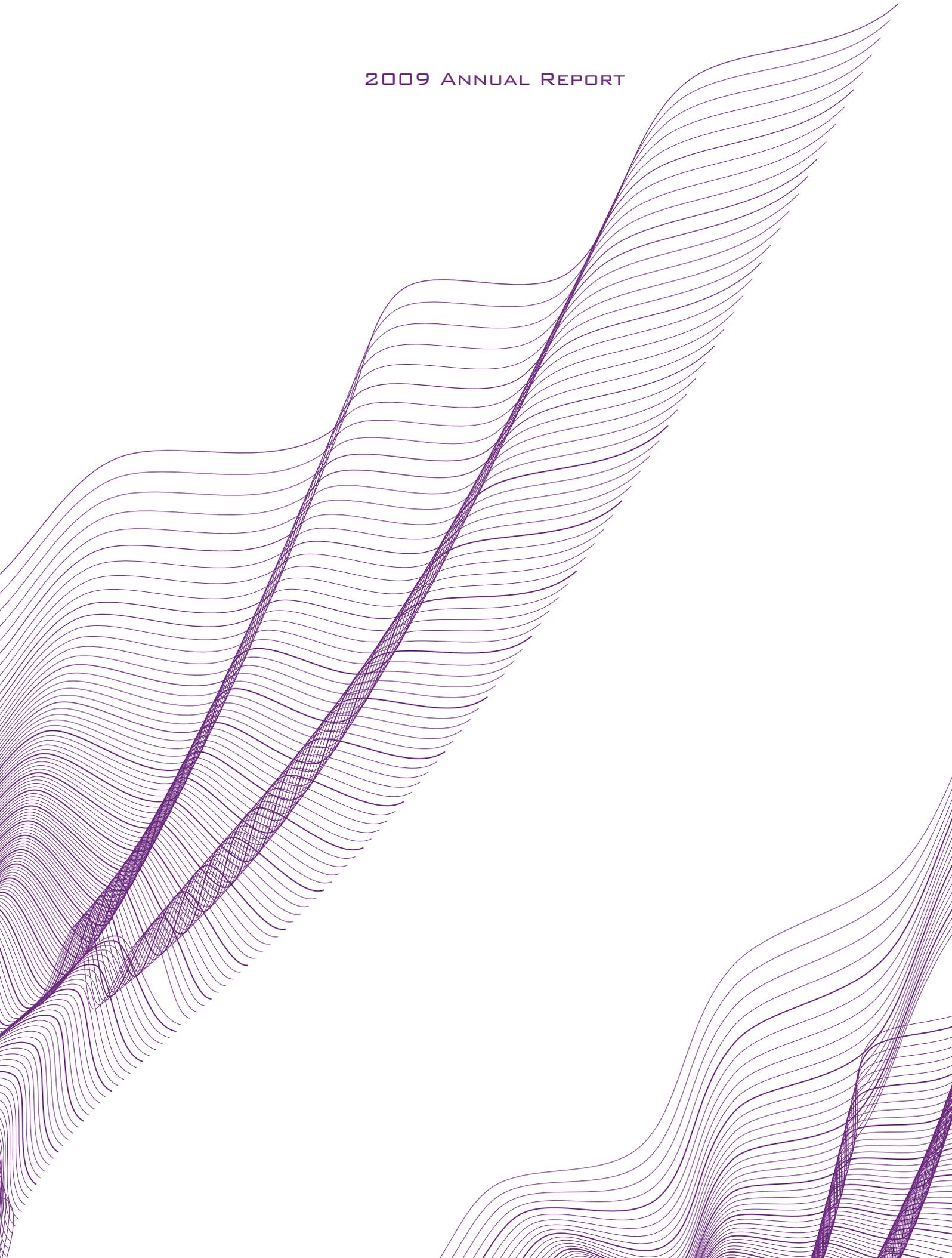
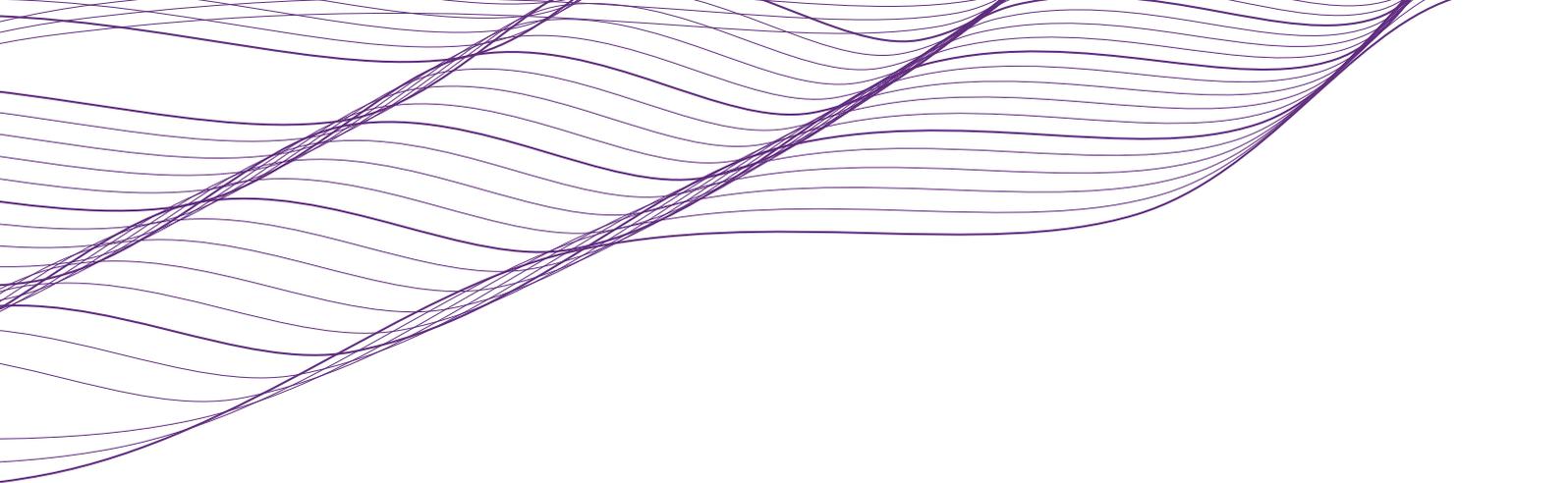


