Geneva							
Subsistence allowance	15,000	38,380	42,000	71,242	27,000	80,517	2,000
Travel	60,000	58,262	63,000	106,952	54,000	97,673	13,000
Transport and despatch	10,000	7,325	10,000	18,344	8,000	21,026	2,000
	85,000	103,967	115,000	196,538	89,000	199,216	17,000
Premises and equipment							
Premises, furniture, machines	30,000	120,143	30,000	201,053	25,000	179,478	85,000
Document production	323,000	231,594	423,000	514,120	400,000	638,668	900,000
Office supplies and overheads	68,000	101,353	120,000	154,030	100,000	148,257	180,000
Postage	209,000	250,250	400,000	679,927	400,000	923,312	700,000
Sundry & unforeseen	13,000	7,811	10,000	660	12,000	1,279	10,000
	643,000	711,151	983,000	1,549,790	937,000	1,890,994	1,875,000
Total cost of meetings	2,633,000	2,347,939	3,332,400	3,298,930	3,032,700	3,092,218	4,382,000

PART III

Financial needs of the CCITT until the Xth Plenary Assembly

3.1 *Expenditure on future Study Group meetings and the Xth Plenary Assembly*

The cost of meetings in the new period can be estimated accurately only when the Plenary Assembly has fixed the programme of activity for that period.

3.1.1 *Meetings in 1989*

A programme of meetings was submitted by the Director of the CCITT to the 43rd session of the Administrative Council (June 1988) for the preparation of the 1989 budget. The programme is based on 32 weeks of meetings in Geneva. These meetings will enable the Study Groups:

- to have an initial discussion to determine the direction of the studies;
- to organize their work, setting up the necessary Working Parties, assigning questions for study to them and appointing Special Rapporteurs;
- to consider priority questions and to continue consideration of questions not completed during the previous study period.

The meetings of Study Groups with common interests or dealing with related problems will be arranged, as in the past, so as to reduce travel by participants.

The meetings are all to be held in ITU premises. Interpretation will be provided in accordance with the provisions of the Convention.

Having regard to the other conferences in 1989, CCITT meetings should in principle be held during the period from April to August 1989.

The budget for CCITT meetings in 1989 is given in Appendix 4.

3.1.2 *Expenditure estimates for the years 1990-1992*

In view of the experience of previous periods and the need during the period 1989-1992 to hold meetings with interpretation covering a number of working days at least equivalent to that of the preceding period, the following programme is proposed for examination and approval by the IXth Plenary Assembly:

Year	Weeks of meetings
1989	32
1990	50
1991	53
1992	36 + 2 (AP)
Total	173

3.2 *Estimated credits*

3.2.1 On the basis of the draft budget for 1989 - reproduced for information in Appendix 4 to this Report - and of the average cost of a week of meetings, the budget estimates for meetings in the years 1990, 1991 and 1992 are given in Appendix 5.

3.2.2 For the years after 1989, consideration will also have to be given to the budget limit that is adopted by the Plenipotentiary Conference (Nice, 1989) and to expenditure estimates based on the experience of the current period.

For certain large meetings of Study Groups with several Working Parties, it should no longer be a matter of course to plan for a single team of interpreters, but extra teams should be provided if necessary.

For the Xth Plenary Assembly, the estimate can be made only by extrapolation from the estimates for the IXth Plenary Assembly, i.e. about 1,150,000 Swiss francs.

3.2.3 On the basis of the above, the necessary budget allocations would come to the following totals in Swiss francs, there being no need for a breakdown among different items:

Year	Section 13	Section 17	Total
1989	2,620,000	2,338,000	4,958,000
1990	3,663,000	3,169,000	6,832,000
1991	4,020,000	4,280,000	8,300,000
1992	4,775,000	4,705,000	9,480,000

All these figures would of course have to be revised during the preparation of successive annual budgets, taking into account changes in salaries and prices.

3.2.4 It is assumed that all meetings of the Study Groups or their Working Parties will be held in Geneva.

If the CCITT is to discharge its numerous duties, the budget estimates must provide the resources required to ensure that its work proceeds efficiently.

APPENDIX 4

Section 13 - CCITT

	Items		Expenditure 1987	Budget 1988	Budget 1989
			- Swiss francs -		
	Salaries and related expenses				
13.101	Meetings staff		880,876	2,230,000	1,521,000
13.102	Travel (recruitment)		103,895	200,000	125,000
13.103	Insurance		17,237	60,000	50,000
			1,002,008	2,490,000	1,169,000
	Travel outside Geneva				
13.104.1	Subsistence allowance		80,517	2,000	17,000
13.104.2	Travel		97,673	13,000	52,000
13.104.3	Transport and dispatch		21,026	2,000	7,000
			199,216	17,000	76,000
	Premises and equipment				
13.105	Premises, furniture, machines		179,478	85,000	60,000
13.106	Document production		638,668	900,000	340,000
13.107	Supplies and overheads		148,257	180,000	100,000
13.108	PTT		923,312	700,000	340,000
13.109	Sundry and unforeseen		1,279	10,000	8,000
			1,890,994	1,875,000	848,000
Total, Section 13		Expenditure	3,092,218		
		Budget	3,032,700	4,382,000	2,620,000

APPENDIX 5

Budget for 1989 and budget estimates for the years 1990-1992

	1989	1990	1991	1992
Salaries and related expenses				
13.101 Meetings staff	1,521,000.--	1,859,000.--	1,970,000.--	2,102,000.--
13.102 Travel	125,000.--	159,000.--	134,000.--	212,000.--
13.103 Insurance	50,000.--	63,000.--	66,000.--	71,000.--
	1,696,000.--	2,081,000.--	2,170,000.--	2,385,000.--
13.104 Travel outside Geneva	76,000.--	87,000.--	70,000.--	20,000.--
Premises and equipment				
13.105 Premises, furniture, machines	60,000.--	90,000.--	90,000.--	90,000.--
13.106 Document production	340,000.--	675,000.--	910,000.--	1,190,000.--
13.107 Supplies and overheads	100,000.--	120,000.--	120,000.--	180,000.--
13.108 PTT	340,000.--	600,000.--	650,000.--	900,000.--
13.109 Sundry and unforeseen	8,000.--	10,000.--	10,000.--	10,000.--
Total meeting costs	2,620,000.--	3,663,000.--	4,020,000.--	4,775,000.--

3.5 REPORT BY COMMITTEE D TO THE PLENARY ASSEMBLY

(as approved by the Plenary Assembly)

CCITT TECHNICAL ASSISTANCE

1 **Statement by Director of the CCITT**
(See also section 3 of Document AP IX-68: Report on CCITT activities, by Director of CCITT).

Highlights

Compared to previous periods, the publication of GAS handbooks were very much advanced, with several already published and the remainder to be ready by the end of 1988.

Furthermore, due to the use of economic printing processes, the GAS handbooks would also be considerably cheaper than in the past.

2 **Reports by GAS 3, 7, 9, 10 & 11**

2.1 *Report of GAS 3:* Economic and technical aspects of the choice of transmission systems
(Document: AP IX-28)
Chairman: Mr. J.Z. Jacoby (United States of America)

Highlights

2.1.1 During the 1985-1988 study period, GAS 3 had completed another handbook on: "Methods for evaluation new digital inter-exchange transmission systems as a guide to network planning".

