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ACTIVITY REPORT 1999

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1999 ACTIVITY REPORT

Summary

For the second year of its existence, which it owes to the liberalisation of the telecommunications market in Switzerland, the Commission is presenting its activities report for 1999.

With regard to **interconnection**, five procedures initiated in 1998 were still in progress in 1999. Two of these were concluded at the beginning of the year following the preliminary investigation procedure conducted by the Federal Office of Communications (OFCOM), when the partners reached an agreement in the course of the conciliation procedure which precedes any final decision by the Commission. The third was concluded in the middle of the year when the petitioning company withdrew its appeal. In the fourth, the Commission took provisional measures in April, confirming the non-financial conditions of interconnection of the previous year, taken on request from the companies concerned and also fixing the interconnection tariffs; the conciliation procedure was to take place in the first half of the year 2000 and, in the event of failure, the Commission will take a decision. The last interconnection request is more complex, since it requests both that leased lines be subject to the interconnection system and that the mediums be accessible to the operators. This last request concerns the last section of the network as far as the subscriber, which is still in Swisscom's exclusive possession. Access by other operators to this last section is termed unbundling the local loop: it constitutes one of the major opportunities at stake in the telecommunications market. In this case, the Commission rejected any provisional measures, since in its opinion the required conditions had not been met. The Federal Court, following an appeal under administrative law, confirmed the Commission's decision.

The granting of **GSM mobile telephony licences** had given rise to an appeal to the Federal Court under administrative law in 1998. The Court took a definitive decision in May 1999 by deciding not to consider the appeal. The main reason is that the law on telecommunications does not confer a right to such a licence. Therefore, an appeal against a decision of the Commission in this area, where it has freedom of discretion (frequencies are a limited public asset and the interested parties were more numerous than the licences available, so a choice has to be made), is not admissible.

After diAx in December 1998, the month of June 1999 saw Orange, the third mobile telephony operator, enter the market. Its arrival caused something of a stir, since Orange immediately acquired a level of coverage of approximately 90% of the population thanks to a national roaming agreement with Swisscom. DiAx objected to the Commission concerning this possibility of roaming at national level. The Commission rejected the petition and confirmed that the latter was lawful, in so far as the operator, by means of the roaming agreement, achieves a level of coverage which exceeds the values mentioned in its licence.

For the **third generation mobile telephony licences** (IMT-2000/UMTS), the Commission decided in the middle of the year to grant four identical licences towards the end of the year 2000 by auction. In order to respond to the concerns which have been expressed with great vehemence in Switzerland opposing mobile telephony antennas, the Commission provided for co-ordination of the sites of antennas between the operators. It should be noted that at the end of 1999, the Federal Council adopted the decree on protection from non-ionising radiation, which provides for standards which are more stringent than those applied in the majority of industrialised countries; this was intended to reassure people who were worried, whilst ensuring a clear legal situation.

Still on the question of licences, at the end of the year the Commission, following a call for tenders, authorised nineteen enterprises to take part in the auction for the granting of **licences for the wireless local loop (WLL)**. Three national licences and five regional licences in each of the nine regions have thus been auctioned in the first half of the year 2000. This technique makes it possible to connect users to the telecommunications network by radio, without using the fixed local network which is, as indicated above, Swisscom's property. WLL is therefore expected to play a major role in guaranteeing a degree of competition in this area of the local loop.

The **national numbering plan** (E164/2002) for telephony services was the subject of intense discussions throughout the year. Initially, the Commission confirmed the plan which it had adopted as long ago as 1997. In August, it decided to postpone its entry into force by one year, to 29 March 2002, to give businesses more time to adapt to the new plan. In early 2000, it decided on a different numbering plan which is simpler and subject to much lower implementation costs compared to the initial plan. The coming into force of this new plan remains fixed at 29 March 2002.

The introduction of **number portability**, which allows subscribers to keep their telephone number when they change their operator, had been made obligatory by the Commission on 1 January 2000. In 1999, the operators informed the Commission of problems due in particular to the delay in the delivery of servers which were to manage the process from one operator to another, and to the close proximity to the year 2000 changeover. This led the Commission to delay the entry into force of this measure by two months, i.e. till 1 March 2000.

The procedure of **carrier selection** (on a call-by-call basis) or **carrier preselection** (on a predetermined basis), which allows subscribers a free choice of operator and offers them the possibility of having multiple operators, was simplified by the Commission. This was necessary as the carrier preselection modification orders were being actioned in periods which were too long to ensure effective competition between operators.

I. Introduction

1. General

Every year, the Federal Communications Commission (ComCom) draws up a report for the attention of the Federal Council, in which it summarises its activity over the past year¹. It produces a report of the telecommunications market from its perspective as the regulator and outlines the focus of its activities for the forthcoming year².

The telecommunications market, which has now been liberalised for two years, has developed both in terms of the infrastructures used and the diversity of the services offered by operators and from the viewpoint of competition. The latter affects all sectors of telephony, apart from the local loop which is still characterised by Swisscom's strongly dominant position³, and sees more than 260 service providers active in the Swiss market, fighting to win new customers through innovations in services and reductions in prices. In this dynamic environment, the task of ComCom, an independent body responsible for regulation of the market, has evolved a little compared to the first year of liberalisation. Indeed, although it is still concerned with opening up the market and ensuring access to the market by all telecommunications service providers, it will also henceforth have to direct its activities towards the future and the new licences which it will be granting, as well as to applying the regulations.

¹ Law on Telecommunications (LTC), article 57, para. 1 (RS 784.10).

² For information, ComCom's tasks are as follows: granting licences for telecommunications service providers, licences for utilisation of radiocommunications frequencies and universal service licences, fixing interconnection conditions in the first instance when the service providers cannot reach agreement, approval of the national frequency allocation plan and the national numbering plans as well as fixing the modalities of application of number portability and carrier selection. It also takes measures in the event of violation of the law in force and, where appropriate, withdraws the licence. The Commission, which does not possess any specific administrative apparatus other than its secretariat, may call upon the Federal Office of Communications (OFCOM) and impose directives on it. Thus, it is OFCOM which compiles the dossiers and prepares the matters which are then submitted to the Commission for a decision.

³ In the legal opinion of the Competition Commission in the framework of an interconnection procedure.

