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JPRS 82837

9 February 1983

# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 260

19990208 040

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WORLDWIDE REPORT  
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 260

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JAPAN

JAPAN TO LAUNCH COMMUNICATIONS SATELLITE 4 FEBRUARY

OW011245 Tokyo KYODO in English 1222 GMT 1 Dec 82

[Text] Tokyo, 1 Dec, KYODO--The National Space Development Agency will launch Japan's first practical communications satellite from its Tanegashima Space Center in Kagoshima prefecture 4 February.

The project was included in rocket-launching plans for the January-February period approved Wednesday by the nation's supreme decision-making body on space development, presided over by the director general of the Science and Technology Agency.

The satellite, code-named CS-2A, measures 2.2 meters in diameter, two meters in length and some 350 kilograms in weight.

It mounts six semi-millimetric wave repeaters, in addition to two conventional microwave repeaters, which altogether have 4,000 telephone circuits, to meet growing demand for data communications.

The yen 10 (dollar 40 million) billion satellite is to be put into stationary orbit over the equator by N-2 rocket.

Another satellite of the same specifications and capability--CS-2B--will be launched likewise in August to serve as a spare for the CS-2A.

These satellites were 64 percent locally developed, though their "hearts" were wholly indigenous.

Out of the total launching cost of about yen 40 billion, 40 percent is paid by the governmental Space Development Agency and the remaining portion by a consortium of the Nippon Telegraph and Telephone Public Corporation (NTT), Kokusai Denshin Denwa Co (KDD) and the Japan Broadcasting Corporation (NHK).

Besides the two satellites, the agency will also put up a small rocket--TT500-12--for experimental production of amorphous semiconductors in non-gravity space.

Meanwhile, the Space Science Research Institute will launch an eight [as received] rocket from its space observation center in Uchinoura, Kagoshima, around the same time to observe black holes and other special astronomical activities.

CSO: 5500/4200

JAPAN

JAPAN PLANS COMMUNICATION SATELLITE LAUNCH

OW210117 Tokyo KYODO in English 0053 GMT 21 Oct 82

[Text] Tokyo, 21 Oct, Kyodo--Japan plans to place its first communication satellite for practical use in stationary orbit next February to improve communication links with isolated islands and enable experiments for TV-linked conferences and electronic mail service.

The National Space Development Agency (NASDA) plans to use a three-stage N-2 rocket in launching the satellite code-named CS2A into orbit at a point some 36,000 kilometers over the equator from its Tangegashima Space Center in Kagoshima prefecture.

The satellite will have eight transponders, radio or radar transceivers, that automatically transmit electrical signals. The transponders will have a communication capacity equal to 4,000 telephone circuits.

Government ministries, agencies and corporations already have drawn up detailed plans for use of the new satellite when it starts functioning some 3 months after it is put in orbit.

The Nippon Telegraph and Telephone Public Corp (NTT) and the National Police Agency will exclusively use six and one of the eight transponders, respectively.

The other transponder will be shared by the Construction Ministry, posts and Telecommunications Ministry, Fire Defense Agency, the Japanese National Railways and electric power companies.

NTT, the biggest user, will set aside two of the transponders for telephone and television links to isolated islands. One will be used to connect Tateyama in Chiba Prefecture with the Ogasawara Islands and the other Okinawa with Minamidaito Island.

The four other transponders used exclusively by the NTT will be utilized for emergency communication at times of disasters such as earthquakes and typhoons.

The National Police Agency plans to use the transponder for its exclusive use for maintaining contact with prefectural police headquarters and at times of emergency, as well as for investigation purposes.

The Posts and Telecommunications Ministry intends to use the satellite to conduct technological tests on such matters as data communication, electronic mail service and TV-linked conferences while the JNR plans to utilize it to reinforce ground communication facilities for Shinkansen services.

The electric power firms plan to use the satellite to exchange information among them.

CSO: 5500/4200

## BRIEFS

EUROPEAN SATELLITE TELECOMMUNICATIONS EQUIPMENT--Tokyo 3 Sep KYODO--Mitsubishi Electric Corp has won two contracts worth 14 million dollars for providing satellite earth station equipment to the European Telecommunications Satellite Organization (EUTELSAT) and the Swedish Telecommunications Administration, company officials said Friday. One contract is with EUTELSAT and covers the design, manufacture and integration of the time division multiple access (TDMA) reference and monitoring station terminal equipment at the earth stations at Fucino, Italy and Guadalajara, Spain. The other is with the Swedish Telecommunications Administration for a complete earth station system with TDMA facilities. TDMA is a communication technique which allows high capacity transmission, claimed to be two to three times more powerful than the conventional frequency division multiple access (FDMA) system. In the TDMA system, earth stations communicate with each other using the same frequency, but their respective transmission time is divided and properly allocated to each earth station to avoid overlapping. EUTELSAT is scheduled to launch an European communications satellite next year. Terminal equipment to be supplied by Mitsubishi is expected to be in service in 1984. [Text] [OW031137 Tokyo KYODO in English 0519 GMT 3 Sep 82]

CSO: 5500/4200

LANZHOU HOSTS NORTHWEST BROADCASTING MEETING

HK230325 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 22 Oct 82

[Text] The first meeting on broadcasting and television cooperation in the five provinces and autonomous regions of northwest China concluded in Lanzhou on the morning of 21 October. Responsible comrades of the broadcasting bureaus and professional and technical personnel concerned from Shaanxi, Gansu, Ningxia, Qinghai and Xinjiang attended the meeting. Vice Governor Li Qiyang made a speech.

This meeting was held under the guidance of the 12th Party Congress spirit. The provinces and autonomous regions outlined the development of their radio and television, and exchanged wired and wireless broadcasting and television plans and construction and management work information and experiences. They also exchanged views on problems of common concern to radio and television in the provinces and autonomous regions of the northwest. The participants, their understanding enhanced through learning from each other, expressed resolve to make new contributions in creating a new situation in broadcasting and television in the five northwest provinces and autonomous regions and in building material civilization and socialist spiritual civilization.

CSO: 5500/4113

GUANGXI'S WUZHOU RADIO STATION RESUMES OPERATION

HK041140 Nanning Guangxi Regional Service in Mandarin 1130 GMT 1 Oct 82

[Text] After active preparations, the Wuzhou Municipal People's Broadcasting Station resumed broadcast early this morning. This broadcasting station, which was established in October 1959, stopped service in June 1962, during the first readjustment of our national economy. Since the smashing of the gang of four, especially since the 3d plenary session of the 11th CPC Central Committee, along with the all-round rehabilitation and development of the national economy, the people in this city have demanded resumption of its broadcast. In June this year, the Regional CPC Committee and the Ministry of Radio and Television approved its resumption.

The Wuzhou Municipal People's Broadcasting Station is the first local broadcasting station in our region which has resumed operation. This is an important result of the continuous development of radio and television undertakings in our region. Today, when the whole party, the whole army and the people of all nationalities throughout the country are conscientiously studying, publicizing and implementing the spirit of the 12th Party Congress, this station will surely play an active role in extensively and deeply publicizing the party's line, policies and principles, in carrying out communist ideological education among the masses of people and in the building of socialist spiritual and material civilizations.

On the afternoon of 29 September, a ceremony was held to announce the resumption of broadcasting. Chief responsible cadres in the Wuzhou Municipal CPC Committee, People's Congress Standing Committee and People's Government Teng Weizhong, Wang Yuzhou and Liao Weixiong attended the ceremony and extended greetings. Representatives from the Regional Broadcasting Bureau, the Regional Journalists Association and Regional Information Society also attended the ceremony and extended congratulations.