2.1.2 The handbook would be available by the end of 1988 in all three working languages of the Union.

2.1.3 The meeting noted the appreciation expressed for the assistance rendered by AT&T in the preparation of the handbook.

2.1.4 The Chairman advised that GAS 3 *had completed its work* and hence it would not be continued in the next study period.

2.2 *Report of GAS 7*: Rural telecommunications
(Document: AP IX-136)
Chairman: Mr. C. Rudilosso (Italy)

Highlights

2.2.1 Five new volumes were completed during the 1985-1988 study period, as follows:

Volume 1: Case studies on rural telecommunications
Volume 2: Training handbooks on rural telecommunications (First Part)
Volume 3: Training handbooks on rural telecommunications (Second Part)
Volume 4: Handbook on economics and financing of telecommunications projects in developing countries
Volume 5: Tropospheric scatter radio-relay links for rural networks.

2.2.2 There was appreciation expressed of the very worthwhile results and positive outcome of the GAS 7 seminars held in:

- Buenos Aires (May 1986)
- Dakar (January 1987)
- Jakarta (February 1988)

In addition an information was welcomed, including that five seminars, financed by the Federal Republic of Germany in close collaboration with the ITU, have been held respectively in Addis Ababa, Lome, Harare, Bangkok and Yaoundé on economic and technical aspects of rural telecommunications.

2.2.3 The meeting noted with satisfaction the continuing support promised by a number of Administrations (Federal Republic of Germany, France, Spain, Argentina, Senegal, India, Islamic Republic of Iran, Cameroon and others) for the future work programme of GAS 7 in the next study period, as proposed in AP IX-136, Annex 2.

2.2.4 GAS 7 would pay particular attention, in its future work, to the needs of very isolated communities.

2.2.5 It was recognized that the work of GAS 7 was of importance to many developed nations which had remote communities with difficult telecommunications access.

2.3 *Report of GAS 9:* Economic and technical aspects of transition from an analogue to a digital telecommunication network

(Document: AP IX-2)

Chairman: Mr. M.H. Ghazal (Lebanon); also GAS Coordinator

Highlights

2.3.1 Two case studies were completed, both of which have been published and will be available by the end of 1988:

i) *Working Group A, Senegal.* Case study of a complete analogue national network moving to a digital network.

ii) *Working Group B, Thailand.* Case study of a mixed national network moving to a digital network.

2.3.2 The Chairman thanked the Secretary-General for the excellent cooperation and support received from the ITU Technical Cooperation Department.

2.3.3 It was noted that the two meetings of GAS Chairmen, chaired by the GAS Coordinator, Mr. Ghazal, had led to positive results, in the form of detailed guidelines for the work of GAS, as contained in Annex 2 to Part I of Document AP IX-2.

2.3.4 GAS 9 would consider the suggestion to include in its future studies guidelines on the progressive introduction of ISDN into national networks.

2.3.5 Committee D draws the attention of the Plenary Assembly to the great interest of the work of GAS 9 has for developing countries, and the need to disseminate these results quickly.

2.3.6 The Secretary-General of the ITU pointed out that in its future work, GAS 9 should be careful to avoid duplication of effort in the study of regional and international networks, which were being studied elsewere, and that priority treatment should be accorded to national network studies.

2.3.7 The Secretary-General also expressed concern at the high level of demand being placed on Administrations to supply statistical data, and in order to address this problem, a document will be presented for consideration by WATTC-88, seeking guidance from that Conference. Committee D should take account of this problem in considering its future work programme.

2.3.8 In response to the delegate of Senegal who pointed out deficiencies in the provision of interpretation, translation and documentation facilities, computer resources and financial support available for GAS meetings, the Secretary-General replied that an advisory Group established to study these matters had suggested that greater cooperation and coordination should be encouraged at a regional level, instead of financing the participation at meetings.

Regarding computer facilities, the ITU, in close collaboration with UNDP and the Administrations of Bulgaria, Greece and Sweden had developed software programmes available on minicomputers to aid in the study of telecommunication network development, and training courses were being organized (at national and regional level) on their adaptation and use in individual national environments.

2.3.9 GAS 9 will continue its activities in the 1989-1992 study period, along the following lines:

- "Make case studies more comprehensive and complement them by a new study on the progressive introduction of ISDN into part or whole of a national network" (see AP IX-2, section IV).
  The Committee noted that the delegate of the Islamic Republic of Iran had volunteered his own country for this study.
  The Chairman of GAS 9 also advised that Lebanon and Madagascar had volunteered their countries for study.
- "To extend the scope of the study so as to include the digitalization of regional networks" (see AP IX-2, section IV).

For further details on the work programmed proposed for 1989-1992, refer to Part IV of AP IX-2 and to its Annex and section 3.3 below.

2.4 *Report of GAS 10:* Planning data and forecasting methods
(Document: AP IX-9)
Vice-Chairman: Mr. D. De Maio (Italy)
[Former Chairman: Mr. A. Zolfaghari (Islamic Republic of Iran)]

Highlights

2.4.1 Three volumes were completed during the 1985-1988 study period, all three of which were printed and available in the three working languages by February 1988, as follows:

Volume 1: Planning data and forecasting methods, consisting of 10 chapters.

Volume 2: Planning data and forecasting methods - Four case studies.

Volume 3: Planning data and forecasting methods - Operational manual for forecasting software.

2.4.2 The Committee noted the close cooperation established with the Technical Cooperation Department of the ITU and the invaluable assistance rendered by its experts in the development of all three volumes of the handbook.

2.4.3 The French delegate, whose country provided two experts for the whole duration of GAS 10's work, remarked that it was essential that the CCITT continue with the distribution of the forecasting software, particularly in the implementation and use of forecasting software programs and the various forecasting techniques outlined in the handbook.

2.4.4 In order to enable GAS 10 to make the forecasting software package available, as quickly as possible, the Swedish Telecommunications Administration Training Centre kindly offered to produce and distribute the forecasting software package at cost price ($US 80) for a period of two years, from 1 January 1988. As from 1 January 1990, the ITU will take over this function (see paragraph 7.4 below).

2.5 *Report of GAS 11:* Strategy for public data networks
(Document: AP IX-135)
Chairman: Mr. J. Pécresse (France)

Highlights

2.5.1 A handbook on "The strategy for introducing a public data network" has been completed and published in April 1988.

2.5.2 The delegate of Senegal advised that his country found it very useful to host a meeting of GAS 11, since it enabled many countries in the region to benefit from the information being developed for the GAS 11 handbook.

2.5.3 The Secretary-General of the ITU told the meeting that the TCD would be happy to sponsor a Seminar on the introduction and evolution of public data networks.

3 Follow-up activities (if applicable) of GAS 3, 7, 9, 10 and 11 for 1989-1992

Note - An ad hoc Group of GAS Chairmen and Vice-Chairmen together with other interested delegates was formed in order to prepare a resumé of the study items to be taken into account by the GAS groups which will continue their work in the next period (i.e. GAS 7, 9 and 11), based on the GAS Reports and on the items raised by delegates. Committee D agreed with the results of this ad hoc Group, contained in Annexes 1, 2 & 3.