2. Members of the Commission, secretariat and meetings

Since the beginning of 1999, the Commission has been composed of six members⁴. On 17 August, the Federal Council nominated Mr Christian Bovet, Professor of Law at the University of Geneva. Mr Bovet assumed his functions on 1 September.

The secretariat still consists of its manager (100%), one scientific colleague (40%) and one secretary (60%).

The Commission sat six times – for a total of 10 days – including its study trip to Silicon Valley, which will be discussed below.

II. Activities of the Commission

1. Interconnection

Interconnection is the process which makes it possible to link together telecommunications networks and services by obliging the dominant operators to guarantee access to their network to the other operators⁵. It thus enables operators who have no network of their own, or only a partial network, to offer their services to consumers. The legislation states that the dominant operators and those requesting interconnection must first of all attempt to reach an agreement (giving priority to negotiation). If the negotiations fail, and after a preliminary investigation and a conciliation procedure conducted by OFCOM, the Commission lays down the prices and conditions for interconnection.

In the course of this year, three procedures were outstanding with the Commission. The circumstances are summarised briefly below.

Beforehand, and without retracing the steps of the matters which began in 1998 and which are summarised in part in the preceding report⁶, we should note that on conclusion of the investigation into the dispute between Sunrise and Swisscom on the one hand and between diAx and Swisscom on the other, these companies reached an agreement in the course of the conciliation procedures. The negotiations, which took place under the aegis of OFCOM, were concluded on 29 January 1999 for Sunrise and on 25 February for diAx. Thus in both cases the companies fixed their interconnection charges for 1998 by agreement (with

⁴ See Appendix I: List of Commission members.

⁵ LTC article 3, para. e

⁶ 1998 Annual Report of the Federal Communications Commission, pp. 16-17.

retroactive effect on 1 May 1998) and 1999. Another consequence of these agreements was to put an end to a Swisscom appeal, dated 25 August 1998, to the Federal Court against the ComCom decision of 7 August. This decision gave Sunrise limited access to the documents of the case, whilst safeguarding Swisscom's commercial secrets.

In principle, a decision or an agreement in an interconnection procedure only affects the parties concerned. However, by application of the principle of non-discrimination, their effects extend to all Swisscom's interconnection partners, in any event from the date of the decision onwards. Swisscom, following the agreements in early 1999 with Sunrise and diAx, has been able to allow all its partners to benefit, retroactively, from the new interconnection tariffs.

1.a Commcare

Probably the most complex procedure concerns the interconnection petition submitted by the Commcare company against Swisscom. In this matter, the Commission rejected provisional measures in an interim decision on 28 June 1999 concerning both interconnection for leased lines and for the transmission paths (i.e. direct access to user connections, what the specialist jargon refers to as "unbundling" the local loop⁷). The Commission deemed that in this case the conditions required for provisional measures had not been met (in particular, the proportionality of the measures, the existence of an irreparable prejudice and urgency).

In the matter of irreparable prejudice, the Commission considers that Commcare, like all the other competitors, benefits from Swisscom's wholesale offer and cannot therefore claim damages. Even if, in the final analysis, the Commission were to decide to submit leased lines and transmission paths to the interconnection system, resulting in cheaper tariffs than at present, any prejudice suffered by Commcare could be remedied by the retroactive effect of the measures. Thus, by means of this interim decision, Commcare is neither excluded from the market nor placed at a disadvantage in relation to its competitors.

As far as proportionality is concerned, the legal situation is not yet sufficiently clear to justify provisional measures: in fact, Swisscom's dominant position with regard to leased lines, if it is confirmed in the sphere of the local loop by the Competition Commission, is not yet confirmed for the remainder of the network, and Commcare's application concerns the entirety of the network. Moreover, an interim decision by the Commission in Commcare's

⁷ It should be noted here that most of the European countries are faced with questions similar to those which apply to the Swiss telecommunications market and that several countries have already introduced unbundling, whether total or partial (e.g. Germany, Austria, the Netherlands, Denmark and Finland) and others have announced their intention to do so (England, France and Sweden).

favour would result in favouring it in comparison with its competitors and would provoke a flood of petitions from them to the Commission for provisional measures; it would place Swisscom under a pressure which is not justified at this preliminary stage of the procedure.

The Commission judged within the framework of this interim decision and without prejudice to the final outcome that lines leased from Swisscom by other operators could be subjected to the interconnection system, to the extent that it is admitted that Swisscom dominates the market in this area. Swisscom would thus be obliged to place its transmission capacity at the disposal of the other operators at cost-based prices.

Commcare lodged an appeal against this decision with the Federal Court. The High Court gave its verdict on 17 December 1999. Overall, it followed the Commission's arguments and therefore confirmed the interim decision of the Commission. However it did not pronounce on the other questions which will have to be settled within the framework of the main procedure, such as the applicability of the interconnection rules to leased circuits.

In view of the complexity of the procedure, a decision from the Commission is not expected before the summer of 2000.

1.b DiAx mobile

The following procedure relates to the dispute between diAx (mobile) and Swisscom⁸. Following the superprovisional measures taken on 6 November 1998, the Commission took provisional measures on 29 April 1999, in which it confirmed the non-financial conditions of the interconnection established by the superprovisional measures and in addition fixed the tariffs. To set the tariffs of calls terminating in the diAx mobile network, the Commission used as a basis a comparison with European countries subject to conditions similar to those in Switzerland. As for the tariffs of incoming calls from abroad, it used as a reference the customary prices of the market and sector in question⁹.

Since this decision, exchanges of written documents have taken place within the framework of the principal cause. In addition, the opinion of the Competition Commission was sought in order to judge on the dominant or non-dominant position of Swisscom. Thus the conciliation procedure should take place during the first half of 2000.

⁸ 1998 Annual Report of the Federal Communications Commission, pp. 16-17.

1.c Other procedures

Another procedure between an Internet service provider and a cable distribution company, which had begun in August 1998, was concluded at the end of 1999 by the withdrawal of the petition which the Commission had been dealing with. The decision to put the matter on file was taken in February 2000.

We also note a decision taken by the Commission in June 1999 following the submission of a petition by a company which asked the Commission to intervene, within the framework of an interconnection agreement, not on the principle or terms of the agreement but solely on the interpretation of the existing provisions. The Commission denied its competence, since the interconnection agreement is not disputed and the subject of the conflict concerns its application only. Since these interconnection agreements are private contracts in law, any dispute relating to them falls within the competence of the civil judge (including judges of arbitration tribunals)¹⁰.