CSO: 5500/4113

BRIEFS

TRAFFIC SPEED MINI-RADARS--Guangzhou, 15 Nov (XINHUA)--A mini-radar for checking automobile speed has been successfully produced in China. It weighs 3 kilograms and is very easy to operate. A traffic policeman can check the speed of an oncoming vehicle by pointing the radar at the vehicle. Jointly produced by the Highway Science Institute of the Ministry of Communications and a research institute of the China Shipping Industry Corporation, the radar has been trial-used in Guangzhou. The results were satisfactory.  
[OW080453 Beijing XINHUA Domestic Service in Chinese 0008 GMT 15 Nov 82 OW]

TELEVISION SIGNAL AMPLIFIER--The faculty members of the PLA Xian Air Force Communications School have developed a television signal amplifier which can amplify a weak television transmission signal several hundred times and extend the reception range of both color and black and white television sets to 250 kilometers in mountainous regions. The amplifier, about the size of a cigarette pack, is attached to a television antenna. Some 4,000 such amplifiers have been used in various outlying mountainous areas in China.  
[OW080453 Beijing Domestic Service in Mandarin 2340 GMT 14 Nov 82 OW]

CSO: 5500/4113

## BRIEFS

NEW TELEPHONE LINE--The post and telecommunications sector has just put into service a 500 kilometer-long carrier system on unshielded line, linking the capital to the northwestern provinces. In the past, the area telephone system could ensure only sectional communications between Hanoi and Hoa Binh, Hoa Binh and Son La, and Son La and Lai Chau. The new telephone system now connects Hanoi directly with Lai Chau with 3 channels, and Hanoi with Son La with 15 channels, and creates conditions for opening a new line between Lai Chau and Dien Bien. [Text] [Hanoi QUAN DOI NHAN DAN in Vietnamese 24 Dec 82 p 17 9213

LAM DONG BROADCASTING NETWORK--Hanoi, VNA, January 19--Lam Dong Province in the central highlands of Vietnam now has a broadcasting system comprising a provincial radio broadcasting station, nine relay stations in the districts and more than 40 smaller ones at the villages, new economic zones, construction sites, state farms and lumber camps. The whole system is linked by more than 350 kilometres of wire and provided with 3,500 loudspeakers. Many of the daily programmes of the Lam Dong broadcasting station are in the languages of the ethnic minorities in the province. Almost all relay stations in the areas of ethnic minorities are staffed and directed by local people. [Text] [OW191120 Hanoi VNA in English 0718 GMT 19 Jan 83]

CSO: 5500/4330

COLOMBIA

BRIEFS

EXPANDED EDUCATIONAL TV BROADCASTS--Bogota--The government will extend coverage of the Third Television Network to the entire country as a basic support tool for the educational television programs that the present administration has initiated. Education Minister Jaime Arias Ramirez emphasized that a loan is currently being negotiated with the IDB for \$35 million to be used for this purpose. He indicated that through an agreement with Inravisión [National Radio and Television Institute], the Third Television Network will cede some of its broadcast time for cultural and educational programs. Arias Ramirez acknowledged that, thanks to an agreement signed with Radio Sutatenza under which that radio station ceded 56 percent of its program time to the state, and with the support of the Third Television Network, as well as the cooperation of other private media, the basic structure has been set up for what has been called open education from a distance. [Excerpt] [PA172309 Bogota Domestic Service in Spanish 1730 GMT 17 Jan 83]

CSO: 5500/2028

## URDU, ENGLISH TELEPRINTERS TO BE MANUFACTURED

Karachi DAWN in English 23 Dec 82 p 4

[Text]

PESHAWAR, Dec 22: The Telephone Industries of Pakistan, Haripur, will soon start the production of Urdu and English teleprinters both for home consumption and export to the Middle East market. The Urdu calligraphy of the teleprinter has been made available to the TIP, the management hopes to meet the entire domestic demand — thus saving a substantial amount of foreign exchange.

With the West German cooperation, the TIP has already produced standard typewriters which secured top-most position in a recent international exhibition in which eleven nations participated.

The TIP has already started manufacturing Telephone Master Sets. The production capacity of these sets is stated to be 20,000 per annum. The new product is also based on West German technology though the tools for the manufacture of new product have been designed by the Tool Shop workers themselves. Valuable foreign exchange has been saved on this count too.

Established at Haripur in 1954 with financial and technical participation of West Germany, the factory is housed in a five storey imposing building. But the large force of the TIP workers remains deprived of proper residential facilities. They are in immediate need of a full-fledged colony where they could live with peace and concentrate on their duty with undivided attention.

CSO: 5500/4716

## RAILWAY MICROWAVE SYSTEM TO BE SUPERVISED BY TELEGRAPH, TELEPHONE DEPARTMENT

Karachi DAWN in English 23 Dec 82 p 4

[Text]

MULTAN, Dec 22: Pakistan Railways have appointed Telegraph and Telephone Department as official Inspector and consultant for testing of the Railway microwave and the related signalling project.

This was stated by the General Manager Pakistan Railways, Mr Amanullah Zafar in an interview with "Dawn".

He said that the appointment of T and T Department for the test will save Pakistan Railways more than Rs four million in foreign exchange which was to be spent on the foreign consultants for this important job.

In order to cope with increasing demand of coaches for express and passenger trains, he said that all out efforts were underway to possibly produce maximum number of new coaches to fulfil the requirement.

He said that railways aim is now to arrange more coaches first to increase to length of mail trains from 10 to 22 and also increase to the number of coaches of trains operating on branch lines.

The railways carriage factory at Islamabad is producing 150

coaches out of which 25 coaches are exported to Bangladesh and the remaining 125 coaches are utilised in country here.

He added that efforts were made to produce more coaches he said that the concrete sleepers manufacturing factories at Khanewal, Shahinabad Kotri and Kohat Cantt will go a long way in meeting urgent requirements of sleepers.

Concrete sleepers he added would be long lasting and a solid support to the track.

Referring to increasing demand of wagons for goods trains he said that this important issue is under active consideration of the railways in the interest of the business community and other people related with booking of livestock etc.

Regarding introduction of railcar service, he said that it has been introduced from Multan to Lahore and Lahore to Rawalpindi following the repeated public demands.

He said that efforts were being made to run Shalimar train daily in future.

## MICROWAVE TELECOMMUNICATION NETWORK FOR QUETTA GAS PIPELINE DESCRIBED

Karachi DAWN in English 6 Jan Supplement p VI, VIII

[Article by S.N. Qadri]

[Text]

A MICROWAVE telecommunication system, employing state-of-the-art analogue and digital electronics technology, will cater for the operational, maintenance and administrative requirements of the high pressure Quetta Natural Gas Pipeline. The conceptual design, and the field survey to establish the major design parameters for the system were accomplished by SGTC using its in-house expertise and local resources.

The contract for the supply, installation and performance guarantee of the system has been awarded to an American firm which is now in the process of implementing this part of the project. The system is scheduled to be operational by the third quarter of 1983, while the pipeline will become operational in the first week of January 1983 six months ahead of schedule. Arrangements have accordingly been made to provide communications cover to the pipeline during the interim period by means of point-to-point high frequency, and very high frequency, mobile communications network connecting major strategic locations along the pipeline.

The salient features of the Quetta Pipeline Microwave Telecommunication and supervisory system are as follows:

1. 8-hop, protected, 24-channel lower 2-GHz microwave link.
2. Four-space diversity paths over plains.
3. Computer-based integrated pipeline data acquisition and display system.
4. Solar-powered mountain top repeaters.
5. Microprocessor-based electronic telephone exchanges.
6. Tele-type data transmission.
7. Automatic and manual mobile communication facilities covering the entire length of the pipeline.

**SITE AND PROPAGATION CONSIDERATIONS:** The siting of repeater stations and prediction of microwave carrier propagation characteristics determine significant system parameters around which system designs is optimised. In view of this, and in order for the system contractor to assume overall system performance responsibility, a check survey was included in his scope of work.

The check survey confirmed the siting of repeater stations carried out by SGTC with some adjustments in tower heights and antenna sizes to match the characteristics of the radio equipment being supplied by the contractor. Two mountain top repeaters overlooking the Bolan Valley present site access problem. In

view of this, solar power generators were incorporated as primary source of power for the telecommunication equipment at these two locations.