3.1 *GAS 3*

As reported earlier, GAS 3 has completed its mandate and hence, it will not be continued in the next study period.

3.2 *GAS 7*

GAS 7 will continue its activities in the next study period. Amongst the items proposed for inclusion in its future work programme, the following are noted:

i) Recognition of the fact that tariff structure used in rural areas are different to that for urban centres.

ii) Strategy for dissemination of the work already prepared by GAS 7.

iii) Strategies for financing the development of rural telecommunications.

iv) The meeting was advised that the Administration of the Islamic Republic of Iran will submit a contribution on a number of study items proposed for inclusion in the future work programme of GAS 7. (See Attachment to Annex 1.)

The result of the ad hoc Group, as approved by Committee D, can be found in Annex 1.

3.3 *GAS 9*

GAS 9 will continue its work in the next study period, but some clarification was made regarding its proposed future work outlined in section IV of AP IX-2 and its Annex.

Further to the points already raised in §§ 4.6 to 4.8 of Part I of this Report (Temp. Doc. 37/PLEN), the following additional items were raised by the Secretary General of the ITU and the Director of the CCITT:

i) A clear distinction should be made between a *case study* and a *planning exercise.*

Consequently, it should be understood that for study item 2 of section IV, AP IX-2, a *case study* of the parameters and steps needed to move from a *regional* analogue to digital network is to be undertaken.

ii) Apart from data already available in four different ITU data banks, the Secretary-General also pointed out considerable additional planning information is also available in the ITU which should be used to the maximum extent possible in any future work envisaged by GAS 9 in order to avoid new collections of data from Administrations.

- Since 1983, 20 master plans for African countries have been drawn up.
- Bulgaria has provided valuable information in planning and cost elements involved in various implementations of digital techniques.
- A regional ITU/UND project is in course of establishing a database for Asia Pacific Telecom.

iii) Any case studies undertaken should be general enough to be usable in as many regions as possible.

The results of the ad hoc Group on future GAS 9 activities are contained in Annex 2.

3.4 *GAS 10*

i) GAS 10 *has completed* its mandate and *will not be continued* in the next study period. However, as explained in § 7 of AP IX-9, the CCITT Secretariat will need to take the necessary steps (in cooperation with the ITU Computer Department and the Technical Cooperation Department) to take over the responsibility from the Swedish Administration, of the distribution of the GAS 10 forecasting software package, by 1 January 1990.

The Director of the CCITT advised that there are already precedents for this in the ITU and no difficulties are foreseen in assuming this task by this date.

ii) It was also recognized that in the near future, an expert in forecasting and software programming may be required to update and correct the forecasting software package. It was noted that 128 forecasting software packages had already been sold to 63 countries.

3.5 *GAS 11* (GAS 12)[1)]

i) GAS 11 will continue its activities in the next study period. The suggested items for further study are outlined in § 4, document AP IX-135, as well as in Annex 3 to this document, containing the results of the ad hoc Group.

ii) The meeting was also advised that a proposal will be made to Committee B for the development of a handbook on field trials for the introduction of data services on an ISDN. Consequently, the ad hoc Group studying future GAS activities should take this item into account in formulating its guidelines.

4 Resolution No. 14

4.1 The Chairman, referring to § 6b) of Resolution No. 14, made a plea for additional funds from developed countries, for the provision of telecommunications fellowships to enable greater participation by experts from developing countries in CCITT meetings, in seminars, symposia, etc.

4.2 The delegate of Senegal, whilst very happy with the formulation of Resolution No. 14, was concerned at its limited practical application.

To promote the application of Resolution No. 14, he agreed to draft some suggestions on how this may be achieved. (See Annex 4, section 1)

4.3 The Chairman of Committee D has suggested that additional references be made in Resolution No. 14, to Articles and Resolutions of the ITU Convention, as described in Annex 4, section 2.

4.4 The preparation of handbooks by CCITT Study Groups was sometimes considered more convenient than their preparation by GAS groups, particularly when the subject matter of such handbooks was directly related to items under study in Study Groups (eg. Joint SGs II & IV handbook on "Quality of Service, Network Management and Network Maintenance"). However, it was recognized that the fundamental goals of CCITT GAS and Study Groups were quite different.

5 Report of COM "S" on Plan Committees and GAS (Document AP IX-1, Annex K)

5.1 In commenting on this document, the Director of the CCITT recalled that it had already been approved in an earlier plenary session of the IXth Plenary Assembly.

5.2 The Secretary-General of the ITU expressed some reservations on section V "Dissemination of results" of Annex K, in view of the much wider issues to be raised on ITU publication policy, in a document to be submitted to the January 1989 session of the Administrative Council, for subsequent submission to the 1989 Plenipotentiary Conference of the ITU. He considered that section 2 of § V of Annex K had been suitably treated already.

5.3 Committee D noted that the combined actions already undertaken by the Secretary-General of the ITU and the Director of the CCITT had already resulted in cheaper and more rapid publication of GAS manuals in this period, than in the past.

5.4 The Secretary-General of the ITU also pointed out that considerable developments were under way in the ITU to use modern computer techniques and electronic media in the preparation and dissemination of ITU publications.

5.5 The Secretary-General also made reference to the contribution made by scientific and industrial organizations to many facets of the ITU's activities.

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1) This GAS has been renumbered GAS 12 (strategy for the introduction of new non-voice telecommunication services in developing countries) in order to avoid any confusion with past work performed by GAS 11 (strategy for public data networks).

5.6 With the above comments and reservations in mind, Committee D agreed that Annex K of AP IX-1 was a useful reference document for the future work of the GAS Groups.

6 Miscellaneous

6.1 In response to an enquiry from the delegate of Saudi Arabia concerning the coordination of the activities of the GAS Groups which will be active during 1989-1992, the Committee reaffirmed the role of the senior Chairman of these GAS Groups, Mr. M. H. Ghazal as Special Rapporteur for coordination of GAS activities and other activities of technical assistance, as agreed at the VIIIth CCITT Plenary Assembly, 1984. (See § 2.1.9, section 2, page 185, Volume I, CCITT Red Book.)

6.2 The Committee also agreed that at the end of the 1989-1992 study period, there may be a need to update the GAS 6 manual "Economic and technical aspects of the choice of telephone switching systems", in view of the considerable technical advances since its publication in 1981.

6.3 The Committe also agreed with the suggestion of the Chairman of GAS 7 that in all future meetings of the World Plan and Regional Plan Committees, the Chairmen of the various GAS Groups in activity, should be invited, as a matter course, to such meetings in order to explain the activity in their Groups and to keep delegates up to date on progress.

6.4 Committee D noted with thanks the declaration of the delegate of Japan, who promised the support of his country in the future activities of the GAS Groups during 1989-1992.

6.5 The Chairman of Committe thanked the Chairmen and Vice-Chairmen of the GAS Groups, and all of the delegates who contributed so actively and positively to results achieved by Committe D.