2009 ANNUAL REPORT





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FOREWORD

AS IN PREVIOUS YEARS, 2009

was especially marked by audiovisual issues relating to the development of Digital Terrestrial Television (DTT), the Digital Dividend, the switch-off of analogue television and the switchover to all-digital. In all these areas, *L'Agence nationale des fréquences* (ANFR) has continued its activities in support of the *Comité stratégique pour le numérique* (CSN, or Strategic Committee for Digital Broadcasting — state committee chaired by the Prime Minister of France), the Secretary of State for the Development of the Digital Economy and the Parliamentary Committee on the Digital Dividend, in close collaboration with all stakeholders: the *Direction du développement des médias* (DDM, or Directorate for Media Development — Ministry of Culture and Communication), the *Conseil supérieur de l'audiovisuel* (CSA, the broadcasting regulatory authority), the *France Télé Numérique* group (French Digital Television, in charge of communication for digital switchover), analogue and digital programme providers, the Ministry of Defence, the *Direction générale des entreprises* (DGE, or General Directorate for Enterprises, part of the Ministry of Economy, Industry and Employment), *l'Autorité de Régulations des Communications Electroniques et des Postes* (ARCEP, the regulatory authority for electronic communications and postal service) and electronic communications operators and manufacturers.

From 2007 until the end of 2011, the deployment of DTT to reach the coverage objectives required by law, the implementation of high-definition television (HDTV) and mobile television, the transition toward a spectrum freed from the constraints of analogue broadcasting, the switch-off of the latter and the harmonisation and coordination of the Digital Dividend with other countries will impose a permanent and multi-pronged pressure on spectrum in the UHF band. All efforts will be made to minimise the effect of this pressure on present users of the spectrum.

ANFR, which has been in charge since 2006, jointly with CSA, of ensuring the protection of television reception and manages two funds (FRS and FAN) intended to ease the transition to digital, is striving to reconcile the above objective with the inevitable adjustments to frequency planning in an environment which is undergoing a complete revolution.





François Rancy
Director General



Arnaud Miquel
Chairman

At the same time, ANFR dedicates itself to identifying, through negotiations with neighbouring countries that have from now on become permanent, the frequencies required to ensure — at the time of analogue switch-off — successful switchover to all-digital television broadcasting and materialisation of the Digital Dividend for broadcasting and mobile services (see chapter 1).

With regard to compliance with the limits of public exposure to electromagnetic fields, ANFR has actively contributed to the work of operational committee COMOP and that of working groups set up following enactment of the *Grenelle des antennes*. This work aims, through a broad consultation and on the basis of modelling and experimentation, to assess the impact on quality of service, network coverage and number of base stations of a decrease in the exposure to electromagnetic fields from base stations of mobile telephony, as well as to define new procedures of consultation and information for accompanying base station implementation projects, to reform the process of controlling exposure, and to better inform citizens and professionals (see chapter 2).

At the international level, 2009 was marked by the adoption of the Telecom Package, which allows for a greater involvement of the European Parliament in spectrum management strategy. The role of the Radio Spectrum Policy Group (RSPG), in which ANFR is an active participant, has also been strengthened. With increased involvement in institutional cooperation, ANFR international activity was marked by the completion of a number of studies in support of European harmonisation and preparation of the 2012 World Radiocommunication Conference, relating in particular to the coexistence between broadcasting and mobile services, ultra-wide band applications, software-defined radio and cognitive radio, and frequency requirements for unmanned aircraft systems (see chapter 3).

In 2009, ANFR strengthened its preventive actions in spectrum monitoring, in particular through market surveillance for terminals and radio equipment. This direction enabled a withdrawal from the market long-range cordless telephones responsible for many cases of interference with governmental services. The number of radio equipment units sampled to check conformity tripled compared to previous years and has even been multiplied tenfold for radio terminals such as cordless telephones, handsets or 3G USB modems (see chapter 4). Additionally, two ANFR teams have been accredited by COFRAC for the measurement of public exposure to electromagnetic fields.

Recording of information relating to spectrum use in ANFR databases continues at a steady pace, with 12,000 modifications of radio stations and 15,000 new stations, and 26,000 new frequency assignments, resulting mainly from the accelerated deployment of 3G mobile networks and DTT, the removal of 'white spaces' from 2G mobile service areas and deployment of the Ministry of Interior network. In 2009, the software application enabling management of the national master frequency register (FNF) was extended to the processing of broadcasting assignments. Frequency coordination with other countries expanded considerably for mobile services as well as for broadcasting (see chapter 5).

Within the framework of contracts with ministerial departments and regulatory authorities, ANFR has in particular renewed 13,000 authorisations to use frequencies for independent radio networks, including 3,000 new assignments related to the freeing of the 152 MHz frequency band on behalf of the Ministry of Defence. ANFR has also continued its efforts in the area of ship inspections with more than 6,200 inspections, i.e. an increase of almost 20% compared to 2008 (see chapter 6).

Concerning general administration, ANFR has continued its effort to rationalise manpower and budgetary resources, in close consultation with staff delegates. The 2009 budget implementation has enabled a cutback in expenditures, on a like-for-like basis. ANFR has also strengthened its risk control policy with systematic identification, assessment and evaluation of risks, together with a description of actions to be carried out in the event of crisis. The corresponding methodology was used to define the business continuity plan in the instance of flu pandemic H1N1 (see chapter 7).

Developed in 2008, the performance contract signed on 30 April 2009, between the State and ANFR, put the quality management process started by ANFR in 2007 in a strategic perspective. As a result of the implementation of the contract in 2009, a summary of ANFR strategic orientations and objectives has been developed. A survey of fulfilment held with supervision authorities (DGCIS, DGMIC and Budget), ministerial departments and regulatory authorities revealed a positive assessment of ANFR actions in 2009, together with possible areas for improvement which have been included in the action plan for 2010 (see chapter 8).