At the end of 1999, two procedures relating to interconnection were therefore still outstanding. The others were concluded either after agreement between the parties following the conciliation procedure organised by OFCOM on completion of the preliminary investigation or by the procedure being abandoned. As the Commission had pointed out in its preceding report¹¹, the procedure for fixing interconnection prices and conditions, which, in Swiss law, prioritises negotiation between the parties, is very prolonged and may, to a certain extent, constitute an obstacle to the establishment of effective competition. Indeed, the new operators' tariffs and, therefore, their financial planning depend extensively on interconnection prices. However, this initial phase of liberalisation is coming to an end and, from 1 January 2000, other principles have been laid down for calculating interconnection prices by the Federal Council¹², based on the *Long Run Incremental Cost (LRIC)* model. The effect of this method of calculation is to determine interconnection prices on a new accounting basis which in particular no longer allows the historic operator to take into account certain charges inherited from the past. Thus, although procedures are not excluded in the future, they should

⁹ LTC, article 11, para. 3.

¹⁰ See LTC article 11, para 4, 2nd sentence.

¹¹ 1998 Annual Report of the Federal Communications Commission, p. 18.

¹² Decree on Telecommunications Services (OST), articles 34 and 65 (RS 784.101.1).

become scarcer and the market should, in this regard, enter a phase of normalisation, with telecommunications prices which should continue to fall¹³.

1.d Short Message System (SMS)

SMS transmission between diAx and Swisscom has been the subject of numerous complaints from customers, relayed by the press, during the summer 1999. Even if the Commission was not finally called upon to take any formal decision, the case is particularly instructive.

For information, SMS are brief alphanumeric messages (max. 160 characters) which can be transmitted to or from a mobile telephone.

The problem lay in the fact that message exchange between the diAx and Swisscom networks was not working. The Commission and OFCOM, after verifying that there were no technical obstacles to message exchange between these two networks, intervened with the two operators by way of informal contacts in order to encourage them to find room for agreement before initiating a procedure which would have been complex and prolonged. Towards the end of September, the problems were solved and the subscribers of the two operators were finally able to exchange their messages. The regulator would have desired more explicit competencies in order to guarantee interoperability, but the operators finally managed to find a solution themselves.

2. Licences

In this section, we intend to provide information on the licences issued by the Commission and on the preparatory work for the award of licences in the near future. For information, whilst the Commission grants licences to telecommunications services operators as well as licences for the use of radiocommunications frequencies, it has delegated to OFCOM the authority to grant licences for telecommunications services which are not subject to a call for tenders (e.g. fixed network licences without radio elements) as well as radio licences which are not intended to provide telecommunications services (e.g. amateur radio licences, CB licences or licences for transport companies' private radiocommunications). Here we shall be dealing only with the licences awarded directly by the Commission.

¹³ In January 2000, Swisscom announced an agreement with Sunrise, Tele2, Colt, GTN, Télésionique

2.a Wireless Local Loop

Wireless local loop technology allows users to be connected directly to a telecommunications network by radio link, without going through the local fixed network which is still owned by Swisscom. This technique is therefore set to play a considerable role in the liberalisation of the telecoms market, since it constitutes an alternative to the local network for the “last mile”, linking the user to the network even if, because of its cost, it will probably be used to connect businesses more than private individuals.

At the end of 1998, the Commission asked OFCOM to evaluate the demand for this technique on the national market. Once it had assimilated the results, the Commission decided to auction forty-eight wireless local loop licences: three national licences (two licences with a 28 MHz bandwidth in the 3.4 GHz frequency band and one with a 56 MHz bandwidth in the 26 GHz frequency band) plus forty-five regional licences (five licences in each of the nine regions, which are all in the 26 GHz frequency band: two with a 28 MHz bandwidth, two of 56 MHz and one of 112 MHz).

These licences will be granted for a term of ten years. Certain conditions were imposed on the acquisition of these licences in order to prevent a small number of operators monopolising a large proportion of the available licences, with the aim of guaranteeing effective competition between the maximum number of partners.

OFCOM subsequently published the invitation to tender on 14 September 1999; twenty-one candidates expressed interest. By its decision of 13 December 1999, the Commission authorised nineteen enterprises to take part in the auction (two candidates withdrew their candidature in the course of evaluation of the dossiers and one company subsequently withdrew after being admitted)¹⁴.

The auction began on 9 February 2000 and concluded in mid-April (one licence per day was offered for auction) so that the Commission was able to grant the licences in May 2000¹⁵.

and Star Telecom on a reduction in interconnection charges.

¹⁴ The companies were the following: Catel and Sunweb for the first and MCI/Worldcom for the second. The companies authorised to take part in the auction are: BroadNet, Callino, Commcare, DiAx, Europe i Switzerland, FirstMark Communications, KPNQwest, Mannesman Eurokom, Multilink, Primus Telecommunications, Star-One, Sunrise, Telcom Venture of Switzerland, Tele2, Télésonique, United Pan-Europe VTX Services and Winstar Europe.

¹⁵ During the elaboration of the report, an appeal by one of the participants to the Federal Court resulted in the postponement of the start of the auction until 8 March 2000, since the Court did not grant suspensive effect to the appeal.

Two points must be emphasised here: on the one hand, the decision to hold an auction; this was a first in Switzerland in this sector (the Commission was hoping for a transparent procedure which would let the market determine, if not the actual real value of the licences, at least the price it was prepared to pay for them). On the other hand, the manner in which this auction was conducted, since it was held on the Internet and was able to be followed by anyone at all. In this way, not only was the transparency of the procedure guaranteed, but it was also a contribution to the development of the information society.

2.b Universal Mobile Telecommunications Systems (UMTS) / IMT-2000

The third generation of mobile telephony, standardised at International Telecommunications Union (ITU) level as IMT-2000 (UMTS is the European version), is distinguished from the current GSM generation essentially by access to multimedia services with transmission rates as high as 2Mbit/s. This is an open door to a whole series of wireless services such as the Internet, video on demand, etc., which will give a whole new meaning to mobile communications.

The standard applied is known as CDMA (Code Division Multiple Access). On this basis, the industry has developed several "modes", which can be used in combination. For Europe, these are mainly the W-CDMA (Wideband Code Division Multiple Access) and TD-CDMA (Time Division Multiple Access) modes. These different modes guarantee optimal use of frequencies. Efforts are being made at international level by the standardisation organisations to harmonise these different modes, as far as possible. However, it must be underlined that interoperability is guaranteed for networks based on the same standard; "multimode" terminals are likewise envisaged to ensure interoperability between networks operating on different standards.