The eight hops of the system are divided into two categories vis-a-vis propagation reliability; the first category will operate in high temperature, moderate dry to high humid environment across the Shikarpur to Sibi plain which presents reflective and refractive mediums to radio wave propagation. These conditions dictated the application of space diversity techniques to overcome the multi-path fading phenomenon which is inherent in this type of environment.

The second category, from Sibi to Quetta, operates in a more hospitable environment where an economical hot standby arrangement is employed. The system design for these two categories should provide excellent propagation reliability. The path clearance criterion selected for the Shikarpur to Sibi paths is 0.6 for the first Fresnel zone using  $K=2/3$  for earth curvature, whereas that for the Sibi-Quetta paths is first Fresnel zone over obstruction at  $K=4/3$ .

This is, admittedly, somewhat conservative considering that space diversity is also employed over the difficult paths. However, the cost performance trade off was favourable to justify a high performance system.

**SYSTEM OPERATING FREQUENCIES:** The operating microwave frequencies for each path of the system are carefully planned to avoid harmful interference within the system as well as to other systems in the same area. Frequencies in the lower 2 GHz (2.00 million cycles per second) microwave band were considered and approved by the regulatory authority of the Government of Pakistan for the Quetta Pipeline Telecommunication System.

In order to mitigate fading effects on the performance of the system due to adverse propagation conditions obtaining in the Shikarpur to Sibi section the alternative techniques of frequency and space diversity were considered. Frequency diversity was more desirable from system redundancy and equipment economy aspect. However, this technique utilises 100% more frequency spectrum in an area which is experiencing frequency congestion.

Since the conservation of frequency spectrum was overriding, the system design was based on space diversity and 'hot' standby configuration.

**MICROWAVE SPUR LINK:** The microwave radio is a narrow band equipment accommodating 24-voice grade channels. State-of-art solid state technology is employed in the circuitry to achieve optimum performance. The design 30 dB signal to noise threshold is -93 dBm. When correlated with the predicted median received signal strength which varies from -49 dBm to -53 dBm from one end of the system to the other, comfortable fade margins are attained.

The radio transmitter features a programmable frequency synthesiser to generate a crystal-controlled reference signal which phase locks the transmitter to the designated microwave frequency. This programmable phase lock feature enables a spare transmitter to be commissioned quickly, in the event of both operating and standby transmitters failing simultaneously, thus minimising the system down time. The monitored hot standby configurations are single antenna with receiver hybrid, and two antenna with space diversity receivers. The base band is designed to accommodate two standard basic groups of 12 channels each in the 12 to 108 KHz frequency spectrum.

**SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA):** The terms SCADA is used to mean the process of receiving analogous or digital data from remote locations, and sending a digital or analogous command to remote locations, for accomplishing pre-determined functions. Some of the techniques used to achieve SCADA are remote indications of equipments status, telemetry of gas parameters, telecontrol of equipment at remote locations, storage of acquired data etc.

The SCADA designed for Quetta Pipelines System is a fourth generation system which is computer-based, and combines the functions of scanning all stations in the polling mode for status and alarm reporting, acquisition of pipeline gas data by telemetry, identification, visual display, lagging and storage of data in the peripheral data bank for retrieval on demand.

The SCADA System uses a code called ASCII (American Standard

Code for Information Interchange). It takes six data bits at a time and adds a seventh bit that is a SPACE (or 0) for data characters, adds an eighth bit called a 'parity bit' or 'check bit' and surrounds this eighth bit with a start bit at the beginning and two-stop bits at the end of a message. The significance of the parity bit is that it enables detection of errors in the received data and ensures the fidelity of both command and data.

The SCADA system speed is 1200 Bauds (1200 data bits per second). This means that the system response time is four times faster than that attained in older generation systems. The voice grade multiplex channel dedicated for SCADA is capable of handling data speeds of 2400 Bauds at one error per million bits. In this system the remote stations share reporting time on a single transmission medium, each station having its own code which is addressed or 'Polled' by the master, which is located at the Karachi Terminal, in a pre-determined sequence. As each station recognised its own address, it communicates with the master while all the other stations wait and listen for their own address.

Some stations, such as Quetta, Sibi and the pipeline integration point near Shikarpur have telemetry data to report, in addition to equipment status. All the gas data comprising pressure, temperature and flow from strategic locations is acquired by the Master and is then displayed sequentially on the cathode ray screen and printed as required by a data logger (or printer) at the Gas Despatch Centre located at Karachi Terminal.

If specific information is required from any of the remote stations, the operator can interrupt the polling and interrogate the selected station for the desired information. In order to protect system integrity the two terminals of the Quetta Pipeline Telecommunications System, Quetta and Shikarpur, which normally operate in the sub-Master or slave mode, can take over the Master command functions if required.

**SOLAR POWER GENERATORS:** At two mountain top repeater stations overlooking the Bolan Valley where the problem of accessibility is faced, the primary source of power will be a solar power generating system. The photo Vol-

solar array and battery bank are sized to supply 500 watts continuously, including four consecutive days with no sun. During the day the solar array supplies power to the equipment while simultaneously charging the battery bank which takes over this function during the night and sunless days. The back-up system comprises gas/diesel engine driven power generators which primarily cater for station domestic load. The back-up power generation system is similar to the primary source of power for the rest of the repeater stations.

The solar array consists of semi-crystalline silicon wafer cells connected in series. The cells are encapsulated in a transparent polymer and laminated between a tempered glass face plate and a backing material. The cells are designed for repetitive cycling between 40 degree C and 100 degree C.

**ELECTRONIC TELEPHONE EXCHANGE (FPAX):** Micro-processor-based electronic exchange is another salient feature of the system. Both push button and dial type telephone instruments will enable selective calling between all the maintenance Centres of Quetta pipeline network. In addition intercommunication within

major centres, including Quetta and Sibi, will be through electronic exchanges. The electronic exchange is designed to work into existing mechanical exchanges of the cross-bar type.

The electronic exchanges utilise state-of-the-art large-scale integration techniques incorporating delta modulation and time division multiplex switching in which speech input information is first converted into digital form, routed as intended, then re-converted to speech output information. This process operates under the control of a programme stored in a programmable read only memory (PROM).

**TELEPRINTER LINK:** Teleprinter machines for the link which interconnects Quetta, Sibi, Shikarpur and Karachi Terminal are quasi-electronic employing impact type printers with solid state electronic key boards. The system configuration is such that printed messages can be transferred both on selective party line and dedicated basis between Quetta and Karachi. The machines are capable of operating at 30 characters per second.

#### **MOBILE COMMUNICATIONS:**

The objective of this sub-system is to provide communications between vehicles or field maintenance teams and the maintenance centres. This system operates on very high frequency (Vhf) automatically routing through a microwave station within the range of the mobile. Night patching facilities are incorporated in order to extend communication from mobile team to Quetta and Karachi as required. Each Station is equipped with selective call decoder to alert the required mobile party.

**SYSTEM INTEGRATION:** The Quetta Pipeline Telecommunication System will be interfaced to SGTC's existing telecommunication system for integrated operation of Sui Gas purification and high pressure gas transmission facilities managed by SGTC.

Once again SGTC is uniquely responsible for injecting high technology electronics in Pakistan by incorporating Solar Power generation, electronic telephone exchanges and computer-based SCADA System. A by-product of this effort is transfer of sophisticated technology to Pakistan. The Company can rightly take pride in having pioneered a futuristically decisive technology in Pakistan.

CSO: 5500/4716

## CHAIN OF SMALL CITY RADIO STATIONS UNDER STUDY

Karachi DAWN in English 7 Jan 83 p 7

[Text]

FAISALABAD, Jan 6: The Federal Information Secretary, Lt-Gen Mujibur Rehman, who is also Chairman of the Pakistan Broadcasting Corporation, said that a chain of small city radio stations would be established in the country as and when the provisions of the Federal budget allowed their installations.