ANFR AND AUDIOVISUAL ISSUES

Following the Prime Minister's decisions, on 22 December 2008, related to the Digital Dividend, analogue switch-off and digital switchover, ANFR made further contributions to these three projects. All three projects rely on the same frequency domain and are therefore closely interdependent. ANFR is a contributor to these projects and devotes a significant share of its resources to support them. All divisions of ANFR are invoiced in this activity, which covers multilateral negotiations, cross-border coordination, prospective studies, spectrum planning and monitoring.

DTT EXTENSION

By the end of 2007, the extension of DTT coverage was initiated, from the 85% of population reached with 110 primary transmitters up to the 95% coverage required by the Law of 5 March 2007, by the end of 2011. For this purpose, the CSA has published a list of 1,626 geographic areas intended to be served by secondary DTT transmitters. By the end of 2009, 560 of those sites had been gradually put on air as the CSA planned their frequencies.

Throughout the entire metropolitan territory, between 2004 and the end of 2009, the deployment of DTT required the retuning of nearly 1,429 analogue frequencies, supported by FRS with a budget of €59 million and affecting a population of 4.6 million, in line with estimations made in 2003 in the report by Mr Michel Boyon (€64 million).

DIGITAL DIVIDEND

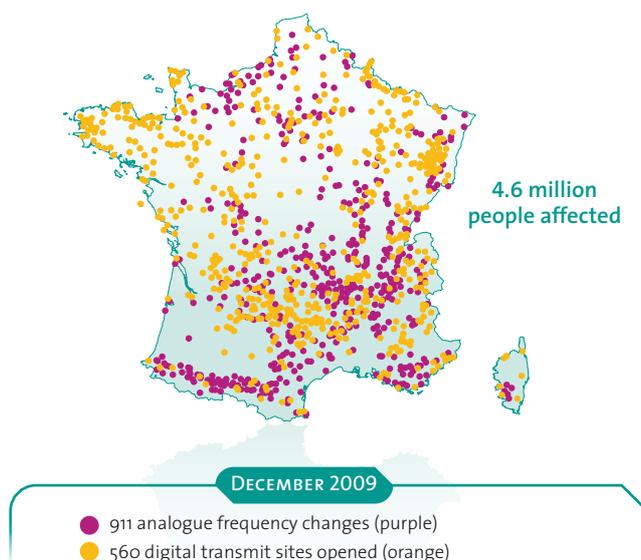
Since 2006, ANFR has participated actively in the work of the *Comité stratégique pour le numérique* (CSN) on the Digital Dividend. This work was closely linked with the discussions at regional and worldwide levels where ANFR acts on behalf of France, and served as a reference for the French positions during the 2007 World Radiocommunication Conference (WRC-07), the 'France numérique 2012' plan issued in October 2008 and the 22 December 2008 Office of the Prime Minister decision on the Digital Dividend. This decision, made following consultation of the Parliamentary Commission on the Digital Dividend, specified three components for the dividend:

- The entire 790-862 MHz sub-band is to be allocated to ARCEP for mobile service for Metropolitan territory, as of the date of the analogue switchover, i.e. 1 December 2011. In the meantime, the band will remain allocated to CSA for broadcasting (790-830 MHz) and to the Ministry of Defence (830-862 MHz) for other purposes.
- Densification of the use of the 470-790 MHz band benefiting CSA for the deployment and growth of DTT: widening of DTT services by offering more programmes, for local or national coverage, for HDTV or for mobile TV, though the adoption of a target frequency plan complementing the current GE-06 plan as set forth in 2006 by the Regional Radiocommunication Conference (RRC-06, Geneva) between 120 countries of Europe, Africa and the Middle East, which enables the deployment of only six DVB-T multiplexes for fixed reception and one DVB-T multiplex for mobile reception.
- Allocation of band III (174-223 MHz, currently used by the Canal Plus analogue network) to the benefit of CSA for exclusive use by digital sound broadcasting.

For this purpose, the prime minister has given ANFR a mandate to negotiate with neighbouring countries the spectrum resources corresponding to an objective of 11 DTT multiplexes for fixed reception and two multiplexes for mobile reception within the metropolitan territory and to seek with other European countries the best possible degree of harmonisation of the use of the sub-band 790-862 MHz.

The discussions for these negotiations were initiated in 2007 and concerned all neighbouring countries in 2009, bilaterally, trilaterally (France, Germany and Switzerland) and multilaterally (France, Germany, the United Kingdom, Belgium, the Netherlands, Luxembourg and Switzerland). This work of densification of the use of the UHF band — through the establishment of a target frequency plan — required 24 meetings over a total of 76 days of discussions. It will be extended in 2009 to multilateral meetings and may take several years.

As regards the harmonisation of the Digital Dividend in Europe, the



French decision made on 22 December 2008 initiated a favourable global motion: most European countries (Germany, the United Kingdom and Spain) have followed this decision as well as Sweden, Norway, Denmark, Switzerland and Finland. Ireland, Luxembourg, the Netherlands and Austria are about to make such decisions and numerous countries have indicated their intention to follow a similar direction. The critical mass for the realisation of a leverage effect necessary to achieve a mass market has already been reached, with more than 300 million people involved. This background enabled the adoption of a recommendation of the European Commission paving the way for a more binding harmonisation by 2015, to which ANFR contributed.

At the technical level, the frequency plan and the technical conditions applicable to the use of the sub-band 790-862 MHz by mobile services were finally harmonised in 2009 with the adoption of a CEPT decision. This enabled the development of equipment by the industry as well as the definition of authorisation conditions by regulators.

This CEPT decision was transposed into a European Commission (EC) decision by the end of 2009, also setting the conditions aimed at ensuring broadcasting protection below 790 MHz from interference potentially caused by the mobile service above 790 MHz. These conditions cannot ensure full protection of broadcasting, however, and ANFR, ARCEP and CSA intensively discussed additional regulatory conditions imposing a legal obligation on mobile operators to address residual local interference.