The frequencies on which these networks operate are in the 2000 MHz band, i.e. just above the GSM 1800 networks. The bandwidths envisaged by the international organisations and by the national frequency allocation plan for these systems is two times 60 MHz for the W-CDMA ("uplink" and "downlink") mode and one of 35 MHz for TD-CDMA mode.

Since early 1998, OFCOM has been charged with conducting the consultation process and carrying out the preparatory work. In August 1999, the Commission announced its intention of granting four national licences by auction. The licences will be granted in the course of the year 2000; the aim is to enable operators of these networks to be operational in 2002, the same date as that envisaged in the European Union.

The Commission is following with great interest the evolution of work in the European countries in terms of timetables, standards and the conditions for the award of these licences, in particular in the pioneering countries in this sector such as Finland, the United Kingdom and Germany.

In the opinion of numerous specialists, the new UMTS networks represent the future for telecommunications; the Telecom exposition in October 1999 in Geneva confirmed this, but they do pose a number of problems, including their implementation. And this is not the smallest problem. Indeed, on the one hand the decree on non-ionising radiation¹⁶ imposes strict limits on this radiation, which will lead to a wide dispersion of antennas in order to comply with the limit values in inhabited regions. On the other hand, the opposition by part of the population to “forests” of antenna masts, already encountered when the GSM networks were set up, will look on the new antennas essential for constructing the UMTS networks with disapproval and will probably demand concentration of the sites, itself made difficult by the measures for protection from non-ionising radiation. Setting up competing parallel networks will therefore be a very delicate matter, even though the law on telecommunications provides for competition in services and infrastructures. It is a complex problematic, bound up in a web of opposing interests. Nevertheless, these new networks are of vital importance for Swiss economic well-being.

2.c Digital trunked radiocommunications networks (frequencies 410- 430 and 870-876/915-921 MHz)

Professional mobile radiocommunications networks meet the needs of users who require high transmission capacities, for group calls for example, under difficult conditions and offer a high degree of security. They are therefore particularly suitable for the needs of the emergency services or transport companies, for example.

Two frequency bands in which these services can be developed are, at least potentially, available in Switzerland, i.e. the 410-430 MHz and 870-876/915-921 MHz frequency bands, though only the first is co-ordinated at European level.

The Commission has instructed OFCOM to carry out an analysis of the market demand and to call for tenders for the 410-430 MHz frequency band. The procedure was launched on 25 May and concluded on 30 July 1999. No request for an allocation of frequencies was submitted within this period. Some of the participants in the procedure pointed out that the available frequencies did not allow them to make use of the desired technology (TETRA or

other). It must be pointed out here that this frequency band is in part occupied by other applications which cannot be freed up at the moment, in particular private radiocommunications. In view of the lack interest, the Commission decided to terminate the procedure¹⁷.

For the second frequency band, 870-876/915-921 MHz, the public consultation took place from 30 March to 23 April 1999 and did not produce any conclusive results which might have led to the granting of licences. Indeed, only one operator showed his potential interest. The other participants cited the danger of allocating frequencies which are not co-ordinated at European level, as well as the lack of terminals.

The Commission therefore decided not to organise a public call for tenders but to monitor the evolution of the situation, in particular the possible release of frequencies in the 410-430 MHz band, and to continue discussions with potential interested parties.

2.d Universal service

As the Commission noted in its preceding report, the regulation provided for in law guarantees quality service at non-discriminatory prices; it is being applied successfully throughout the territory, in particular in the peripheral regions. The definition of the components of universal service in the Law on Telecommunications (LTC) and the ability of the Federal Council to adapt them to technological developments and market realities on the one hand and the policy of quality and price ceilings on the other ensure an efficient, high-performance basic service¹⁸.

In the transitional arrangements (art. 66 LTC), the legislators obliged Swisscom, formerly Télécom PTT, to provide the universal service until 31 December 2002. The Commission formally granted this licence on 20 August 1999, on the basis of the decision of the Federal Council in December 1997, which lays down the activities which are the subject of the said licence. The latter also defines Swisscom's entitlements and obligations. We note at this point that unlike the other types of licences, the universal service licence imposes obligations rather than conferring an entitlement.

One of the most tangible aspects of the universal service licence, public telephone kiosks ("Publiphones") was given special attention by the Commission, which wanted to guarantee a

¹⁶ Decree on protection from non-ionising radiation (ORNI; RS 814.710).

¹⁷ At the beginning of 2000, the Commission instructed OFCOM to carry out a new study of demand, since frequencies have been released in this spectrum and some companies have expressed their interest in this type of licence. The result is not expected before the second quarter of 2000.

network which meets the needs of the population. To this end, it laid down precise rules in order to ensure a significant presence of public telephones.

3. Mobile telephony: GSM networks

3.a GSM licences: appeal to the Federal Court

The month of April 1998 saw the Commission issue two new licences for mobile telephony, the first to diAx mobile and the second to Orange Communications. In July 1998, Sunrise, one of the six participants in the award procedure which had been organised according to the system of award based on a number of criteria (the “beauty contest” method), lodged an appeal under administrative law with the Federal Court against the award of licences to competing companies as well as against the non-award of one of these two licences to itself. These appeals were preceded by an appeal against a Commission decision which had granted Sunrise only limited access to the relevant documentation on grounds of protection of commercial secrecy. This series of appeals gave rise, on the part of the companies to which the licences had been granted, to a number of appeals, the main aim of which was to forestall the effects of a possible negative decision of the Federal Court, i.e. in the event that the licence would be withdrawn from them. In all, no fewer than ten appeals were lodged.

The Federal Court, which had initially granted suspensive effect to Sunrise’s appeal, decided on 8 September 1998 not to maintain this suspensive effect. The effect of this decision was to allow diAx mobile and Orange Communications to continue work on setting up their respective networks. The Federal Court delivered its verdict on 7 May 1999. It rejected the Sunrise appeal, thereby confirming the decisions on granting licences taken by the Commission.