ANNEX 1

Proposed terms of reference of GAS 7 for the 1989-1992 study period

The IXth CCITT Plenary Assembly (Melbourne, 14-25 November 1988) agreed that the studies of the Special Autonomous Group No. 7 (GAS 7) which is responsible for the study of rural telecommunications, should continue during the 1989-1992 study period.

Considering that

(a) a general revision of the existing Manual is necessary principally to extend the existing chapters to digital techniques;

(b) new chapters will have to be inserted to take account of the technological evolutions;

(c) as a consequence, the structure of the existing Handbook will have to be rearranged;

(d) preliminary to complete case studies, the actual status of existing networks in African and in Asian countries have been published;

(e) in the last few years, a few prevalent types of rural telecommunication services and two prevalent categories of rural telecommunication systems have emerged;

it is proposed

1) that the concerned chapters of the existing Handbook will be identified and revised by GAS 7;

2) that adequate new subjects should be included in the Manual on Rural Telecommunications;

3) to develop the existing rural case studies to consider planning solutions based on long-term data and design and comparing with the approach currently studied. Comparison of technical and economic aspects of the various solutions;

4) that simplified scenarios will be described in detail concerning a few prevalent types of rural telecommunication services and the prevalent categories of rural telecommunication systems.

Note - See also the Attachment to this Annex for a contribution by the Islamic Republic of Iran, which was endorsed by Committee D for transfer to GAS 7, which will take it into account in its future work.

Attachment
(to Annex 1)

(Contribution by the Islamic Republic of Iran)

1 Abstract

This paper raises the question of the need for further study to analyse methods of maintaining and providing a long-distance public telephone service for rural areas in the developing countries.

2 Introduction

A. *Optimum rural system*

Before deciding on an optimum rural system, definition of areas is necessary. For this reason the status of various areas in a number of countries was studied, and four models have been proposed by GAS 7. The four models are: mountainous, dense population, in-line and dispersed areas, for which TDMA was selected as the optimum system. The purpose of such studies is to determine the optimum solution to cater for individual subscribers in rural areas, and evaluations have been made in this regard.

Although the objective of any Administration would be to provide individual telephone on demand, this is impractical in the vast majority of cases, particularly when the available budget is limited. Since accessibility to an individual telephone facility is impossible, some kind of public telephone service, e.g. a long-distance public telephone office, should be provided. In this way, telephone is provided in the largest villages, subsequently penetrating towards the smallest. This kind of service can be used not only by residents of the village concerned, but also by neighbouring communities.

Such a long-distance telephone service generates very high traffic (about 0.8 Erlang) as compared with the individual subscriber telephone.

Even with a few subscribers, use of a TDMA or FDMA system in this type of service causes problems, due to the fact that a number of subscribers are concentrated in a few channels or time slots, which can only cope with very low traffic of the order of 0.05 Erlang per subscriber.

B. *Maintenance procedure*

Maintenance of rural telecommunication systems has caused a lot of major problems in remote and dispersed rural areas.

Administrations in developing countries have to overcome the difficulties by selecting an improved maintenance method, which should cover:

- economic aspects and expenditure (including allocation of manpower, technical support, training, provision of test equipment, stocking, etc.);
- maintaining desirable levels of system performance and Quality of Service.

3 Proposal

It is suggested that the following subjects be considered by the CCITT:

- economic and technical studies on transmission media for heavy-traffic public telephone in rural communities;
- clarification of rural communities in developing and developed countries;
- selection of a maintenance method in order to ensure quick access to most stations;
- selection of a maintenance method for cases when the rural systems are not equipped with supervisory and control systems;
- selection of a suitable method for provision and stocking of spare parts and accessories and organization of a repair centre (centralized or decentralized).

ANNEX 2

Terms of reference of GAS 9 - Case study of a global network for the 1989-1992 study period

Considering that

(a) during the 1981-1984 study period GAS 9 studied the economic and technical aspects of the transition from analogue to digital telecommunication networks. GAS 9 also prepared two case studies, one on an urban network, the other one on a rural network;

(b) during the 1985-1988 study period, GAS 9 carried out case studies on the following national networks:

1) a complete analogue national network moving to a digital network,

2) a mixed (analogue/digital or analogue with digital exchanges) national network moving to a digital network.

In order for GAS 9 to fulfil the terms of reference entrusted to the Group by the VIIIth CCITT Plenary Assembly, the IXth Plenary Assembly decides that GAS 9 should undertake the following future studies:

1) make the case studies more comprehensive and complement them by new studies on the progressive introduction of the ISDN into part or the whole of a national network;

2) implement a case study considering parameters and steps to be taken in the transition from analogue to digital networks for regional networking, using the necessary data collected by the Secretariat of the ITU, and as necessary, additional data furnished by the countries concerned.

The studies should take into account, from a practical standpoint, planning, maintenance, management (technical and commercial operation), financial and tariff aspects as well as staff training.

ANNEX 3

Terms of reference of GAS 12 - Strategy for the introduction of new non-voice telecommunication services in developing countries

Considering

(a) the manual of GAS 11 outlining the strategy for the introduction of a public data network in developing countries which is to be considered as a starting point for further analysis of the subject;

(b) the worldwide interest in the introduction of data services on an integrated services digital network (ISDN) is increasing rapidly;

noting that

(a) new non-voice telecommunication services such as teletex, videotex, message handling systems, digital facsimile, computer and videoconferencing, electronic funds transfer, as well as single or multidestination data services are gradually being introduced in developed countries;

(b) the demand for introducing these new services is increasing in developing countries;

(c) developing countries need guidelines to introduce these new services in their national environment;

it is proposed that

in the next study period, GAS 12 should be asked to prepare a handbook outlining the strategy for the introduction of new non-voice telecommunication services (such as teletex, videotex, message handling systems, digital facsimile, computer and videoconferencing, electronic funds transfer, as well as single or multidestination data services) in developing countries, taking into account the experience of developed countries, the specific existing economic, technical and operational environment of developing countries and the gradual implementation of ISDN.

ANNEX 4

Amendment to Resolution No. 14

1 *Add* a new "Resolves" 9, as follows:

"9. that, to this end, Administrations and RPOAs are invited to continue and increase their technical and financial assistance in order to encourage the organization of seminars to popularize manuals and of training sessions and workshops to enhance the transfer of information relating to new technologies in the fields of planning, operation, maintenance, tariffs, etc."

resolves further in Resolution No. 14 therefore becomes point 10.

2 The Chairman of Committee D has suggested that additional references should be made in Resolution No. 14, to Articles and Resolutions of the ITU Convention (Nairobi, 1982) dealing with technical assistance or technical cooperation matters. *In addition* to the references already contained in Resolution No. 14, the following references to the ITU Convention are to be included:

- Article 4, Nos. 20, 24
- Article 58, No. 326
- Resolutions Nos. 19, 22, 24, 30 and 34.

3.6 REPORT BY THE EDITORIAL COMMITTEE

(as approved by the Plenary Assembly)

1 General

1.1 The Editorial Committee was charged with the examination, language alignment and editorial finalization of the texts of Resolutions and Opinions dealt with in the Plenary Assembly.