In 2009, ANFR initiated the refarming of the 830-862 MHz frequency band, currently allocated to the Ministry of Defence, which had begun deployment of this band in the Infantryman Information Network ('RIF', part of the FELIN programme). A new band was identified and accepted for this system at 2 GHz, in a band shared with CNES. However, this band would not enable the same communication range for the equipment and would therefore be less than optimal at an operational level. A first refarming agreement was signed with the Ministry of Defence for the amount of €3.1 million. This agreement deals with the feasibility study and the consequences of the band change for the FELIN system as well as with the study of preliminary design of the RIF NG in the selected band.

With regard to the Digital Dividend in band III, ANFR conducted further discussions with neighbouring countries in order to implement sound digital broadcasting in the 174-223 MHz band. Even if the required frequency for its implementation has already been defined in the GE-06 Agreement, some countries have wished to amend this agreement, either to ease its implementation (Germany and Switzerland) or to benefit from more frequencies for

television (Italy).

ANALOGUE SWITCH-OFF AND SWITCHOVER TO DIGITAL BROADCASTING

In the framework of the Law of 5 March 2007 and of the *France numérique 2012* plan of October 2008, and as proposed by the *Comité stratégique pour le numérique* (CSN), a national scheme for analogue switch-off and switchover to digital broadcasting was adopted by the prime minister on 22 December 2008, after public consultation overseen by CSA in the first half of 2008. This scheme was then updated on 22 July 2010. The process of analogue switch-off and switchover to digital broadcasting will be implemented according to this scheme, in two synchronised sub-processes:

- from 2009 and the field trials in Coulommiers, Kaysersberg and Cherbourg, the gradual switch-off of analogue broadcasting, which will end no later than 30 November 2011;
- the extension of the DTT coverage, which shall increase from 85% of the population by the end of 2007 to 95% by the end of 2011, as the analogue broadcasting in a given zone cannot be switched off if an acceptable coverage rate has not been reached.

ANFR participates in the preparation and implementation of this dual process, which is even more challenging due a number of factors. If the starting point (the transitory digital frequencies used by the 6 DTT multiplexes) is essentially based on the border agreements negotiated by ANFR with neighbouring countries between 2000 and 2008, its target point (the frequencies of the target plan) is still to be negotiated with neighbouring countries for a significant part, due to the constraints imposed by the shift of the switchover schedule of the other countries and the decisions on the Digital Dividend.

In 2009, ANFR contributed to the preparation of this process within the framework of the *Comité stratégique pour le numérique*. From the point of view of spectrum usage, this process entails moving from the current transitory frequency plan, which is used by six DTT multiplexes to the target frequency plan which is being elaborated through international negotiations (see above).

The switchover of DTT transmissions within a given geographic zone towards the target frequency plan assumes that the six corresponding frequencies are compatible with those of the nearby areas which still use the transitory frequency plan and the analogue frequency plan (if these areas have not yet switched over) or which already use the target frequency plan (if these zones have already switched over). This constraint is valid whether nearby areas are located in France or in another country. In this context, the role of ANFR is therefore twofold:

- to negotiate with neighbouring countries the constraints ensuring, insofar as possible, compatibility between the transitory frequency plan on one side of the border and the target frequency plan on the other side, which corresponds to the constraints resulting from the lack of synchronisation in switchover processes on each side of the border;
- whenever the GE-06 plan allows for, within a given geographic area, a number of frequencies less than six outside the 790-862 MHz band, to negotiate with neighbouring countries the necessary additional frequencies, in anticipation of the negotiation of a target plan, or to assist the CSA, in areas remote from borders, in identifying the necessary channels.

The Prime Minister entrusted ANFR with the mandate to obtain

the frequencies necessary for the switchover to the target plan for DTT and mobile television emissions in the corresponding areas, not less than one year before the switchover date indicated in the national switchover scheme for each region.

In mid-February 2010, the CSA issued the *Plan de passage* to broadcasters for the following 20 regions: Alsace, Basse-Normandie, Pays de Loire, Bretagne, Champagne-Ardenne, Lorraine, Centre, Poitou-Charentes, Nord-Pas-de-Calais, Bourgogne, Franche-Comté, Picardie, Haute-Normandie, Ile de France, Aquitaine, Limousin, Auvergne, Côte d'Azur, Corse and Rhône.

The following table summarises the allocation of UHF channels (470-862 MHz) to the six multiplexes currently authorised on the main corresponding sites for these regions by separating:

- the current transitory frequency plan for DTT ('transitory plan');
- the *Plan de passage*, which covers all 6 multiplexes after the analogue switch-off for a given region;
- channels of the GE06 plan;
- channels already agreed for the target plan, or likely to be agreed;
- channels of the sub-band.

This table therefore offers a striking illustration of how to move from the current transitory plan to the target plan by way of the *Plan de passage*, the process of freeing up the 790-862 MHz sub-band (channels 61-69) and the negotiation and planning yet to be performed to complete the current GE-06 plan to a target plan meeting all requirements.

We may note in particular that the transitory plan uses much of the sub-band (55 assignments, i.e. 13% of 430 assignments in total). However, one assignment in the *Plan de passage* out of 452 belongs to the sub-band (channel 65 at Alençon). This assignment will cease in February 2011, at the same time as the Haute-Normandie switchover. We may further note that the transitory plan makes little use of the GE-06 plan (only 19% of the assignments are in the GE-06 plan) and even less use of the target plan (17%). However, the *Plan de passage* uses 93% (419 out of 452 concerned assignments) of the target plan, which is either certain or highly likely. Eventually, given the number of available channels for the target plan by the switchover to the *Plan de passage*, it can be concluded that the target plan for the six current multiplexes has already been negotiated or is very likely to be agreed for the 19 affected regions.

This positive result, relating to more than 80% of the regions to be switched-over, illustrates the good cooperation between CSA and ANFR.