In its judgement¹⁹, the Federal Court, which for the question of competence to judge the matter combined the ten appeals into one, first of all noted that the Federal law on judicial organisation (OJ)²⁰ states that *an appeal under administrative law is not admissible against (...) the granting or refusal of licences for which the Federal legislation does not confer an entitlement (...) and [against] the authorisation or refusal of these licences*. Consequently, the central question which is posed is to ascertain if an entitlement to acquisition of a mobile telephony licence is guaranteed by the Law on Telecommunications. If this is not the case, the Court would not be able to consider the Sunrise appeal.

¹⁸ LTC, articles 14 to 21.

¹⁹ ATF 125 II 293.

²⁰ Article 99, para 1, letter d (RS 173.110).

A mobile telephony licence consists of both a telecommunications services licence and a licence to use the frequency spectrum. The first of these licences is granted to companies which meet the conditions laid down by the law; this is not sufficient in the case of the second type of licences, since they are granted only if the frequencies are available. Article 23 para. 3 LTC, which contains the latter provision, is considered by the Federal Court as a "lex specialis" and therefore takes precedence over the guarantee of award of a telecommunications services licence as provided for in article 6 para. 3 LTC. This is justified by the fact that frequencies are, by their nature, a limited public asset and consequently if there are more parties interested in the granting of a licence than there are frequencies available to satisfy them, all of them cannot receive such a licence. These radiocommunications licences therefore differ fundamentally from services licences, since the granting thereof is linked above all to the frequencies available and an invitation to tender must precede the granting of these licences.

In addition, the Federal law on judicial organisation excludes appeals in the event that the authority designated by law to take the decision has a relatively broad degree of discretion or if technical factors play an essential role in the decision. According to the jurisprudence of the Federal Court, this discretion straight away excludes any entitlement to the granting of a licence. The Federal Court concluded that in the case of the mobile telephony licences, the conditions which exclude an appeal are met. If, in such a situation, the legislators had wished to authorise an appeal under administrative law to the Federal Court, they should have mentioned this explicitly in the law. By virtue of these reasons, the Federal Court did not consider these appeals.

3.b Entry onto the market of new GSM network operators

At Christmas 1998, diAx launched its mobile telephony network and in June 1999 it was Orange's turn to enter the market. For information, these licences were granted in April 1998.

However, the two new operators encountered difficulties in achieving the levels of population and area coverage provided for in the licences for the initial phase. They therefore submitted applications for amendment of their licences to the Commission. The licences provide for the possibility of amending the corresponding provisions of the licence if the licensees can prove that the delay is due to circumstances beyond their control. The Commission examined the two requests and concluded that the reasons submitted did indeed justify a two-month extension for the initial coverage values.

The two companies' reasons coincide to a certain extent, so they can be summarised together. Their essential argument was that the Sunrise appeal²¹ to the Federal Court, which granted suspensive effect to the appeal for three months, prevented them from progressing with their work on constructing the networks. Furthermore, the suspensive effect created a climate of insecurity among the local authorities charged with issuing building permits for the antennas, among telecommunications specialists who are already difficult to recruit in Switzerland and who hesitated to work for companies without the guarantee of a licence, and among investors who were reluctant to invest for the same reason. In addition, opposition to telephone antenna masts and legal uncertainty, prior to the entry into force of the decree on non-ionising radiation, put both companies in a very delicate situation. The Commission therefore judged that the reasons put forward by the two companies were partially valid and in any event justified the granting of an additional period to guarantee the initial coverage provided for in the respective licences.

3.c National roaming

The appearance on the market of the third mobile telephony operator, Orange Communications, at the end of June 1999, created quite a stir, not only because it was an event in itself, but because it immediately offered coverage to some 90% of the population thanks to a national roaming agreement concluded with Swisscom. DiAx, the second operator, which entered the market in December 1998, complained to the Commission about this agreement, stating that it was not attacking the two firms concerned but that it was disputing the possibility of national roaming per se. Two days before Orange launched its activities, the Commission rejected superprovisional measures which would have prevented roaming between Orange and Swisscom and at the same time instructed OFCOM to initiate a supervisory procedure to throw light on the questions raised by diAx.

The aim of this procedure, conducted by OFCOM²², is to ensure compliance with international telecommunications law, with the law and its implementing orders as well as compliance with the licences. If OFCOM encounters a violation of the law, it proposes measures to the Commission.

At the beginning of August 1999, the Commission invited the Competition Commission to pronounce on the admissibility of national roaming from the viewpoint of competition law.

²¹ See "GSM licences: appeal to the Federal Court"

²² LTC, article 58.

During the same month, diAx requested the right to consult documents on file, in this case those containing the positions expressed by Orange and Swisscom.

By its decision of 31 August, the Commission rejected the requests from diAx to take a decision finding against national roaming and to grant it the right to consult the documents on file, denying it the status of a party in this matter.

The supervisory procedure was concluded in October 1999 and was closed because there were no grounds.

The arguments on which the Commission based its decision are presented below. In the case of Orange and Swisscom, national roaming is a procedure which guarantees Orange's customers access to Swisscom's mobile network in those territories where Orange does not yet offer coverage. Swisscom bills Orange for the services provided for the latter's customers, and Orange in turn re-invoices its own customers under its own terms and conditions.

DiAx claimed in its petition that national roaming was illegal because it is not explicitly authorised by law. Moreover, the licence lays down obligations in terms of population and territory coverage which must be achieved with the operator's own infrastructure, i.e. with networks which are independent of each other. The agreement concluded between Orange and Swisscom would result in an effect on the configuration of the Orange network and would therefore be against the law. Such an agreement would also require an amendment to the licence, since it would have as a result the use by Swisscom of frequencies allocated to Orange.

The Commission first noted that the legislators had wanted competition at the level of telecommunications services and that competition in infrastructures would be a means to achieve this. The licences contain precise obligations concerning the construction period for the networks, with intermediate stages. These obligations should not be brought into question by a roaming agreement. The principle of three independent networks remains sacrosanct. However, The commission considers that licensees are free to conclude roaming agreements for any coverage which is supplementary to that provided for in the licence. Such an agreement allows licensees to achieve greater coverage more quickly; this benefits subscribers and therefore encourages competition.

From a technical point of view, the agreement between Orange and Swisscom specifies that Orange customers have access to a single network, i.e. either the Orange network or, in the regions where Orange does not yet exist, the Swisscom network. As soon as Orange covers

a region with its own infrastructure, national roaming is cancelled for this region and from that point onwards Orange customers can only access the Orange network.