2 Meetings

2.1 The Editorial Committee held meetings on seven occasions between 18 November 1988 and 24 November 1988.

3 Work of the Committee

3.1 During the course of its seven meetings, the Editorial Committee dealt with four Resolutions and two Opinions as listed below:

Resolution No. 1	(Temporary Document 50/PLEN(Rev.1))
Resolution No. 2	(Temporary Document 56/PLEN)
Resolution No. 17	(Temporary Document 59/PLEN)
Resolution No. 18	(Temporary Document 64/PLEN)
Opinion No. 1	(Temporary Document 57/PLEN)
Opinion No. 3	(Temporary Document 53/PLEN)

4. LIST OF PARTICIPANTS

The following symbols are used:

C	Head of delegation
CA	Deputy Head of delegation
D	Delegate

I. ADMINISTRATIONS AND RECOGNIZED PRIVATE OPERATING AGENCIES

Germany (Federal Republic of)

C	G. HAUSMANN
D	H. BLANK
D	J. CLAUS
D	K. KERN
D	W. KRUSCH
D	E. LIESER
D	W. PETERS
D	R. RUGGEBERG
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5. LIST OF DOCUMENTS OF THE IXth PLENARY ASSEMBLY

5.1 WHITE DOCUMENTS

AP IX	Source	Title
1	COM S	Report of Special Study Group S to the IXth Plenary Assembly of the CCITT
2	GAS 9	Final report to the IXth CCITT Plenary Assembly
3	SG XII	List of Questions proposed for study during the 1989-1992 study period
4	SG XII	Amended Recommendations and Supplements of the G-series
5	SG XII	New Recommendations and Supplements of the G-series
6	SG XII	Amended Recommendations and Supplements of the P-series
7	SG XII	New Recommendations and Supplements of the P-series
8	CCITT Secretariat	Replies to Questions assigned to Study Group XII in synoptical tables
9	CCITT Secretariat	Final report of GAS 10 (Planning data and forecasting methods) to the CCITT IXth Plenary Assembly
10	SG IX	Report to the IXth Plenary Assembly - Part I - Introduction and replies to the Questions
11	SG IX	Report to the IXth Plenary Assembly - Part II - Proposed New Recommendations in R, S and U-series
12	SG IX	Report to the IXth Plenary Assembly - Part III - Proposed revisions to existing Recommendations in R, S and U-series
13	SG IX	Report to the IXth Plenary Assembly - Part IV - Questions proposed for study in 1989-1992
14	SG II	Final report to the CCITT IXth Plenary Assembly - General, replies to the Questions and Chairman's highlights report
15	SG II	Final report to the CCITT IXth Plenary Assembly Draft new E-series Recommendations and Supplements
16	SG II	Final report to the CCITT IXth Plenary Assembly Draft revised E-series Recommendations and Supplements
17	SG II	Final report to the CCITT IXth Plenary Assembly Questions proposed for study in the 1989-1992 study period

AP IX	Source	Title
18	SG VIII	Report to the IXth Plenary Assembly - Part I - General report
19	SG VIII	Final report on the work of Study Group VIII during the study period 1985-1988 - Part II - Proposals for new T-series Recommendations
20	SG VIII	Final report on the work of Study Group VIII during the study period 1985-1988 - Part II - Proposals for new T-series Recommendations
21	SG VIII	Final report on the work of Study Group VIII during the study period 1985-1988 - Part II - Proposals for new T-series Recommendations - Part II.3 - Recommendations T.414 to T.418
22	SG VIII	Final report on the work of Study Group VIII during the study period 1985-1988 - Part II - Proposals for new T-series Recommendations - Part II.4 - Recommendations T.431 to T.433
23	SG VIII	Final report on the work of Study Group VIII during the study period 1985-1988 - Part II - Proposals for new T-series Recommendations (Part II.5: Recommendations T.441 to T.564)
24	SG VIII	Final report of Study Group VIII during the study period 1985-1988 - Part III - Proposals for revised T-series Recommendations
25	SG VIII	Final report of Study Group VIII during the study period 1985-1988 - Part III - Proposals for revisions of T-series Recommendations - Recommendation T.101, Annex A
26	SG VIII	Report of Study Group VIII to the IXth Plenary Assembly - Part IV - Proposed study programme for the 1989-1992 study period
27	CCITT Secretariat - Chairman of PC/WATTC-88	Final report on the activities of PC/WATTC-88
28	GAS 3	Chairman's report of the work of GAS 3 during the 1985-1988 study period of CCITT
29	SG IV	Final report of Study Group IV to the IXth Plenary Assembly
30	SG IV	Maintenance Questions proposed by Study Group IV for the next study period (1989-1992)
31	SG IV	New Recommendations of the M-series

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33	SG IV	New and revised Recommendations of the N- and O- series
34	SG X	Report to the Plenary Assembly - Parts I and IV - General and replies to the Questions/New Questions
35	SG X	Report to the Plenary Assembly - Parts III.1 and II.1 - SDL and FDT (Recommendations Z.100 and Z.110)
36	SG X	Report to the Plenary Assembly - Part III.2 - CHILL (Recommendation Z.200)
37	SG X	Report to the Plenary Assembly - Part III.3 - MML, General and CAT (Recommendations Z.301 to Z.323)
38	SG X	Report to the Plenary Assembly - Parts III.4 and II.2 - SOF and Glossary (Recommendations Z.331 to Z.341)
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48	SG VII	Final report to the Plenary Assembly - Part III.1 - Draft revised Recommendations
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AP IX	Source	Title
52	SG VII	Final report to the Plenary Assembly - Part III.5 - Draft revised Recommendations
53	SG VII	Final report to the Plenary Assembly - Part III.6 - Draft revised Recommendations
54	SG VII	Final report to the Plenary Assembly - Part III.7 - Draft revised Recommendations
55	SG VII	Final report to the Plenary Assembly - Part III.8 - Draft revised Recommendations
56	SG VII	Final report to the Plenary Assembly - Part III.9 - Draft revised Recommendation X.411
57	SG VII	Final report to the Plenary Assembly - Part IV - Texts of Questions proposed for the next study period
58	SG XV	Final report to the IXth CCITT Plenary Assembly - Part I - General
59	SG XV	Final report to the IXth CCITT Plenary Assembly - Part II - Amended and new Recommendations of the H and J-series
60	SG XV	Final report to the IXth CCITT Plenary Assembly - Part III Amended Recommendations/Supplements of the G-series
61	SG XV	Final report to the IXth CCITT Plenary Assembly - Part IV New Recommendations/Supplements of the G-series
62	SG XV	List of Questions proposed for study during the 1989-1992 Study Period Part V of the report
63	SG VI	Report to the IXth Plenary Assembly - Part I - Introduction and replies to the Questions
64	SG VI	Report to the IXth Plenary Assembly - Part II - Proposed new Recommendations in L-series - Part III - Proposed revisions to existing Recommendations in L-series
65	SG VI	Report to the IXth Plenary Assembly - Part IV - Questions proposed for study in 1989-1992
66	Director of the CCIR	Information report on CCIR/CCITT liaison
67	Director of the CCITT	Report on the CCITT Specialized Secretariat
68	Director of the CCITT	Report on the activity of the CCITT between the VIIIth and IXth Plenary Assemblies
69	Director of the CCITT	Suggestions by the Director of the CCITT concerning the Resolutions, Opinions and Recommendations which should be removed from Volume I (Blue Book)