TECHNICAL SERVICES FOR CSA

In the framework of the agreement on measurement and expertise currently in effect between CSA and ANFR, the agency has contributed to the effective switchover of the first sites and pilot areas for the analogue switch-off: Coulommiers on 4 February, Kaysersberg on 15 April and Nord-Cotentin on 18 November 2009.

For this purpose, many technical studies have been carried out by ANFR in cooperation with CSA, and the agency teams have conducted quality measurements of DTT reception on the most critical geographical areas.

Protection of television reception

According to the Law of 1 August 2006, ANFR ensures, within the framework of an agreement with CSA, the protection of TV reception over the national territory. Following a period of steady increase,



**ACTIONS OF THE AGENCY
RELATED TO PUBLIC EXPOSURE
TO ELECTROMAGNETIC FIELDS**

1. CONTEXT

2009 was marked, at the national level, by numerous reflections, actions and publications concerning limitation of public exposure to electromagnetic fields, with the round table meeting in spring, at the request of the prime minister, on radio frequencies, health and environment”, nicknamed «*Grenelle des antennes*, the promulgation of Law No. 2009-967 of 3 August 2009, implementing the outputs of Grenelle de l'environnement, the publication in October of an opinion by *L'Agence française de sécurité sanitaire de l'environnement et du travail* (AFSSET, or the French Agency for Environmental and Occupational Health Safety) updating the expertise on radio frequencies, and the publication — also in October — by *L'Office parlementaire d'évaluation des choix scientifiques et technologiques* (OPECST, or the Parliamentary Office for the Evaluation of Scientific and Technological Choices) of a report on mobile telephony and health.

The agency, in accordance with its missions — particularly the monitoring of compliance with public exposure to electromagnetic fields limit values, according to article L. 34-9-1 of the Post and Electronic Communication Code — was involved in all these endeavours, by making contributions and participating in numerous meetings and hearings. It was also heavily involved in three out of four working groups set up in July, at the conclusion of the round table, through a joint decision by the Minister for Health, the Secretary of State for the Development of the Digital Economy and the Secretary of State for Ecology.

The first group is an operational committee, in charge both of modelling and experimentation of a decrease in exposure to radio frequencies emitted by cellular network antennas, and of definition and experimentation of new procedures of information and dialogue to accompany new base station installation projects. The second group is in charge of the renovation of the exposure overall control system, in particular its conditions of access and its financing. The third group is in charge of the creation of a portal hosted by the *Service d'information du Gouvernement* (Government Information Office website), which aims to inform citizens and health professionals.

Agency participation in these endeavours continues and, more generally, the agency has aligned its objectives and the schedule for all its actions in this area with national efforts, particularly the framework defined by these three groups.

2. INITIATIVES UNDERTAKEN BY THE AGENCY IN 2009

Development of the in-situ measurement protocol

Following French approval in January 2009 of the EN 50492 standard for the in-situ measurement of electromagnetic field strength introduced by the European Committee for Electrotechnical Standardisation (CENELEC), an ANFR consultative working group was formed to review and update the measurement protocol. During 2009, the work performed by this group formed part of, and supported, that done by the working group responsible for upgrading the exposure control mechanism introduced following the Radiofrequencies, Health and Environment consultative procedure. Chaired by the *Direction générale de la compétitivité, de l'industrie et des services* (DGCI, or General Directorate for Competitiveness, Industry and Services) this group included representatives of the various colleges contributing to the consultative panel, and in 2009, explored opportunities for deregulating the market for in-situ



measurement organisations, the funding of these measurement programmes and the upgrading of the measurement protocol. The work of this group should be completed in 2010.

The changes to the measurement protocol now under consideration address not only the requirements of EN 50492, but also the conclusions reached by the consultative panel. The key points include increasing the frequency bands to be systematically scanned up to 6 GHz in response to the deployment of public systems operating in frequency bands above 3 GHz, and the specification of an additional quality requirement, with a specified maximum level of uncertainty on results. The protocol will also be simplified by introducing the opportunity to conduct a single overall evaluation by using a wideband probe, for instance, wherever the result of such an evaluation remains below a given threshold (EN 50492 recommends a threshold of 2 V/m). Another major goal is to highlight information about the actual level of exposure measured and, whenever possible, to provide a likely minimum and maximum level, whilst retaining information on the theoretical maximum calculated by post-processing extrapolation. Plans also include taking greater account of specific applications, in particular WiFi and WIMAX.

Public information: Cartoradio answers questions from Internet users

The agency's mission to provide public information about stations and electromagnetic field measurement results is fulfilled in the form of the www.cartoradio.fr website. Data published are updated every week in the form of a detailed national map; a format that has been well received by government bodies, communities, industry professionals and the public. The site receives an average of approximately 15,000 unique visitors every month of the year.



The website user interface was upgraded this year as an interim step. A more comprehensive upgrade of the entire website will be undertaken as soon as the government reaches its conclusions on the work done as part of the *Grenelle des antennes* consultation. The year also saw some rationalisation in the processing of electromagnetic field measurement results at a time when the number of measurements made increased dramatically to more than 4,000 in 2009, compared with 2,500 in 2008.

Additional data can be obtained by written request, either by post or by e-mail. Approximately 600 information requests from local authorities and the general public concerning radiofrequency broadcasting stations and exposure to electromagnetic radiation were received and answered in 2009. This figure is higher than in the previous year, as a result of the topicality of these issues and the implementation of the *Grenelle des antennes* consultation initiative.

Safety perimeters surrounding transmitting stations

ANFR carried on with its work on updating an informative technical guide in relation with the safety perimeters surrounding transmitting stations. These perimeters are generally defined by assessing, based on typical scenarios, the areas around the stations where the exposure may exceed the reference levels, as available in the Decree 2002-775 of 3 May 2002, depending upon the main current transmitters. For low-power antennas (pico-cell base stations, WiFi type radio local area networks, etc.), considering the potential proximity with the user, it is more relevant and more accurate to check the compliance directly against the basic restrictions rather than against the reference levels.

Therefore, this guide provides straightforward guidelines to the radio station operators for the delimitation of these areas around the stations.