The structure of the Orange network is in no way affected by national roaming; the contract does not include any element which could give rise to any doubt whatever. Furthermore, in technical terms, the contract concluded between the two partners is one-way, in that it is only Orange customers who benefit from it. In addition, Orange and Swisscom have received two different licences, since Orange has frequencies only in the 1800 MHz band, whereas Swisscom has frequencies in both the 900 MHz and 1800 MHz bands, which implies two different networks.

Orange additionally has an obvious financial interest in constructing its network as quickly as possible, as this agreement may well win it some customers but it is also costly for the company. This is explained by the fact that Orange has given priority to coverage in order to acquire customers more quickly, and this is part of its freedom to determine its own strategy.

Finally the Commission considers that the legislature has drawn up a general law which permits the broadest possible liberalisation whilst taking technical progress into consideration. Thus if national roaming is not mentioned by name in the law, this in no way means that the legislators wished to exclude it.

4. Numbering plan

The approval of national numbering plans falls within the Commission's competence, whilst their application is managed by OFCOM.

In 1997, the Commission approved four numbering plans²³, including the new plan E.164/2001 which concerns the numbering of telephony services and which was scheduled for introduction on 12 April 2001. This plan was the object of animated criticism from the middle of 1998 onwards and gave rise to various requests for a re-examination. The Commission maintained its decision to introduce a new numbering plan. Its concern – and its task – is to guarantee a sufficient quantity of addressing resources to meet the growing demand for numbers due, on the one hand, to new services and on the other to the new operators who are entering the market and wanting new blocks of numbers.

In August, a new request for re-examination was sent to the Commission by certain economic interests, such as telecommunications users. This request was motivated in part by their delayed reaction to the announcement of the new numbering system, which caused

them to fear that they would not be ready when the change came. The Commission then decided, after consulting the operators and establishing that the forecast lack of numbers would occur slightly later than envisaged, to delay introduction by one year, i.e. 29 March 2002²⁴.

5. National frequency allocation plan

The national frequency allocation plan specifies the different frequency bands allocated to the different applications and telecommunications services in Switzerland and therefore gives an overall view of the usage of radio frequencies.

Structural and editorial changes were made to the plan in 1999 (adaptation to international frequency plans according to the ITU and CEPT recommendations). The plan also underwent material changes, the purpose of which was to adapt it to the Commission's decisions and to the evolution in the situation following the release of frequencies and to take new allocations into account (e.g. introduction of the WLL frequencies in the 3400-3800 MHz and 24.5-26.5 GHz bands and frequencies for UMTS in the 1900-2025 MHz and 2110-2200 MHz bands). The new plan came into force on 1 July 1999.

6. Number portability

Number portability is a facility which allows a subscriber to keep his telephone number when he changes operator. The aim of this arrangement is to allow subscribers to change their operator without having to suffer the inconvenience of a number change and thereby to promote effective competition.

The technical and administrative specifications for this process are set out in the Commission's decree²⁵. This was amended in August and came into force on 1 October 1999. These minor changes detail the administrative procedure for introducing number portability from one operator to another, and identifies the specification of the technical interfaces between operators.

²³ 1998 Annual Report of the Federal Communications Commission, pp. 12-13.

²⁴ When the report was being drawn up, the Commission adopted a new numbering plan, whilst maintaining 29 March 2002 for its introduction. This new plan features the integration of the current prefixes (022, 091) as an integral part of the number. Thus all numbers will have a uniform length of 10 digits, with the exception of the Zurich region (01) which will have only 9 digits for a transitional period which will not extend beyond 2007. This avoids having to change the telephone numbers of several regions, as provided for in the initial plan. Implementation costs will thus be reduced to a minimum.

In the same decree²⁶, the Commission imposed an obligation on operators to guarantee portability from 1 January 2000. During the second half of 1999, a number of operators met within a "number portability" association in order to ensure its introduction under optimal conditions. In view of the large quantity of numbers likely to be "ported" – estimates indicate around 500,000 changes for the year 2000 – the acquisition of a server to manage the administrative processes from one operator to another proved indispensable. Delays in the delivery of this server, plus forecasts which anticipate that about 80 to 90% of the "ported" numbers will take place in mobile telephony, led the operators to request postponement of the introduction of the measure. The Commission, anxious to guarantee the success of this measure, which is important to ensure that the market operates under fair rules, decided to defer its entry into force by two months, until 1 March 2000.

7. Carrier (Pre)selection

Carrier selection is a facility which allows the subscriber to select different operators for his or her national and international calls. This service exists in two forms: first, selection on a call-by-call basis, implying that the subscriber dials the five-digit code of the chosen operator before the call, and second, preselection which removes the need for the subscriber to dial the operator's code for every call, since the latter is pre-registered in the switching centre to which the user is connected. Each subscriber can thus choose several operators.

The new operators complained about the delays in actioning preselection orders and about the cumbersome administrative procedure. The Commission, after examining the situation, decided to modify it. It wanted the process to be simpler, in order to allow faster application of preselection orders, since it considers that it is a mechanism which plays a key role in competition between operators. At the same time, it wished to protect the interests of the consumer by setting up barriers against the practice, observed in the United States in particular, whereby certain operators change a subscriber's preselection without the latter's agreement²⁷. The new procedure which has been introduced no longer obliges the new operator selected by the subscriber to send the latter's written authorisation to the old operator; he only has to produce it in the event of a dispute. In addition, operators are obliged to put in place a means by which subscribers can check the status of their preselection at

²⁵ Decree of the Federal Communications Commission relating to the Law on Telecommunications, Appendix 2 (RS 784.101.112).

²⁶ Idem art. 3ss and 14.

²⁷ This practice is known as *slamming*.

any time and advise themselves of malicious changes in preselection. Appendix 2 to the Commission's decree was amended accordingly and came into force on 1 October 1999.

8. Supervisory procedure

The Commission took a decision within the framework of a supervisory procedure concerning a company with a licence to use pager services at national level on the basis of the European ERMES standard.

The Commission established that the company which benefited from the licence was not complying with some of its conditions, notably concerning coverage of the territory by its own network. In view of the situation of the "paging" market, which never achieved the expected popularity and which lost some of its attraction to consumers following the development of mobile telephony, the Commission, however, judged that it was inappropriate to take administrative measures against this company and decided to amend the licence by authorising the company to also provide services by "network sharing", whilst obliging it to provide an account of its activities at fixed intervals.