AP IX	Source	Title
70	Director of the CCITT	Revision of CCITT Resolution No. 1
71 (+ Add.)	Director of the CCITT	Report to the IXth CCITT Plenary Assembly on the activities of the Plan Committees
72	Director of the CCITT	Report to the IXth Plenary Assembly - Estimate of the financial needs of the CCITT
73	Director of the CCITT	Publication of the 1989 edition of the CCITT Book (Blue Book)
74	Director of the CCITT	Revision of CCITT Resolution No. 8
75	Director of the CCITT	Report on the CCITT Laboratory
76	Director of the CCITT	Proposed allocation of the study questions to CCITT Study Groups
76 (Addendum)	Director of the CCITT	List of Questions having elicited up to five contributions in the 1985-1988 study period
77	SG III	Final report to the IXth CCITT Plenary Assembly General, considerations and formal replies to Questions
78	SG III	Final report to the IXth CCITT Plenary Assembly - Draft new D-series Recommendations and Supplement
79	SG III	Final report to the IXth CCITT Plenary Assembly - Draft revised D-series Recommendations and Supplement
80	SG III	Final report to the IXth CCITT Plenary Assembly Questions proposed for study in the 1989-1992 study period
81	SG I	Final report to the IXth CCITT Plenary Assembly - Part I - Chairman's executive summary - General and replies to Questions
82	SG I	Final report to the IXth CCITT Plenary Assembly - Part II - Draft new F-series Recommendations and Supplements
83	SG I	Final report to the IXth CCITT Plenary Assembly - Part III - Draft revised F-series Recommendations and Supplements
84	SG I	Final report to the IXth CCITT Plenary Assembly - Part IV - Questions proposed for study in the 1989-1992 study period
85	SG V	Report to the IXth Plenary Assembly - Part I - Introduction and replies to the Questions

AP IX	Source	Title
86	SG V	Report to the IXth Plenary Assembly - Part II - Proposed new Recommendations in the K-series - Part III - Proposed revisions to existing Recommendations in the K-series
87	SG V	Report to the IXth Plenary Assembly - Part IV - Questions proposed for study in 1989-1992
88	SG XVII	Report to the IXth Plenary Assembly - Part I - Introduction and replies to the Questions
89	SG XVII	Report to the IXth Plenary Assembly - Part II - Proposed new Recommendations in V-series
90	SG XVII	Report to the IXth Plenary Assembly - Part III - Proposed revisions to existing Recommendations in the V-series
91	SG XVII	Report to the IXth Plenary Assembly - Part IV - Questions proposed for study in 1989-1992
91 (Addendum)	SG XVII	Report to the IXth Plenary Assembly - Part IV - Questions proposed for study in 1989-1992
92	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Parts I and IV - General and replies to the Questions. New Questions
93	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Parts III.1 - Recommendations Q.11 to Q.455, and II.1 - Recommendations Q.45 *bis* and Q.50
94	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.2 - Vocabulary of switching and signalling terms (Recommendation Q.9)
95	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.2 - Functions and information flows for services in the ISDN, Methodology and basic services (Recommendations Q.65 and Q.71)
96	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.3 - Functions and information flows for services in the ISDN, Definition and number identification supplementary services
97	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.4 - Functions and information flows for services in the ISDN, Call offering supplementary services (Recommendation Q.82)
98	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.5 - Functions and information flows for services in the ISDN, Call completion supplementary services (Recommendation Q.83)

AP IX	Source	Title
99	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.6 - Functions and information flows for services in the ISDN, Community of interest, charging and additional information transfer services (Recommendations Q.85, Q.86 and Q.87)
100 (Corr.)		List of the documents of the IXth Plenary Assembly (Documents AP IX-1 to 100)
101	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.7 - Digital exchanges (Recommendations Q.500 to Q.522)
102	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.8 - Digital exchanges (Recommendations Q.541 to Q.544)
103	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.9 - Digital exchanges (Recommendations Q.551 to Q.554)
104	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.3 - Interworking of signalling systems (Recommendations Q.606 to Q.684)
105	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.10 - Interworking of signalling systems (Recommendation Q.699)
106	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Parts II.11 and III.4 - Signalling System No. 7, General and MTP (Recommendations Q.700 to Q.704)
107	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.5 - Signalling System No. 7, MTP (SDLs for Recommendations Q.703 and Q.704)
108	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.6 - Signalling System No. 7, MTP and PABX application (Recommendations Q.705 to Q.709 and Q.710)
109	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.7 - Signalling System No. 7, SCCP (Recommendations Q.711 to Q.714 and Q.716)
110	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.8 - Signalling System No. 7, SCCP (Recommendation Q.714, SDLs)

AP IX	Source	Title
111	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.9 - Signalling System No. 7, TUP (Recommendations Q.721 to Q.725)
112	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.12 - Signalling System No. 7, ISDN Supplementary services (Recommendation Q.730)
113	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.10 - Signalling System No. 7, ISUP (Recommendations Q.761, Q.762 and Q.763)
114	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.11 - Signalling System No. 7, ISUP (Recommendation Q.764)
115	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.13 - Signalling System No. 7, ISUP (Recommendation Q.764, SDLs)
116	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.14 - Signalling System No. 7, TCAP (Recommendations Q.771 to Q.775)
117	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.15 - Signalling System No. 7, Test specification (Recommendations Q.780 and Q.781)
118	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.16 - Signalling System No. 7, Test specification (Recommendation Q.782)
119	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.17 - Signalling System No. 7, Test specification (Recommendation Q.783)
120	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.12 - Signalling System No. 7, Monitoring, operation and maintenance (Recommendations Q.791 and Q.795)
121	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.13 - Signalling System No. 7, Glossary of terms and abbreviations specific to Signalling System No. 7
122	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.14 - Digital Subscriber Signalling No. 1 (DSS 1), Data link layer (Recommendations Q.920 and Q.921)
123	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.15 - Digital Subscriber Signalling No. 1 (DSS 1), Network layer (Recommendations Q.930 and Q.931, §§ 1 to 4)

AP IX	Source	Title
124	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part III.16 - Digital Subscriber Signalling No. 1 (DSS 1), Network layer (Recommendation Q.931,. §§ 5 to 9)
125	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.18 - Digital Subscriber Signalling No. 1 (DSS 1), Network layer (Recommendation Q.931, Annex A)
126	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.19 - Digital Subscriber Signalling No. 1 (DSS 1), Network layer (Recommendation Q.931, Annexes B to O and Appendices I, II and III)
127	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.20 - Digital Subscriber Signalling No. 1 (DSS 1), Network layer and user-network management (Recommendations Q.932 and Q.940)
128	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.21 - Public land mobile network, General (Recommendations Q.1000 to Q.1005)
129	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.22 - Public land mobile network, Interworking and digital interfaces (Recommendations Q.1031 and Q.1032, Q.1061, Q.1062 and Q.1063)
130	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.23 - Public land mobile network, Mobile application part (Recommendation Q.1051, §§ 1 to 3.4)
131	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.24 - Public land mobile network, Mobile application part (Recommendation Q.1051, §§ 3.5 to 3.11)
132	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.25 - Public land mobile network, Mobile application part (Recommendation Q.1051, §§ 4 and 5)
133	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.26 - Interworking with satellite mobile systems (Recommendations Q.1100, Q.1101, Q.1102, Q.1103, Q.1111, Q.1112, Q.1151 and Q.1152)
134	SG XI	Report of Study Group XI to the CCITT Plenary Assembly - Part II.27 - Interworking with satellite mobile systems (Recommendations Q.1112 and Q.1152, SDLs)
135	GAS 11	Final report to the IXth CCITT Plenary Assembly -