The version 2 of the guide — released in February 2008 — addresses mobile telephony (GSM at 900 and 1800 MHz, UMTS at 2 GHz), terrestrial broadcasting (analogue and digital television, FM audio broadcasting), professional mobile radio (digital PMR at 400 MHz) and wireless access systems such as WiMAX at 3.5 GHz and WiFi type radio local area networks at 2.45 GHz.

Updating activities carried out within ANFR expanded this version 2 with the inclusion of UMTS at 900 and 1800 MHz, WiFi type radio local area networks at 5 GHz and personal mobile television.

3. PARTICIPATION IN THE RADIO FREQUENCIES, HEALTH AND ENVIRONMENT ROUND TABLE

Role of the agency

The round table gathered representatives belonging to six colleges — elected representatives and local authorities, State and public bodies, operators and broadcasters, non-governmental organisations, trade unions and qualified personalities, for six meetings 23 April-29 May. As part of the college of State and public bodies, the agency participated in all of these meetings, more specifically providing members of the round table with precise data on current regulations in France and European countries, on the methodology for electromagnetic field on-site measurements, and on the results of in situ measurements made in France by laboratories accredited by *Comité français d'accréditation* (COFRAC, or the French Committee on Accreditation) and published by the agency on its website, www.cartoradio.fr. The agency also presented exposure levels to electromagnetic fields emitted by terminal equipments held near the body in comparison with exposure levels to electromagnetic fields emitted by network transmitting stations, and illustrated the complexity of the functioning of the systems

constituted by networks of mobile telephony, GSM and UMTS, and the terminal equipments of subscriber to these networks. It also suggested ways of evolution of its web-site www.cartoradio.fr and of the in situ measurement protocol called for by the decree of 3 May 2002 regarding limit values for public exposure to electromagnetic fields.

Guide on the operation of mobile cellular networks

As a result of the numerous questions received by ANFR regarding the mobile cellular networks, ANFR initiated early in 2009 the development of a guide on the operation of these networks in order to set up an educational document pointing out the issue and providing elements on the network operation. It explains in particular the principles of a cellular network and its deployment, the planning constraints faced by the network operators, considerations related to the network densification and the consequences of exposure levels with regard to the base station and the mobile terminals.

In the context of the *Grenelle des antennes*, some elements of this guide have been used as the basis for a document submitted by ANFR to the various participants in order to improve mutual understanding of the subject.

International comparisons

Some international comparisons between national regulations are widely published online, in a terse format, not taking into account possible differences between concerned places or conditions of measurement: «exposure levels in such country are thousands of times lower than exposure levels in such other country». To give the participants in the round table brief yet precise, reliable data, the agency made a summary of existing regulations in Europe, on the basis of comparative data published by the World Health

Organisation and by the European Commission, and after detailed examination of the situation of several of these countries, in particular to take into account only the legally published local regulations.

It appears from this comparison that the statutory situation in France is comparable to that of 19 other EU countries, without noticeable difference in the definition of restrictions, all based on the European recommendation of July 1999, as well as in the control of the compliance with these limit values and in the transparency of information provided to the public on the localisation of existing transmitting stations and on the publication of measurement results. Furthermore, one can underline that the overall system existing in France is among the most complete.

In six other countries, the exposure limits are reduced globally, or partially for some applications, often mobile telephony, and sometimes only in «places where people live», with, for some of these countries, regulations based on a concept rather different from the one recommended by the European Union (EU). However, all the results of measurements made in France, in particular in Paris which defined «places where people live» within the framework of the charter signed between the City of Paris and the mobile phone operators, remain, generally, compatible with the restrictions retained by these regulations. Finally, there is one country, Belgium, whose regulation evolved late in 2009, on a regional basis, and for which it has not yet been possible to make a comparison.

ANFR, adviser to COMOP

COMOP, chaired by member of parliament François Brottes, started its activity in July 2009 and has selected 17 cities for modelling and experimenting a decrease in exposure to electromagnetic fields from base stations of mobile telephony and 12 cities for defining and experimenting new methods of consultation and local information.

Within COMOP, the agency has an advisory role which consists in bringing to the debates its technical expertise and its experience in matters in discussion: characteristics of radiotelephony networks, measurement of exposure, antenna and propagation, etc. In November, the COMOP created a technical group on the experimentation of a decrease in exposure, chaired by the agency.

This group began to define in detailed fashion the required modelling and measurements and to prepare related specifications in order to submit them to COMOP for adoption. For modelling, the *Centre scientifique et technique du bâtiment* (CSTB, or Building Scientific and Technical Centre) should develop in the areas proposed by the selected cities a simulation of the exposure level of mobile radiotelephony and a company having expertise in network planning will assess the impact of a decrease of these levels in terms of coverage and quality of service degradation. This company will also examine the possibility of modifying the network configuration in order to decrease exposure while maintaining a good coverage and quality of service for voice and data services. Any new configuration will be simulated by CSTB in order to verify the decrease in exposure. For measurements, it is planned on the one hand to verify the exposure simulation results and to complete them (time variation of exposure, detailed analysis of the exposure on 'hot spots' and individual dosimetry) and on the other hand to measure, by decreasing effectively the power of the antennas contributing to the exposure and coverage of the area, the degradation of the coverage and quality of service (voice and data), using a protocol established by ARCEP based on the methodology used to assess the quality of service of 2G and 3G mobile networks.





INTERNATIONAL ACTIVITIES AND SPECTRUM PLANNING

Overview

- *Final adoption of the new EU regulatory framework on electronic communications;*
- *Harmonisation of the conditions of use in the 800 MHz band for electronic communication networks other than broadcasting;*
- *Development concerning cognitive radio, in particular for 'white spaces' in the UHF band;*
- *Assessment of spectrum requirement for unmanned aircraft systems;*
- *Update of the National Table of Frequency Allocations;*
- *Activation of the refarming fund for the band 800 MHz and 2.6 GHz.*

1. A NEW ELECTRONIC COMMUNICATIONS REGULATORY FRAMEWORK AND AN IMPROVEMENT OF EUROPEAN SPECTRUM MANAGEMENT POLICY

The new EU regulatory framework for electronic communications including spectrum management was approved at the close of 2009. The amendments on spectrum hereafter were unchanged compared to those achieved under the French presidency of the European Union:

- the EC Spectrum Decision remains in effect and, particularly, the mandate procedure ensuring both cooperation between European Commission and CEPT and agreement of EU Member States on the EC Decisions adopted by RSCOM;
- a pluriannual spectrum strategic plan, drafted by the European Commission on the basis of an RSPG opinion and subject to approval by Council and European Parliament;
- better applicability of technology and services neutrality principles through a definition of possible derogations.