9. Consultation procedure: decree on non-ionising radiation

The Commission took part in the public consultation procedure organised by the Federal Department of the Environment, Transport, Energy and Communications (DETEC) concerning the draft decree on non-ionising radiation and issued its position in May 1999.

The Commission expressed its wish to see the decree come into force as quickly as possible, as the legal uncertainty which reigned in the interim was placing the authorities responsible for issuing building permits in a delicate situation and causing them to put a brake on the procedures, thereby delaying the construction of the networks.

In particular, it proposed revision of three provisions of the draft. First, there was the protection factor of 10 which reduces to 10% the maximum immission values recommended by the World Health Organisation (WHO), which it judged excessive and prejudicial to the construction of new networks. Then, it proposed deletion of the provision which permitted immissions to be considered as excessive when they substantially inconvenienced a large part of the population, even if they complied with the standard specified by the decree. And finally, it considered that the clean-up period of five years for existing installations was too long if the factor of 10 was maintained, since it discriminated against new operators compared to

Swisscom, which had been able to construct its network without having to cope with the current difficulties.

In conclusion, it drew attention to the paradox concerning the desire to concentrate different operators' antennas on the same masts in urban centres, in that such a measure necessitates higher masts and results in increased radiation from the various sites; this obviously contradicts the desire to provide increased protection for the population.

10. Study trip by the Commission

During the month of June, the Commission made a week-long visit to the West Coast of the United States, in particular Silicon Valley. The purpose of the visit was to anticipate the developments in telecommunications and to obtain information on technological progress in order to prepare for the decisions to be made in the future and adapt them to the realities of the market. It was especially interested in networks, terminals and above all convergence.

It visited the following companies: Qualcomm Inc. (San Diego), 3Com Corporation (Santa Clara), Cisco Systems (San Jose), C-Cube Microsystems (Milpitas), Sun Microsystems (Menlo Park), Nortel Networks (Santa Clara), Pacific Bell Wireless (Pleasanton), Microsoft Corporation (Redmond) and Real Networks (Seattle). In addition, it met young entrepreneurs, investors and various specialists in telecommunications.

Although it is not possible to report on all the discussions and presentations, a number of general trends can be discerned. The rate of technical development in telecommunications is breath-taking and it is essential for authorities to keep pace with this evolution so as to maintain the competitiveness of the economy whilst ensuring that the community does not have to bear the external costs of bad investments.

The Internet is becoming a sort of platform, or even a network, via which all data is transported indiscriminately (data in the strict sense of the word, as well as speech, radio and television). Moreover, mobility is becoming a watchword in telecommunications, with requirements in terms of bandwidth (throughput) which are expected to become greater and greater, both for fixed and mobile networks. In addition, research and industry are making intense efforts to ensure that all household devices "communicate" with each other, from the refrigerator to the computer. Finally, two phenomena are reinforcing these developments: the "intelligence" of networks – complexity is masked from the user, who sees before him only a docile, user-friendly interface – and information, which is being displaced from terminals to the networks, to which users then go to find it. To achieve this, it is necessary to have access

to the local loop in order to adapt transmission capacities to the users' needs; access must be as cheap as possible, and at cost-based prices.

The direct consequences for the regulator are diverse and numerous, and to some extent unforeseeable, but the question of interconnection for data may well be posed; likewise there will be pressure for local loop access for the use of broadband services. The interoperability of services will also be one of the major challenges of the future. In the sphere of addressing resources, the new technologies, from Internet telephony to home automation, will create a demand for additional resources.

III. CONCLUSIONS AND PERSPECTIVES

Now that we have concluded our overview of the Commission's activities throughout 1999, it is time to present some statistical data on the Swiss telecoms market and to outline the major features of the report of the Commission's activities and perspective for the year 2000.

1. Some statistical data on the telecommunications market

The effects of liberalisation on the telecommunications market, notably in terms of evolution of connections in the various telephony sectors or of tariffs, were hardly mentioned at all in the preceding report because of the absence of available and reliable data. OFCOM, which is responsible in law for drawing up official statistics for telecommunications, encountered resistance from certain operators who were reluctant to provide data, either because they considered it to be covered by commercial secrecy, or simply because they are not used to this exercise. For the year 1999, some elements were gathered which begin to give a more accurate picture of the consequences of liberalisation and which we are presenting briefly here²⁸.

The number of telecommunications service providers in Switzerland at the end of 1999 was 254 (+101), of which 135 (+43) are registered, 83 (+40) benefit from a licence and 3 benefit from a mobile telephony licence. Vividly demonstrating the development of competition in this market is the number of interconnection contracts between telecommunications service providers, which increased by more than 42%, reaching a total of 50. These figures which, without exception, are higher than those for the previous year, indicate the incredible dynamism of the industry. However, they must be taken with a pinch of salt, since on the one hand the operators who put themselves forward are not necessarily directly active in the market or are not directly active in all the services they have announced and on the other hand the trend might reverse in the two or three years to come with certain operators disappearing or merging, though this would not in itself be a sign of less dynamism.

In the fixed telephony sector, in 1999 Switzerland had 57.4 exclusive exchange lines (a telephone line linking the subscriber to the public switched network) per 100 inhabitants. Generally speaking, a continuing downward trend in the number of exchange lines in Switzerland can be observed; this manifested itself in 1999 by an average fall of 1.0%, with

²⁸ OFCOM, *Statistiques des télécommunications 2000-1*, OFCOM, Bienne, May 2000 (<http://www.bakom.ch/fre/subsubpage/document/151/1302>).

the number of exclusive exchange lines estimated at 4,170,000 in December 1999. This slowdown in growth is doubtless due to the exponential increase in mobile phone subscribers. It should also be noted that the number of analogue connections is falling in relation to digital connections (ISDN), which grew by 49.7% for the year 1998-1999.

In the mobile telephony sector, there were 22 subscribers per 100 inhabitants in 1998, as against 40 in 1999 (2,935,000 subscribers), i.e. a growth of almost 75% in one year. This exponential growth far exceeds many forecasts – even recent ones. It is also interesting to note that in terms of market share, if Swisscom had 100 % up to the beginning of 1999, by December of the same year its share was about 75%, that of diAx was approximately 15% and Orange around 10%.