AP IX	Source	Title
136	Chairman of GAS 7	Report to the IXth Plenary Assembly of the CCITT
137	ISO/IEC	Statement on CCITT-ISO/IEC liaison activity
138	Hungary	Development of working methods
139	Hungary	Restructure of CCITT Study Groups
140	Hungary	A suggestion on the publication of the Blue Book
141	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part I - General
142	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part II - Amended/new Recommendations of the G.700-series
143	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part III - Recommendations of the I.100-series
144	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part IV - Recommendations of the I.200-series
145	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part V - Recommendations of the I.300-series
146	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part VI - Recommendations of the I.400-series
147	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part VII - Recommendations of the I.500-series
148	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part VIII - Recommendations of the I.600-series
149	SG XVIII	List of Questions proposed for study during the 1989-1992 Study Period (Part IX of the report)
150	SG XVIII	Final report to the IXth CCITT Plenary Assembly - Part X - Amended Recommendations and Supplements of the G.800 and G.900-series
151	Chairmen of SG I, II and XVIII	Clarification of the mandates of Study Groups A and B as proposed by Special Study Group "S"
152	CMTT	Report by the CMTT to the CCITT IXth Plenary Assembly
153	Netherlands	Footnote to Sections 1 and 2 of Division A of Recommendation F.42
154	CMV	Report of the CMV to the IXth Plenary Assembly
155	UPU	Proposal for a joint (CCITT-UPU) date for the entry into force of the amendments relating to postal financial service telegrams (POSTFIN), viz 1 July 1990

AP IX	Source	Title
156	France	Proposed Questions for Study Group IX
157	France	Reservations concerning Draft Recommendation F.73 of Study Group I
158		Supplement to the list of documents of the IXth CCITT Plenary Assembly (Document AP IX-100 to 158)

5.2 - TEMPORARY DOCUMENTS

Temp. Doc.	Title
	Documents of the Plenary Assembly
1/PLEN	Draft programme of the IXth Plenary Assembly
2/PLEN	Agenda of the opening meeting
3/PLEN	Agenda of the first Plenary Meeting
4/PLEN + Add.1, 2, 3	List of delegates to CCITT meetings who have died since the VIIIth Plenary Assembly
5/PLEN + Add.1, 2	List of delegates to CCITT meetings whose retirement has been announced since the VIIIth Plenary Assembly
6/PLEN + Rev.	Organization of the IXth CCITT Plenary Assembly - List of Committees and Working Parties of the Assembly and their terms of reference
7/PLEN	Agenda of the second Plenary Meeting
8/PLEN	Significance of ITU Information Exchange Services (IES) for CCITT participants
9/PLEN	Document interchange with the ITU
10/PLEN	Amendment to Recommendation V.120
11/PLEN	Publication of the B-series Recommendations "Means of Expression"
12/PLEN	Financial responsibilities of the Plenary Assemblies of the CCIs
13/PLEN	Seminar to promote the directives concerning the protection of telecommunication lines against harmful effects from electric power and electrified railway lines prepared by Study Group V
14/PLEN	Corrigendum to Document AP IX-154 - Report of the CMV to the CCITT IXth Plenary Assembly
15/PLEN	Draft Recommendation D.193 - Special tariff principles for privilege telecommunications
16/PLEN	Draft Recommendation D.193 - Special tariff principles for privilege telecommunications
17/PLEN	Reservations concerning draft Recommendation F.73 of Study Group I
18/PLEN	Agenda of the third Plenary Meeting
19/PLEN	Addition to draft Recommendation P.31 of Study Group XII (Document AP IX-7, page 7)
20/PLEN	Inaugural meeting of the IXth Plenary Assembly of the CCITT
21/PLEN	Amendments to Recommendations S.2, S.4 and S.22
22/PLEN	Amendments to draft Recommendation C.3

Temp. Doc.	Title
23/PLEN	Amendment to § 3 of draft Recommendation D.193
24/PLEN	Agenda of the fourth Plenary Meeting
25/PLEN	Draft Minutes of the first Plenary Meeting
26/PLEN	Clarification of Recommendation G.741
27/PLEN	Comments on draft Recommendation A.2it
28/PLEN	Minutes of the second Plenary Meeting
29/PLEN	Agenda of the fifth Plenary Meeting
30/PLEN	Report to the IXth Plenary Assembly (Part I)
31/PLEN	Report to the IXth Plenary Assembly (Part II)
32/PLEN	Report to the IXth Plenary Assembly (Part III)
33/PLEN	Report to the IXth Plenary Assembly (Part IV)
34/PLEN + Rev.1, 2	Report of the IXth Plenary Assembly (Part V)
35/PLEN	Practical considerations of CCITT participation in CMV
36/PLEN	Minutes of the third Plenary Meeting
37/PLEN + Corr.1	Report of Committee D to the IXth Plenary Assembly (Part I)
38/PLEN	Minutes of the fourth Plenary Meeting
39/PLEN + Rev.1	Draft Resolution from CCITT Plenary Assembly to Plenipotentiary Conference on pre-eminence of CCITT in worldwide telecommunications standardization
40/PLEN	Terminology work in the CCITT and CCITT participation in the CMV
41/PLEN	Agenda of the sixth Plenary Meeting
42/PLEN	Report of Committee D to the IXth Plenary Assembly (Part II)
43/PLEN	Draft Recommendation A.22: Collaboration with other international organizations on information technology
44/PLEN	Draft revision of Resolution No. 2
45/PLEN	Addition of new *considering* to "Spirit of Melbourne" Resolution (Temporary Document 39/PLEN)
46/PLEN	Invitation from Spain
47/PLEN	Minutes of the fifth Plenary Meeting

Temp. Doc.	Title
48/PLEN	Draft Resolution: Future evolution of the CCITT working methods and structure
49/PLEN	Final report of Committee D to the IXth Plenary Assembly
50/PLEN + Rev.1.	Resolution No. 1 - Revised Parts III and IV
51/PLEN	Agenda of the seventh Plenary Meeting
52/PLEN	Programme of CCITT meetings for 1989
53/PLEN	Report of the meeting of Working Party PL-1
54/PLEN	Agenda of the eighth Plenary Meeting
55/PLEN + Corr. + Add. + Rev.1	Report of Committee B to the Plenary Assembly
56/PLEN	Resolution No. 2
57/PLEN	Opinion No. 1
58/PLEN	Opinion No. 3
59/PLEN	Resolution No. 17
60/PLEN	Report of the activities of the Editorial Committee
61/PLEN	Agenda of the ninth Plenary Meeting
62/PLEN	Minutes of the sixth Plenary Meeting
63/PLEN	Report of the Budget Control Committee to the Plenary Assembly
64/PLEN	Future evolution of the CCITT working methods and structure
65/PLEN + Corr.	Proposals made at the meeting of Heads of Delegation on 24 November relating to the appointment of Study Groups Chairmen and Vice-Chairmen and Chairmen and Vice-Chairmen of the CCITT Special Autonomous Groups
66/PLEN	Addition to Temporary Document 65/PLEN
67/PLEN	Agenda of the tenth Plenary Meeting
68/PLEN	Amendments and additions to the minutes of the Plenary Meetings
69/PLEN	Information note - Access to the ITU Information Exchange Services
70/PLEN	Minutes of the seventh Plenary Meeting
71/PLEN	Minutes of the eighth Plenary Meeting