He said that the pilot project of the Faisalabad radio station was a big success. He said that he had informed the Radio Advisory Committee that a city radio station could best meet their local requirements.

He said that the Committee members earlier demanded a station which could give comprehensive local coverage and boosters to the local talent.

He said that he had given instructions to staff of the Faisalabad radio station that they should pay more attention to the local problems and project what was happening around in bazars and streets of Faisalabad.

He said he was hopeful that this concept of local coverage would be

a success and other broadcasting houses in the country would follow this example.

#### Advisory body

After addressing the members of the staff of the Faisalabad Radio Station here on Tuesday, Gen Mujib chaired the Advisory Committee meeting.

Gen Mujib said that people's life should figure more prominently in programmes and hectic efforts be made to bring home to people that Government at various levels was fully alive to solve their problems.

The Advisory Committee reviewed in detail the working of the local broadcasting house.

The committee discussed various items and made an assessment of the present programmes being broadcast from Faisalabad radio station.

Several new proposals and ideas put forth by some members of the Committee relating to the coverage of labour welfare programmes and rural uplift.

CSO: 5500/4716

## BRIEFS

QUESTION-ANSWER PROGRAMS PLANNED--Islamabad, Jan 5--Responsible persons in Government and non-Government spheres of public concern may be made to appear at regular intervals on Television and Radio to answer pertinent questions relating to their departments. It is believed that President Gen Mohammad Zia-ul-Haq was impressed by the system of a continuous dialogue between responsible officials and leaders in public life and the people in the United States when he visited the United States last month. The President had specifically mentioned in his broadcast the role of editorial boards in America's national newspapers which, he believed, helped in creating consciousness among the people about national issues and at the same time helped administration in the understanding of matters of public concern and find their solution. The Ministry of Information and Broadcasting may soon introduce question-answer programmes on Radio and Television where senior officials and men heading private sector industries such as trade, commerce and Press may be made to face panels of informed questioners. Such an exposure, it is suggested, will help in better understanding of nation's real issues and make those responsible to answer complaints and objections often heard but rarely taken notice of by the persons concerned. [Text] [Karachi DAWN in English 6 Jan 83 p 14]

CSO: 5500/4716

## BRIEFS

TELEVISION COST: 17 MILLION--THE proposed Gongola State Television (GTV) is expected to cost 17 million Naira. This was disclosed by the state Commissioner for Information, Mrs. Fibi Nadah, at an interview with the New Nigerian last week. Mrs. Nadah revealed that about five million Naira had already been spent on the television complex and feasibility studies. The commissioner stated that the first stage of the GTV would take-off in six months time. She, however, said import restrictions had affected the take-off of the project. She said the government had purchased a one kilowatt transmitter the coverage capacity of which would be wider than the NTA Yola. The NTA Yola does not reach most parts of the state. Mrs. Nadah said that the government placed emphasis on communication because of its importance in the presidential system of government. The GTV has been allocated Channel 26 by the Federal Government and would transmit on ultra high frequency, she said. The GTV bill was passed into law by the state Assembly last week. [Kaduna NEW NIGERIAN in English 14 Jan 83 p 20]

CSO: 5500/87

## AEROSPATIALE OFFICIAL OUTLINES SATELLITE, SPACE STRATEGY

Paris AEROSPATIALE in English Oct 82 pp 17-19

[Text]

**S**pace has always been perceived as a reality by the top management of the Space and Ballistic Systems Division at Aérospatiale. Moreover it has long been an *industrial* reality by reason of the mastery acquired over production processes and program implementation procedures.

More recently space has become a major objective for Aérospatiale and will in the near future focus activity to an extent comparable to military ballistic missile programs, as well as representing a prime area of development. What then are the prospects that justify such ambitions?

There has been a lot of talk about the civil applications of space, yet it must be recognized that the existence of a 'space market' is only very recent and that it still covers only a single application, i.e. telecommunications in its widest sense (transmission, reception and dissemination of information by telephone, telex, radio

and TV). In fact, between 1970 and 1975 only seventeen civil communications satellites were launched around the world. And the pace barely quickened between 1975 and 1980, with only twenty satellites placed in orbit.

On the other hand, nearly 200 satellites of this type will be launched during the 1980s, i.e. five times more than during the previous decade.

The market for space satellites has unquestionably been expanding over the last year or two. But there is another factor to be taken into account as well, namely that the coming decade will see a degree of saturation that will be fed mainly by 'replacement programs' at the rate of 25 to 30 satellites yearly.

Therefore there must be no more waiting if this emerging market is to be exploited. Now is the time to act. It will be too late in five years time, for there will be no slots left to fill by then.

In addition to this fast-expanding market, space prospects for Aérospatiale reside mainly in pursuing the European space race. By this I mean any contributions which the company can make to the new development programs being envisaged around the world, such as in the United States by NASA, in Europe by ESA and in France by CNES.

These programs chiefly involve future launch systems and orbiting stations.

For after Ariane 4, which will be the culmination of the family of European launchers designed to represent a comprehensive "product" line to meet geostationary satellite orbiting requirements almost up to the end of the century, it will be necessary to define and develop new

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\*Formerly Sales Director of Aérospatiale's Space and Ballistic Systems Division and recently named Executive Vice-President of Arianspace, Charles Bigot joined the French space agency (CNES) when it was formed in 1969, where he headed the space vehicle department and was Deputy Director of the Launcher Division from 1966 to 1970. In 1971 he became Director for Development at Air Inter. In 1979 he joined the Renault car company as Vice-President (Engineering) and later headed the diversification and technical development division in 1977. He joined Aérospatiale in June 1980 where he set up the sales directorate of the Space and Ballistic Systems Division.

space and launch mission concepts, including orbital configurations and the choice of orbits and masses to be orbited, and also to increase reliability and reduce costs.

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## A policy to promote

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In the face of these needs, Aérospatiale, like many others, is still finding it hard to spell out a policy. However, a number of basic principles have been laid down.

Aérospatiale will be one of the top space industrialists, with an international dimension and fully committed.

With an international dimension means not restricted to French or European programs, but open to full international cooperation.

By fully committed, I mean that Aérospatiale can assume project management on major space systems, with ambitions on no less a scale than those of the other space industrialists.

And for the first large-scale space application (communications satellites), none of the goals and none of the segments of this currently emerging market can be neglected. In order to affirm its presence on it, Aérospatiale will therefore adopt a very open strategy which involves multiple products (heavy and medium platforms) and multiple missions (communications and television) and which is multi-nation-oriented (with solid exports to the USA and Europe).

But Aérospatiale cannot tackle these market segments on its own. It needs one or more international partners who possess the complementary skills and renown.

The choice of these partners must rest on two basic criteria: increased market penetration and competitiveness.

The North American market (USA + Canada) is potentially the largest of all but is in principle inaccessible to all European prime contractors, at any rate for the time being.

One half of the market is open to the competition and so-called medium satellites are those most in demand, except in the case of organizations like Intelsat, Immarsat and Eutelsat.

The European protected market accounts for only 20% of the total and mostly involves national programs assigned beforehand to the manufacturers of the countries involved.

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## Aérospatiale's ambitions

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In my opinion, the next ten years are an opportunity for Aérospatiale to at least double its level of activity in the space field.

The market for civil communications satellites will level off around the end of the present decade and will be divided among ten or so major space industrialists (four or five of them American, three European and two Japanese).

It is fair to suppose that a policy of alliances, stemming from the necessity felt by most of these manufacturers, will reduce competition to a contest between four or five different groups.

If this were to be the case, the group which included Aérospatiale could hope to corner about 25% of the world market, out of which Aérospatiale would itself secure 20 to 25%, i.e. 5% of the world market.