Consequently, ANFR maintained in 2009 its involvement within the most representative organisations contributing to the European spectrum harmonisation: the RSPG on Spectrum Policy, the Radio Spectrum Committee (RSCOM) and the Electronic Communications Committee (ECC) of the CEPT. It contributed to some activities within ETSI, European Telecommunications Standards Institute, supporting, among others, the RSPG 'streamlining EU regulation' opinion and to the European research project E3 on cognitive radio and software defined radio.

RSPG opinions and reports

RSPG opinions are references for CEPT administrations but also for also other regions of the world. Several topics were included in the 2009 RSPG program: the preparation of international conferences, the Digital Dividend, cognitive radio, the spectrum needed to ensure the growth of broadband mobile networks and the governmental use of spectrum. Moreover, RSPG continued its cooperation with European Regulators Group (ERG) on the competition issues with a more flexible spectrum environment (transition of authorisation regimes, spectrum hoarding and significant market power further to secondary spectrum transactions) and on the definition of relevant markets taking into account fixed mobile convergence.

ANFR was deeply involved in the drafting process of a new RSPG opinion on the Digital Dividend and on studies launched by the European Commission to assess different harmonisation scenarios for Digital Dividend. A communication and a recommendation from the European Commission resulting from these activities embedded in several items the choices already made by France. The European Commission asked EU member states to cease analogue transmission on their territory by 1 January 2012 and to refrain from any action that might hinder or impede the deployment of electronic communications services in the sub-band taken into account negotiations between Commission, Council and Parliament during 2010 about a coordinated implementation of the sub-band before a target date in all EU countries.

The ANFR was also involved in the drafting of the other opinions and reports in consultation with the relevant regulatory authorities and ministerial departments. It chaired the group on how to preserve EU interests in international negotiations and on WRC-12 preparation. It looked after the finalisation of the opinion on governmental services which raised the importance and variety of spectrum usages

by these services. Lastly, the report on cognitive radio approved at the beginning of 2010 includes numbers of ANFR contributions explaining regulatory issues raised by this technology and encouraging industry and administrations to contribute to the ongoing work within CEPT on UHF band and within ETSI. The RSPG report on frequency resources needed to support the growth of wireless broadband approved by mid-2009 confirms that the opening of 800 MHz and 2.6 GHz bands will play a key role in this process and is fully in line with the policy in effect at national level.

European harmonisation: measures adopted by the EC

Based on CEPT reports drafted in response to EC mandate, the European Commission draws up regulatory measures to harmonise technical conditions to use spectrum. Therefore, the conditions to be fulfilled by the terrestrial systems for electronic communications within the 800 MHz band are covered by an ECC Decision adopted in October 2009 and will be included in an EC Decision currently under draft (formal adoption in March). The EC Decision will make mandatory these technical conditions within all member states deciding to introduce into this band electronic communications networks other than broadcasting without defining any deadline to implement the Digital Dividend.

Beyond the annual review of the Commission Decision on short-range devices (2009/381/EC), The Commission adopted in 2009 a number of harmonisation measures:



- harmonised conditions of use of radio spectrum for mobile communication services on board vessels (MCV services), with a formal vote Q1 2010;
- harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community (Decision 2009/766/CE), ensuring that new technology such as UMTS will have the possibility to use these bands;
- Decision 2009/343/EC amending Decision 2007/131/EC on allowing the use of the radio spectrum for equipment using ultra-wideband technology including conditions for the use of this equipment in vehicles and for Building Material Analysis (BMA) imaging systems;
- Decision 2009/381/EC amending Decision 2006/771/EC on spectrum harmonisation for short-range device usage.

The review of Decision 2005/50/EC on short-range radars for automotive launched in 2008 continued and is subject to an EC mandate to CEPT.

Moreover, France obtained two derogations:

- an EC Decision 2009/740/EC to delay the availability of the 2.6 GHz for electronic communications services.
- an EC Decision 2009/812/EC to derogate from the EC Decision 2009/381/EC on the short-range devices in the case of the 2.4 GHz band.

Guidance from CEPT paves the way for European harmonised spectrum regulation

CEPT, with its ECC committee, plays a key role in the European harmonisation measures by providing responses to EC mandate. It completed in a short time all the tasks from the second EC mandate on the Digital Dividend by providing technical conditions for the use of the 800 MHz band (CEPT reports 30 and 31) and measures to ease the freeing of the band (CEPT report 29 on cross-border coordination). Moreover, it provided to the Commission its proposals on technical conditions to use GSM on board vessels (CEPT report 28), on specific conditions for Ultra Wide Band ODC ('Object Discrimination and Characterisation') equipment (CEPT report 34) and its annual amendments of the EC on short-range device (CEPT report 35). A number of public consultations were launched by the end of last year: on short-range radars (CEPT report 36), on PMSE within 470-862 MHz (CEPT report 32) and on short-range devices and ultra wide band equipment (CEPT report 27). Moreover ECC approved 11 decisions, two recommendations and 10 reports.

Beyond these technical activities, ANFR contributed to the ECO council and to the debate on the evolution of ECO as a support to the ECC activity and in the preparation of the extraordinary CEPT assembly paving the future of this structure.

The review of the R&TTE Directive

The ANFR is already preparing the future review of the R&TTE Directive by defining its expectations and by contributing to the initial discussions launched at EU level, particularly on the proposed equipment registration scheme.