Temp. Doc.	Title
72/PLEN	Minutes of the ninth Plenary Meeting
73/PLEN	Minutes of the tenth Plenary Meeting
74/PLEN	Minutes of the closing session of the IXth Plenary Assembly
1/PL1	Terms of reference and documents of PL1
2/PL1	Agenda of the meeting of Working Party PL1
3/PL1	Corrigendum to Annex B of Document AP IX-73
	Documents of Committee A
1/COM A	Terms of reference and documents of COM A
2/COM A + Rev.	The provisional approval procedure for Recommendations
3/COM A	Revision of Resolution No. 1
4/COM A	Extract from the report of the final meeting of Study Group XII (COM XII-R 31)
5/COM A	Revision of Recommendation A.10 - Terms and definitions
6/COM A	A suggestion on the revision of CCITT Resolution No. 1
7/COM A	About reform the method on accelerating the establishment of Recommendations
8/COM A	Agenda of the first meeting of Committee A
9/COM A	Review of the CCITT structure and its working methods
10/COM A	Proposed future initiatives for CCITT Study Group restructuring and operation
11/COM A	Proposal to provide a new procedure for the final approval of CCITT Recommendations and to require consultation and concurrence between appropriate Study Groups on Recommendations to be approved
12/COM A	Revision of Resolution No. 1: Methods of work in the CCITT
13/COM A + Rev.1	Proposed amendment to Opinion No. 1
14/COM A	Amendment of Resolution No. 2
15/COM A	Comments on Temporary Document 5/COM A
16/COM A	Report on the first meeting of Working Group 2 on the working methods of the CCITT
17/COM A	Approval procedures for Recommendations (Resolution No. 2)
18/COM A	Report to the IXth Plenary Assembly

Temp. Doc.	Title
19/COM A	Proposed new point III.5.2 of Resolution No. 1: Frequency of meetings
20/COM A	Draft report
21/COM A	Agenda of the second meeting of Committee A
22/COM A	Proposed revisions to Resolution No. 1 - Part I
23/COM A	Proposed revisions to Resolution No. 1 - Part II
24/COM A	Minutes of the first meeting of Committee A
25/COM A	Minutes of the second meeting of Committee A
	Documents of Committee B
1/COM B + Rev.	Terms of reference and documents of COM B
2/COM B	Review of the CCITT structure and its working methods
3/COM B	Corrigendum to Document AP IX-30 (COM IV-R 25) - Wording of Question 9/IV "Maintenance"
4/COM B	Agenda of Committee B
5/COM B	Broadband ISDN studies in the 1989-1992 study period
6/COM B	Corrigendum to Document AP IX-3
7/COM B	Proposed new Question related to existing Question 8b/X and Question 9/X
8/COM B	Question B/XV - Amended version
9/COM B	Proposed new Question related to existing Question 8b/X and Question 9/X
10/COM B	The USSR proposal in consideration of the Study Groups' working programmes for the next study period
11/COM B	Contributions from the Islamic Republic of Iran
12/COM B	TMN study (Study Group IV)
13/COM B	Revised text of Question 25/I (to be transferred to Study Group II)
14/COM B	Proposed new Question related to existing Questions 8b/X and 9/X
15/COM B	Amendment to Question B/XI (Study Group XI)
16/COM B	Editorial amendments to the Questions of Study Group VII (AP IX-57)
17/COM B	Draft report of Committee B to the Plenary Assembly

Temp. Doc.	Title
18/COM B	List of Questions for Study Groups XI, XII, XV and XVIII
19/COM B	The USSR proposal for improvements of Study Groups' work for the future study period
20/COM B	Amendments to Questions 21/I and 23/I
21/COM B	Proposed text for Question 24/I
22/COM B	Report to the Plenary Assembly (continued)
23/COM B	Summary of decisions taken after analysis of Temporary Document 11/COM B
24/COM B	Terms of reference for Study Group XI
25/COM B	Proposed new Question related to existing Questions 8b/X and 9/X
26/COM B	Revised text of Question 25/I (to be transferred to Study Group II)
27/COM B	Question W/XVIII
28/COM B	Question AA/XI - Guidelines for implementing System No. 7 national networks
29/COM B	Clarifications of study programme of Study Group I
30/COM B	Modifications to study programme
31/COM B	Modification - Point III.9 of the report
32/COM B	Modification for point III.9 of the report
33/COM B	CMTT examination of proposed revision of terms of reference of CMTT and coordination with CCITT Study Groups XV and XVIII
34/COM B	Proposal for terms of reference of GAS 7, 9, and 11 (Extracts from final report of Committee D, Temporary Document 49/PLEN)
	Documents of Committee C
1/COM C	Terms of reference and documents of Committee C
2/COM C	Expenditure on CCITT Secretariat and meetings (including Common Services) for the period 1984-1988
3/COM C	Budget of the IXth Plenary Assembly of the CCITT, 1988
4/COM C	Arrangement between the Government of Australia and the Secretary-General of the International Telecommunication Union relating to the organization of the IXth CCITT Plenary Assembly and the World Administrative Telegraph and Telephone Conference
5/COM C	Position of the accounts of the IXth CCITT Plenary Assembly
6/COM C	Agenda of the first meeting of Committee C (budget control)

Temp. Doc.	Title
7/COM C	Draft report of the Budget Control Committee to the Plenary Assembly
8/COM C	Minutes of the first meeting of Committee C
9/COM C	Position of the accounts of the IXth CCITT Plenary Assembly
10/COM C	Agenda of the second meeting of Committee C (budget control)
11/COM C	Minutes of the second and final meeting of Committee C (budget control)
	Documents of Committee D
1/COM D	Terms of reference and documents of Committee D
2/COM D	Draft agenda for the work of Committee D
3/COM D	Guidelines for the preparation and implementation of digital switching equipment field trials
4/COM D	Agenda of the second meeting of Committee D (CCITT technical assistance)
5/COM D	Rural telecommunications
6/COM D	Agenda of the last meeting of Committee D (CCITT technical assistance)
7/COM D	Amendment proposed to Resolution No. 14
8/COM D	Proposed terms of reference of GAS 7 for the 1989-1992 study period
9/COM D	Terms of reference of GAS 9 - Case study of a global network for the 1989-1992 study period
10/COM D	Terms of reference of GAS 11 - Strategy for the introduction of new non-voice telecommunication services in developing countries
11/COM D	Recommendation

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