From the consumer's viewpoint, the most interesting aspect is probably the way prices have evolved²⁹; reliable figures are just beginning to appear. The fall in prices for fixed telephony began in January 1996, i.e. before liberalisation, initially at a modest rate – it was of the order of 2.6% for 1998, and gained momentum in 1999 when it reached 14.7%. It is possible to refine this data by distinguishing between prices for residential customers and businesses. For the former, the fall for 1999 (Feb. 1999 - Feb. 2000) is 16 % and for the latter 19.1%.

Employment within telecommunications service providers is also on the up as 24,000 people were employed full-time at the end of 1999, an increase of 2,000 compared to the end of 1997. Here the Commission can only reiterate its wishes for greater commitment from the Confederation and the cantons above all, but also from the telecommunications service providers. This commitment is required in the area of training, as there is a continuing shortage of specialists, and also in the research sector. The Commission is of the opinion that the revenues brought in by the auctioning of licences open up new possibilities to increase investment in these two key areas.

2. Perspectives

2.a Interconnection

Interconnection plays an essential role in the market which is opening up to competition, since in a market where a monopolistic operator has ruled the roost for more than a century it is

²⁹ The falls in prices presented are averages and do not therefore distinguish between local, national or international calls, for which the price fluctuations are not equivalent. They do not take into consideration on the one hand the existence of volume discounts for "large consumers" of telecommunications services and on the other hand the existence of operators offering prices 20 to 30% lower than those proposed by the main operators (Swisscom, Sunrise or diAx).

important to offer new entrants the possibility of accessing the network under equitable conditions so that they are able to offer telecommunications services. These new entrants would not be able to build networks comparable to that of the former monopolist in a few years and this would in any event be absurd from the economic viewpoint. The first two years of liberalisation took place under a transitional arrangement since Swisscom, as the historic operator, was able to include in its interconnection tariffs certain charges deriving from the former law. As outlined in both this report and the preceding one, the Commission was approached several times by operators to fix interconnection prices and conditions. From 2000 onwards, a new method of calculation (LRIC - Long Run Incremental Cost) is being applied; it will no longer allow Swisscom to force its competitors to bear these burdens inherited from the past. Thus at the beginning of the year Swisscom proposed new tariffs which have to date been signed by some 25 operators and which are resulting in a definite reduction in interconnection charges compared to those imposed in 1999. Since then, one request to fix interconnection tariffs has been lodged with the Commission. The hope expressed by the Commission in its last report to see a culture of self-regulation between operators continues for the time being to be in vain. It also shows the importance of a regulator who lays down certain rules on operation of the market in order to allow effective competition.

2.b Unbundling the local loop

The topic of unbundling the local loop is surely one of the most important for the telecommunications market. Demanded by Swisscom's competitors, generating reservations from Swisscom itself, a decision on this subject is one of the most delicate measures which the Commission would be called upon to take within the framework of an interconnection procedure. Unbundling the local loop, which allows operators to access the final section of the subscriber connection, is the subject of discussions and decisions already taken or soon to be taken in all the European countries. Without prejudging any decision, the Commission is of the opinion that this is a measure which will favour the establishment of effective and fair competition.

2.c New telephony licences

The dynamism of telecommunications is also apparent in the new techniques which anticipate users' needs, particularly in terms of wireless transmission.

1999 was hardly spectacular in this area; above all, it was a year of preparation for the major events envisaged for the year 2000.

First of all, the sale of the licences for the wireless local loop: at the time this report is being produced, the 48 licences are being auctioned and the provisional result amounts to in excess of half a billion Swiss francs. If the provisional financial result already exceeds the forecasts, it is not, however, the primary preoccupation of the Commission, which is more pleased with the interest shown by operators in this technique. Indeed, the wireless local loop should considerably promote competition over the “last mile” connecting the subscriber to the network, and if operators are investing such large amounts it is because they see promising potential in this solution.

The auction procedure is thus being used for the first time in Switzerland to award radiocommunications licences. The Commission has two options when it has to grant licences when the interested parties are more numerous than the licences available: an award based on certain criteria (the “beauty contest”) and an auction³⁰. When it was a matter of granting two new GSM mobile telephony licences in 1998, the Commission had to opt for the beauty contest approach. It considered that this was the way to avoid major distortion of competition between, on the one hand, the operator which was already active on this market with almost a million subscribers and which had not had to pay any price at auction for its licence³¹ and, on the other hand, the new arrivals on the scene. At the time, the procedure was met with heavy criticism, as it was considered not to be sufficiently transparent and therefore subject to caution. In the case of the wireless local loop, this being a technique which is not yet in use, all those competing start off on a level playing field. The Commission therefore chose this method as the most transparent and the fairest. This is also what economic theory states, since when the determining conditions are met, i.e. adequate competition and few external effects, an auction leads to optimal allocation of limited resources (in this case frequencies). Thus it is the market itself which decides the value of the licences.

The other major event of the year 2000 will indisputably be the auctioning of the third-generation mobile telephony licences. This new technique, offering considerable capacities and services which are currently under development or still to be invented, will profoundly

³⁰ OST, article 9ss (RS 784.101.1).

³¹ According to the transitional arrangements of the Law on Telecommunications (LTC), Swisscom receives a radiocommunications licence for operation of a national mobile telephony licence. This licence expires at the end of 2007 (article 66, para. 2, LTC).

change the way telecommunications and mobility interact and will doubtless have consequences on the way people work in many industries and perhaps how they spend their leisure time.

The report for 1999 hardly differs from that for the preceding year; overall it remains positive at the level of the quality and diversity of the services proposed in the market, notwithstanding the few blots on the landscape which this report has addressed, relating in particular to interconnection tariffs and competition in the local loop sector. For consumers, the gain is considerable, since they are being offered a wide range of services which did not exist prior to liberalisation and are benefiting from average prices which are distinctly cheaper than before, without having to make any sacrifices in terms of quality. Their worry is rather to find their way among the various offers from the numerous operators which are often difficult to compare; the work of the consumer associations is very valuable in this area. The peripheral regions are not being neglected in terms of the choice of services and innovation; liberalisation of this dynamic, growing sector benefits the entire population.

Bern, 18 May 2000

In the name of the Commission

The President

Fulvio Caccia

Appendix I: List of Commission members

President:

Fulvio Caccia

Vice-president:

Gian Andri Vital

Members:

Christian Bovet

Pierre-Gérard Fontolliet

Beat Kappeler

Heidi Schelbert-Syfrig

Hans-Rudolf Schurter