An 'average' program has been evaluated on the basis of 2.5 satellites at 60 million dollars each. To fix ideas, it may be recalled that a satellite of the Arabsat type costs about \$40 to \$50 million and a satellite of the TDF type \$70 to \$80 million.

Another way to look at it would be to suppose that Aérospatiale, which is already project integrator for 1.5 programs (Arabsat and one half of the TV-Sat/TDF-1 program shared with MBB), could

be able to run an additional program by 1990, or 2.5 programs concurrently, representing an activity worth 250 to 300 MF per annum (at 1982 rates).

In addition to the programs for which it is prime contractor, however, Aérospatiale is participating in others as either co-contractor or subcontractor, for which it currently supplies such subsystems as structures, thermal control systems, solar arrays - and later also unified propulsion systems, power supplies etc. An even modest participation (15%) in four programs (Aérospatiale is presently participating in two programs: Intelsat 5 and Telecom 1, without counting Spot) would generate about 200 MF of turnover yearly within five to ten years.

These prospects, which agree with the rough evaluation made of the market, are represented by the graph opposite, along with relatively conservative assessments of the level of activity which Aérospatiale can expect around 1990 from its traditional customers (ESA and CNES) and from participation in the Ariane program, which has been deliberately projected at the modest rate of four per year.

A figure of 1000 million francs worth of space activity\* by 1990 thus appears to be a goal which is both reasonable and accessible. It is also one that generates incentive for Aérospatiale's Space Division and which presupposes an ambitious expansion of its skills and resources.

\*The notion of 'activity' is preferred to that of 'turnover', which is of only limited interest when one is operating on a cooperative basis. 'Activity' corresponds to the sale of Aérospatiale's own services after deduction of the subcontracting shares assigned to the other associates in the project. To translate this into 'sales', the figures for project management activity would have to be inflated by about 200% and hence the overall figure obtained by 60 to 70% probably. In which case one could speak of a sales objective of 1600 to 1700 million francs by the end of the decade (at 1982 rates)●

## CIVIL COMMUNICATIONS SATELLITES

### WORLD MARKET IN 1990

- 10 PROGRAMS LAUNCHED EACH YEAR (25 SATELLITES)
- 30 CONCURRENT PROGRAMS
- COST OF 'AVERAGE' PROGRAM ..... 1 000 MF (1982)
- ANNUAL SALES FIGURE ..... 10 000 MF
- AÉROSPATIALE'S SHARE
  - ▲ WITH ITS ASSOCIATES ..... 2 500 MF
  - ▲ OWN ACTIVITY ..... 500 MF

(5% OF WORLD MARKET)

## SPACE ACTIVITY FEASIBLE BY 1990 (MF 1982)

INTERNATIONAL MARKET	450
• PROJECT MANAGEMENT (2.5 PROGRAMS) .....	250
• SUBSYSTEM (4 PROGRAMS) .....	200
ESA (20% OF FRENCH SHARE)	310
• SATELLITES (FRENCH SHARE 250) .....	50
• FUTURE LAUNCHER (FRENCH SHARE 800) .....	160
• ORBITING PLATFORM (FRENCH SHARE 500) .....	100
CNES	140
• TECHNOLOGIES .....	30
• SPOT (1 TO 2 YEARS) .....	20
• STAR AND DERIVATIVES .....	90
ARIANE RATE: 4 YEARLY	120
TOTAL	1020
i.e. ABOUT 1,800,000 DESIGN MAN-HOURS	

CSO: 5500/2588

## AEROSPATIALE'S LES MUREAUX PLANT MAKES SATELLITE PARTS

## Gas Feed Circuits

Paris AEROSPATIALE in English Oct 82 p 16

[Article by Claude Rouyer who is in charge of satellite programs at Aérospatiale's Les Mureaux plant]

[Excerpt]

Components which were developed for pneumatic circuits can be used for hydrazine or bipropellant circuits. A case in point concerns the bistable isolating valves which Aérospatiale's Les Mureaux plant currently manufactures for Société Européenne de Propulsion (SEP) for the Spot program and also on behalf of MBB for the TV-Sat/TDF-1 program.

So-called unified bipropellant systems, i.e. single systems for feeding both the apogee motor and the attitude control motors, require a propellant pressurizing pneumatic circuit. The Les Mureaux plant is currently manufacturing the main components for the corresponding circuits on the TV-Sat/TDF-1 satellites on behalf of MBB, namely pressure regulators and filament-wound tanks with metal liners to store helium at 300 bars.

At this point it may be worth mentioning a number of onboard scientific experiment packages equipped with a gas feed system developed by the Les Mureaux facility.

- The Gas Filling and Replenishment System (GFRS), developed for Matra, which is required to maintain a pressure of about 1 bar stable to within  $\pm 3$  mbar in the 25 m<sup>3</sup> vessel of the X-ray detector located in the focal plane of the grazing-incidence telescope mounted on the Exosat satellite.

- The feed system for the cryostat of the infrared spectrometer, developed for the Centre National de la Recherche Scientifique, which equips the Russian probe scheduled to rendezvous with Halley's Comet in 1985.
- The valves for the helium feed system on the ultraviolet spectrometer to be used on the NASA/ESA spacecraft for the International Solar Polar Mission.
- The aerosol collector/pyrolyzizer developed for the French Atomic Energy Commission (CEA), which is mounted on the Russian Venera probe and which will be used to analyze the atmosphere on the planet Venus.

However, there are still cases where use is made of cold-gas jet steering systems, examples being the active nutation damper and the realigning system for the Ariane's fourth stage used to launch Exosat.

In contrast to its competitors, most of whom are American, Aérospatiale is in the exceptional position of being both designer and manufacturer of complete systems and also the supplier of all the main advanced-technology components (tanks, regulator/governors, bistable and monostable high or low pressure electrovalves, pyrotechnic valves and filling valves). To the best of our knowledge, this is a unique situation.

Paris AEROSPATIALE in English Oct 82 p 20

[Text]

**S**atellite antenna reflectors are a type of equipment calling for spearhead technology in the field of composites.

This is because the performance demands made on such reflectors call for state-of-the-art hardware.

The principal constraints are the dimensions, precision and stability of the profile, the severe environmental conditions, mechanical strength characteristics, and weight.

As a result, Aérospatiale's Les Mureaux plant has specialized in the design, manufacture and testing of such antennas.

Development work began as early as 1972 and it may be worth noting the following major contracts issued to the Les Mureaux facility.

- 1974 (Marots) : L-band antenna (1.5 GHz), with a diameter of 2 meters, along with a source and source supporting structure, for Marconi Space and Defense Systems (GB).
- 1978 (Marecs) : same as Marots.
- 1980 (Telecom 1), on behalf of Thomson-CSF.
- 1981 : antenna reflectors for TV-Sat, TDF-1 and Tele-X, for Thomson-CSF, MBB (West Germany) and L.M. Ericsson (Sweden).

Besides these contracts connected with ongoing satellite programs, the Les Mureaux establishment develops new technologies either under R&D contracts to CNES or as in-house studies. Currently, development work has centered on dimensional stability, Kevlar-reinforced thin-shell structures, and the metallization of dielectric materials.

## Stringent demands

*Dimensions* : For reasons of RF band clutter, the present tendency is toward higher frequencies and increasingly directional beams. Since the aperture of a beam is proportional to  $\lambda/D$  where  $\lambda$  is the wavelength and D the diameter, reflector diameters routinely attain 2 to 3 meters or even more..

*Profile accuracy and stability* : The root mean square value of the difference between the actual profile and the reference profile must be less than  $\lambda/50$ , or about 0.4 mm for 14 GHz.

This difference makes allowance for manufacturing tolerances, ageing and thermoelastic distortion.

*Stringent environmental constraints* : in orbit, reflector temperatures can vary between  $-150$  and  $+100$  °C, while shadow projections can generate significant temperature gradients.

*Physical characteristics* : the imposed natural frequencies are often very high (from 50 to 80 Hz) in order to ensure decoupling between the antennas and the satellite structure.

*The maximum weight* specified for a fully-equipped reflector is in the region of  $3 \text{ kg/m}^2$ .

Thus, between 1972 and 1982 the plant at Les Mureaux gained expertise in spearhead technologies applied to antenna reflectors that should provide an excellent springboard for the next decade.

## AEROSPATIALE'S CANNES PLANT TO ACCOMMODATE HEAVIER SATELLITES

Paris AEROSPATIALE in English Oct 82 p 21-22

[Text]

**D**eveloping and testing future heavy-platform communications satellites has necessitated profound changes to the integration facilities available at Aérospatiale's plant at Cannes.

For whereas Péole weighed 60 kg in 1970, Symphonie 250 kg and Météosat 300 kg, today TDF-1 will have a mass of 1200 kg in orbit.

Obviously, dimensions have increased as well, and for an overall height of nearly 7m the solar array spans more than 20m when deployed.

Consequently the physical resources (supporting equipment, handling gear, access facilities) assume a new dimension which has led some people to compare TDF-1 with the Airbus A300 - which is in fact true only from the cost point of view.

The necessary facilities therefore had to be adapted accordingly and have taken due account of the strict cleanliness constraints, requiring all integration work to be performed in a "clean room".

\* The class is defined as the number of particles with a diameter greater than  $0.5 \mu\text{m}$  /  $\text{ft}^3$ .

Though suitable for Météosat and Exosat, the existing facilities are now inadequate and the Cannes establishment is therefore concentrating on modifying existing premises, adding new rooms and perfecting or renovating existing equipment.

### Satellites in "cathedrals"

The capital investments were made for Class 100,000 or 10,000\* "clean rooms", some of them featuring laminar flows. These rooms cover an area of 1800 m<sup>2</sup>.

### A space complex

The five previous rooms (totalling about 700 m<sup>2</sup>) have been redistributed and reorganized.

A large 525 m<sup>2</sup> room has been created with a floor to ceiling height of 12m. Completely shielded electromagnetically, it will enable large solar arrays to be fully deployed.

A space complex has been added. Covering 525 m<sup>2</sup> of floor area, it offers a clearance of 10m beneath the hook and contains test facilities capable of handling a complete satellite in the launch configuration, i.e. with its antennas and solar arrays folded.

The annexes include two types of room.

*Air-conditioned checkout rooms*, in which nearly all the testing electronic racks are installed. Associated to computers, they enable all of a satellite's functions to be remotely tested. A new 150 m<sup>2</sup> room has been added to the existing ones, and a second identical one is planned shortly.

*Rooms for accommodating space hardware* and especially the extraordinarily bulky mechanical handling appliances, for which 2000 m<sup>2</sup> has been set aside, with a further extension planned in 1983.

These rooms will house the prime testing and monitoring equipment.

Outstanding among the latter is the near-field antenna radiation measuring installation — still comparatively rare in the world. It will make it possible to check the electromagnetic performance of satellite onboard directional antennas. In the

past, this required an installation covering several hundred meters (sometimes several kilometers), but will now be done by analyzing the field radiated at a very small distance and then by using a computer to transpose the results for long distances.

The Arabsat program will inaugurate this new equipment.

Finally, a mention should be made of the dedicated electronic racks and associated computers whose miniaturization over the last ten years has made them infinitely less bulky and cumbersome than those used for Météosat.

Added to those belonging to the design department, the production department and the vacuum, thermal and optics laboratories, these new resources being used by Aérospatiale's Space and Ballistic Systems Division represent a homogeneous whole, so essential for carrying ongoing programs to fruition. In fact Cannes has also developed into a major center of space activity●

## Heavy satellite test and checkout equipment

- A gantry for the static testing of structures.
- Gravity balancing rails to permit the deployment of solar arrays of various types: rigid deployable (TDF-1) or flexible (Spot).
- A special mount for aligning camera systems.
- An electrodynamic vibrator for use in vibration testing in the 10 to 2000 Hz range, equipped with a horizontal plate 2.50m in diameter. Provided that certain precautions to ensure cleanness were taken, a set of very high power hydraulic vibrators could be installed.
- An acoustic reverberating chamber with a height of 8m and a volume of 250 m<sup>3</sup> for testing complete models in the launch configuration (up to 145 dB).
- Two space caissons (for vacuum and cold-skin testing), with volumes of 60 and 50 m<sup>3</sup> respectively.
- Two Schenck tables for rotation testing and dynamic balancing (already used for Météosat and Exosat).
- Special equipment for measuring near-field antenna radiation.

## FREQUENCY ALLOCATIONS, GROUND STATIONS FOR TELECOM-1

Paris REVUE FRANCAISE DES TELECOMMUNICATIONS in French Oct 82 pp 37, 44, 45

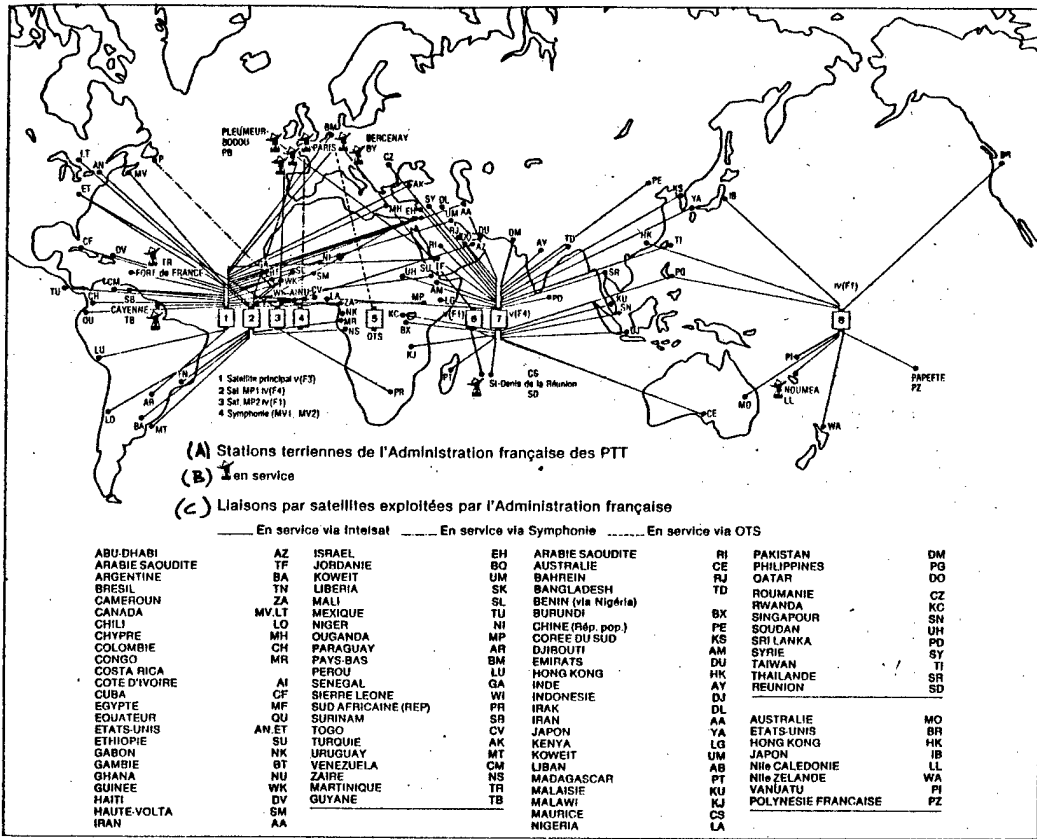
[Article by Jean-Pierre Houssin and Jacques Meunier: "French Telecommunications by Satellite"]

[Excerpts] The French Future: Telecom 1

Lastly, and especially, the Telecom 1 network will also start its operations end of 1983-beginning of 1984.

The satellites built with Matra as prime contractor will be equipped with two different payloads manufactured by Thomson-CSF. The first will use the bands of 12.50-12.75 GHz (descending trajectory) and 14.00-14.25 GHz (ascending trajectory). It will be reserved for intra-enterprise connections, and the satellite antennas associated with it will allow coverage of mainland France as well as of a portion of the adjacent European countries. The second payload will use the 6 and 4 GHz frequency bands; it will be connected to on-board antennas which will allow it to simultaneously cover mainland France, the Antilles, Guyana, St-Pierre-et-Miquelon, the Reunion islands, and Mayotte, and will therefore be reserved for telephone and television connections between the mainland and these overseas departments. On land, the ground stations of the intra-enterprise network will use antennas of 3-4 m in diameter. Given the performance of the satellite's antennas, the use of land tracking antennas is not necessary. They will be installed either directly at the user, or close to several users who will collaborate to use only one station; in any case, they will be operated on-site without personnel (remote-controlled equipment). The network will be accessible in TDMA (time division multiple access) with the additional possibility of demand assignment, each station being capable of communicating with any other. This will provide a most interesting utilization flexibility. The system will be managed from a central station installed in Mulhouse. In addition to the normal functions of TDMA-reference stations, this station will also control capacity assignments depending upon demand, and will maintain records of all billing data.

In the 6-4 GHz network, the land stations will be of the same type as those used in the Intelsat network.



Liaisons par satellite exploitées par l'Administration des PTT Situation au 31.08.1982

Satellite links operated by the PTT. Situation on 31 September 1982.

- Key: (A) Land stations of the French PTT  
 (B) In service  
 (C) Satellite links used by the French PTT
- Arabie Saoudite = Saudi Arabia  
 Chypre = Cyprus  
 Cote d'Ivoire = Ivory Coast  
 Etats-Unis = United States  
 Haute Volta = Upper Volta  
 Sud Africaine (Rep) = Republic of South Africa  
 Coree du Sud = South Korea  
 Emirats = Emirates  
 Nlle Caledonie (Zelande) = New Caledonia (Zealand)  
 Polynesie Francaise = French Polynesia

The main station of the network will of course be the mainland station, the BY4 antenna at Bercenay-en-Othe, which is 32.5 m in diameter. At present, this antenna is at the qualification stage. Overseas, the CTS (satellite telecommunications center) of Trois-Ilets (Martinique) will use an 11.8 m antenna (already in use to link with the mainland via Intelsat); the main antenna will remain in the Intelsat network for the needs of the Antilles international traffic. The CTS at Riviere-des-Pluies (Reunion) and Pain-du-Sucre (St-Pierre-et-Miquelon) will merely reorient the land station antenna of the Intelsat or Symphonie satellite toward Telecom 1. This rapid operation will be performed during the slow period of the day so as to cause the least amount of disturbance in connections.

New antennas will have to be installed everywhere else: at Guadeloupe, a 14.5 m antenna identical to the one at the Riviere-des-Pluies CTS, in a new CTS being built at Destrellan; in Guyana, an 11 m antenna, the present one remaining in service in the Intelsat network for international service; at St-Barthelemy (French Antilles), an 11.8 m antenna; and lastly at Mayotte, a smaller antenna of 8.8 m diameter. The network will be available in multiple access through frequency division (FDMA), but the carrier frequencies assigned to the stations will be phase modulated by a digital train of 8-34 Mbit/s with error correction, and with digital compression of conversations past a certain level of traffic. However, given the low capacities of St-Pierre-et-Miquelon and Mayotte, these links will use single channel carriers.

Antilles-Guyana links are also planned, as well as an internal Guyana network, where one or several low-capacity (several circuits) ground stations will be installed to service the more isolated forest villages. This local network will use single-channel carriers, the pilot station being the Guyana Telecom 1 station.

11,023  
CSO: 5500/2578

FIRST MONTHS OF AUDIOVISUAL AUTHORITY'S WORK EVALUATED

Paris L'EXPANSION in French 10-23 Dec 82 pp 177-179

[Editorial by Alfred Grosser: "The High Authority at 100 Days"]

[Text] The First Balance Sheet of Its Activities is Not Negative

The High Authority of audiovisual communication was formed on 1 September; we can attempt to establish a balance sheet of its first hundred days.

We will obviously discover its failings and weaknesses. The strike of 25 November saw a confrontation between the unions and chief executives, between the unions and the minister, all of it against an uncertain legal background because the application decree for Article 74 of the Law of 29 July regarding minimum service, has not yet been published. The national collective convention promised by Georges Fillioud since last January is not ready either, nor have the specifications for the program companies been drawn up. During budget debates, it also became apparent that the new system leaves considerable financial power to the government. To be sure, it is Parliament which approves the amount of resources, as is the case in England, but Article 63 has no equivalent in London. Judge for yourselves:

"The revenue expected from taxation and advertising is distributed annually by the Prime Minister or his delegate, among the national organs of public radio and television.

Allocation of the amount of resources to each organ takes into account its budget plan, the status of its activities and of its own resources, its creative undertakings, as well as its public service obligations."

What a terrible potential for control and influence beyond the High Authority even though the latter is "entrusted particularly with safeguarding the independence of public broadcasting and television" (Article 12)!

It is true that the High Authority is consulted about specifications, and as its chairwoman stated in a very interesting interview with TELE 7 JOURS of 27 November, "our voice is one of the most authorized ones." It will be the more authorized for speaking out in the name of an institution which will have

earned prestige in its own field. But what is this field? The law is not very clear on some essential points, which justifiably leads the High Authority to want to cover the widest possible field so as to create precedents and not allow its role to be reduced from its inception. It has for this, a very weighty argument: how can one imagine a function reduced to a few rare interventions, once the chief executives and those members of the boards of directors whose selection is allowed by law, have been nominated, when its members must serve in full-time positions (unlike the members of the Constitutional Council, they are not allowed any other professional activities), and when the budget allocated to the High Authority is large and provides for ten executive positions?

The High Authority therefore set to work, both discreetly and through well-publicized interventions. The discreet part of the work is described by Michele Cotta in the interview:

"We meet in full session every week on Tuesday. We receive network managers every two weeks for two hours, at which time they present us with a complete picture of their problems. Along with the weekly meeting, committee work has grown steadily in importance. Six committees have been formed: a legal one, entrusted with formulating equal-time requirements and advising on specifications; a development committee for securing licenses both for private local radio stations...and later, for cable television; a coordinating committee for networks and balanced programming; an international committee which makes contacts with foreign radio and television; and two other committees, one of which will deal with personnel matters, and the other with financial questions; this last committee will aim to provide a month-by-month log of the networks' financial situation and management, which are matters that we cannot ignore even if the law does not give us specific powers in this area."

The High Authority public interventions have been highly controversial, partly because the central difficulty has not been well understood, to the point that the High Authority has had to restate this delicate issue in a sort of open letter or communique published in LE MONDE. This text essentially explains that the law gives no power to the High Authority over the professional conduct of journalists, except for the conciliatory function which Article 18 allows it to play, in matters of freedom of thought and creative freedom, between the organizations and their contributors, a function which no one has yet asked the High Authority to perform. But the High Authority is specifically responsible for safeguarding "observance on the part of organizations so empowered, of the public service duties mentioned in the present law," meaning in particular "honesty, independence, and pluralism of information." The High Authority is not concerned with judging journalists but it has a duty to judge the finished product which they offer to listeners and viewers.

It should therefore not have been blamed for intervening in such matters as the Cachan hospice documentary. On the other hand, the doctrine which it is developing is highly questionable for the inhibitions if not emasculations which it tends to impose. This began with the letter sent on 6 October by Michele Cotta to chief executives:

"We have noted that broadcasts on the part of a national broadcasting company, which would bring prejudice to the interests of another national company, would fail to meet the public service obligations which it is the High Authority's appointed task to protect."

Since in any case, the networks have no propensity for self-criticism (whereas other countries have regular broadcasts in which television conducts criticisms of itself), the application of such a directive amounts to stifling discussions broadcast on radio or television, about radio and television, as they are currently practiced. Moreover, in the Cachan affair, the High Authority has given a definition of pluralism which corresponds (alas!) to this *Ausgewogenheit*, this "balancing" in whose name German television is slowly becoming drained of all the ferment that lent it its intellectual, political, and informational quality during the 1960's. It is true that at the same time, in London, IBA, the public authority charged with monitoring the honesty and balance of private television stations, is moving in the same direction.

But these reservations must not prevent us from pointing out the essential success of the High Authority. Despite the criticism whose target it has been--and partly because of this criticism--it became a well-known institution in less than three months. The letter to LE MONDE was signed collectively. The critics attack the High Authority as such, and no longer differentiate among its members. The Constitutional Council, although nominated by the same three-party method (the President, chairmen of the Senate and of the National Assembly), took longer to become an entity, an institution. It is up to the High Authority to open the way so that it may defend fully and independently, the independence of public radio and television organs against the pressures of the government, parties, and unions. And so that it may gain respect to the point of receiving acceptance, as if they were rules, for the recommendations that the law allow it to propose without assuring their implementation.

11,023

CSO: 5500/2578

FRANCE

TAX ON PTT TELECOMMUNICATIONS INCOME PROPOSED

Paris LE MONDE in French 30 Dec 82 p 24

[Article by J.-M. Quatrepoint: "General Directorate of Telecommunications Deems Budgetary Levy on Its Profits Excessive"]

[Text] Will what was yesterday still one of France's most viable enterprises be, in its turn, done in by the era of deficits? If one is to believe certain forecasts, the telecommunications branch of the PTT will, for the first time in its history, register a loss in 1982. In 1981, its net profit amounted to 1.9 billion francs, and in 1980 it was 8.2 billion francs. What the final figures for fiscal 1982 will be are not yet known, owing to the erratic movements of the dollar and other currencies. One thing is sure, however: The arm-wrestling bout that has been going on over the past 18 months between the budget officials and the PTT runs the risk of producing disagreeable consequences for the development of one sector--telecommunications--and of one line of activity--electronics--on both of which France is counting heavily.

The situation had its genesis about 1 and 1/2 years ago. To understand the process that was set off at that time, it must be recalled that since 1922 the PTT has had an autonomous "supplementary budget."

Subject though it is to control by the state and Parliament, this supplementary budget has nevertheless given rise to certain frictions. The PTT, for example, had been complaining about the low remuneration it was receiving from the Treasury for the latter's use of postal check funds--100 billion francs.

There were also frictions within the Ministry of PTT, between the "postmen" and the "telecommunicators." The latter, riding high on the crest of the vast telephone facilities expansion program, saw themselves ending up having eventually to plug the postal "holes." Hence the increasingly marked efforts of the DGT [General Directorate of Telecommunications] to set itself up as an autonomous enterprise, to the detriment of the PTT employee unions, which oppose the split-up involved for them, on the basis, in their view, that it is contrary to the public service concept and that it opens the way to an eventual privatization.

The DGT's drive and successes, the vast quantities of funds it manages and the cashflows it generates give rise to hostility and jealousies directed against it throughout the rest of the administration.

Already weakened prior to the presidential election by the shakeups affecting its electronic telephone directory project, the DGT was subjected to an all-out assault for the first time a few weeks after 10 May.

Seeking sources of revenue, in accordance with their role, the budget services naturally trained their sights on the PTT. The opportunity was ripe, what with help from the political change and pressing budgetary needs, to storm the DGT citadel and tap this gold mine that had been escaping the clutches of the traditional services.

Thus, Rue de Rivoli proposed imposing on the PTT, for 1982, what they then termed a "special levy," equal to half the net returns on its telecommunications operation. To set the amount, the budget services took as their basis the 1981 figures and came up with a provisional levy of 3.2 billion francs. "Everyone must participate in the budget-tightening effort," they explained at the time to the PTT authorities, whose protests had not the slightest effect. Matignon decided unyieldingly in favor of the budget services, and the 3.2 billion francs were incorporated in the budget for 1982. When the final figures for fiscal 1981 were arrived at, the telecommunications operation surplus proved to be 5.613 billion francs, and the budget services lowered the sum of the special levy from 3.2 billion to 2.8 billion francs.

As was to be expected, the "special" disappeared and the levy became regularized, with the agreement of the prime minister. Thus, the 1983 budget contains a "contribution" from Telecommunications PTT to the general budget, in the amount of 2 billion francs. This time, the PTT had had its fill. After "arching its back," it went on the counteroffensive in November, and the talks are still going on. Its argument is twofold.

On the one hand, Avenue de Segur argues the absurdity of the base being used by the budget services for their calculations. "In taxing us on our operations surplus and not, as is done with all other enterprises, on our net profit-and-loss surplus, no account is being taken of the reserves we are compelled to maintain to cover currency exchange fluctuations." The fact is that the PTT borrows heavily in foreign markets and its "signature" enjoys an excellent rating. Its accounts are therefore highly sensitive to monetary fluctuations. This levy should be applied solely to its net surplus, after deducting reserves set up to cover possible variations in exchange rates. On this basis, the levy would no longer amount to 2.8 billion francs for 1982, but rather 900 million francs.

Its second argument: Such a slice taken out of the Telecommunications budget risks encumbering PTT's capacity for financing major projects (cabling and wiring) and the development of electronics industries.

Be that as it may, luck has had its way and, in the course of things, "sensitized" public opinion. Evaluations made in November raised the specter of a deficit bordering on 1 billion francs for the entire year, in the event Tele-

communications were compelled to contribute 2.8 billion francs to the general budget. This was based on the assumption that large reserves--3.6 billion francs--would have to be set aside by PTT from its operations revenues--estimated at that time to amount to 5.5 billion francs--to cover currency exchange losses.

"Telecom in the red!" A thought to make one tremble! Just 3 days before the end of the year, however, it looked as if Telecommunications' 1982 accounts would finally balance out. The last several days' drop in the exchange rate of the dollar translated into a lowering of financing costs. The operations surplus rose to 6 billion francs, and the reserve requirements dropped to less than 3 billion francs. Regardless of the budgetary levy, therefore, the result will be a small profit.

This "little war," however, has left its scars. "We are paying today for the DGT's past all-powerfulness," is the bitter comment at Avenue de Segur. Is there not the risk of going from one extreme to the other?

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CSO: 5500/2586

FRANCE

BRIEFS

BAYONNE-BIARRITZ FIBER OPTICS--The SAT [Telecommunications Corporation], in cooperation with its subsidiary SILEC [Industrial Company for Electrical Connections] has just completed the installation of a fiber-optics telecommunications link (operating at 0.85 micron and 34 Mbits) between the Bayonne and Biarritz main telephone exchanges. The cable, which is a little over 8 km long, was manufactured by the plants in Montereau (SILEC) and Riom (SAT). The optical fibers (30 fibers totaling some 250 km in length) were supplied by Fibres Optiques Industries. Having completed this project, SAT-SILEC are now "qualified in the domain" to furnish optical fiber links to the PTT. They are the third industrial group to have attained this qualification after LTT [Telephone and Telegraph Lines (Company)] (which built the link between the Tuileries and Philippe Auguste exchanges in Paris) and CLTO [expansion unknown] (CGE [French General Electric Company]), which installed a microwave link site near Dijon. Notably, industrial measuring equipment was used for the first time on the Bayonne-Biarritz link. It consisted of a SAT backscatter gage, a passband measuring instrument developed by SILEC under CNET [National Center for Telecommunications Studies] license, and ENERTEC [expansion unknown] equipment for final operational acceptance tests. [Text] [Paris ELECTRONIQUE ACTUALITES in French 17 Dec 82 p 8] 9238

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