Involvement in European research on cognitive and software defined radio

ANFR maintained its involvement within the European research programme E3, a follow-up to E2R on cognitive and software defined radio and within the ETSI technical body addressing these topics. This new body started cooperation with CEPT in order to develop relevant standards for European regulation. ANFR also explored possible links between CEPT and European Research project in radiocommunications.

2. PREPARATION OF THE WORLD RADIOCOMMUNICATION CONFERENCE (WRC-12)

Preparatory framework

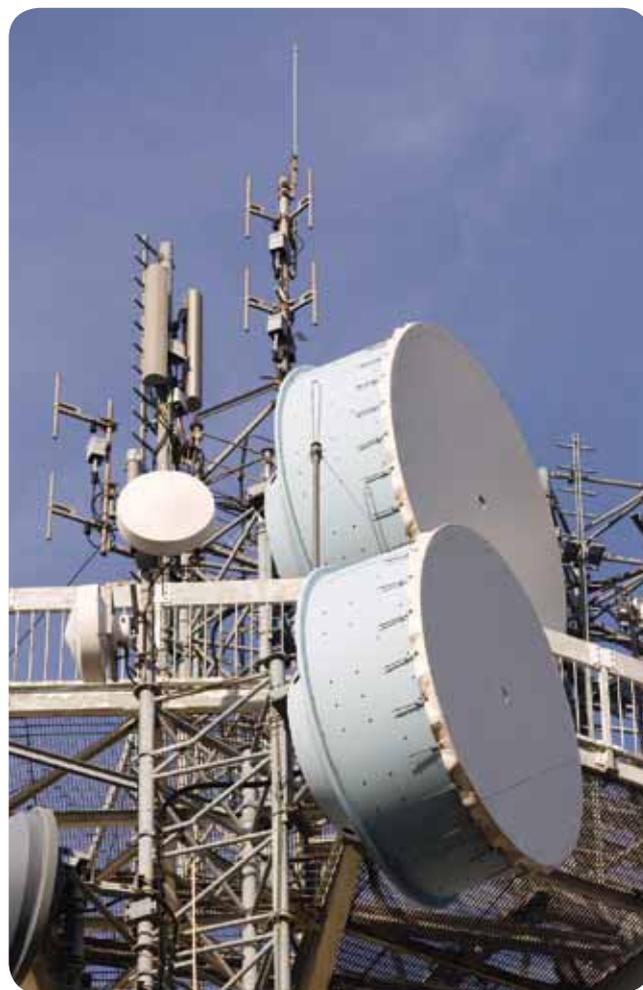
The new preparatory cycle for the next ITU World Radiocommunication Conference, which will be held in 2012, has started in 2008. Within ITU-R, France has been given the chairmanship of Study Group 7 (scientific services) and the vice-chairmanship of Study Group 4 (space services), of the Special Committee on regulatory and procedural matters and of the Coordination Committee for Vocabulary. ANFR has been also given an important position in the European organisation in charge of negotiating WRC-12 with the chairmanship of the CEPT conference preparatory group (CPG) and seven out of 25 CEPT coordinators, which will have the responsibility

to prepare European positions and to speak on behalf of Europe during the Conference. Finally, ANFR is active in the relationship between CEPT and other ITU recognised regional organisations and benefit from a cooperation and exchange field owing to the frequency group of the Conférence Administrative des Postes et Télécommunications des pays d'Expression Française (CAPTEF, or the Post and Telecommunications Administrative Conference of French-speaking Countries).

Originally planned in 2011, the conference will ultimately be held 23 January-17 February 2012. This minor shift does not impact the requirement for regular revisions of the Radio Regulations so as to adapt international regulations to the pace of development of technologies and services.

CEPT remains the most advanced regional organisation in the WRC-12 preparation, with briefs and positions on all agenda items and draft European Common Proposals (ECP) on about one-third of the agenda items. In 2009, CPG met twice and intense work was also carried out by its four project teams. The efficiency of the mechanism set up by CEPT for preserving the European Union interests, which relies on workshops organised together with the European commission and RSPG opinions, has been confirmed by RSPG in an opinion adopted in 2009.

Within ITU-R, the technical work is now almost finalised since the draft conference preparatory meeting (CPM) report, which summarises studies and lists for each agenda item the possible regulatory options, is to be completed for mid-2010. This report has a great influence on the conference results, since administrations





are mainly using these options to express their preference. The ANFR paid much attention to ensure that the options currently held by France are part of the draft CPM text, together with the justifying technical studies.

Main agenda items

The conference agenda includes many items aiming at developing and protecting scientific services essential for earth exploration and weather forecast. France, through its involvement in international organisations such as ESA, EUMETSAT, EUMETNET — but also for the activity of national weather service Météo France and CNES — is involved in all these items and contributes significantly to the technical studies. Owing to the support of our European partners, proposals meeting the requirements of these services have been adopted on all these items.

The conference also covers technical conditions for using the new allocations to aeronautical mobile service ‘en route’ decided at WRC-07 and in 2009 it has been possible to converge on the options that CEPT should support. On the other hand, discussions are more difficult on the issue of spectrum to facilitate the safe operation of unmanned aircraft systems in civil airspace called ‘non-segregated’ since the subject is at the border between aeronautical and spectrum domains and is largely open taking into account all applications envisaged for unmanned aircraft systems. However, with the contributions of ANFR, ITU-R has determined in 2009 the corresponding spectrum requirement and the debate is now on the regulatory aspects and on the selection of frequency bands.

One very controversial issue at WRC-12, in relation to national and European discussions on the Digital Dividend, is about sharing conditions at the border for countries like France, which want to use the frequency band 790-862 MHz for the mobile service. The main issue, which was originally the compatibility with the broadcasting service, is now less important since many European

countries have made in 2009 the same choice as France regarding the Digital Dividend. CEPT and ANFR, which is providing the CEPT coordinator on this item, consider that the provisions and criteria of Geneva-06 agreement are sufficient to cover this issue but debate is ongoing in ITU-R on worst-case scenarios for aggregated interference contributed against this position. The focus is now on the compatibility issue between mobile service and aeronautical radio navigation service used by the Russian Federation and some of its neighbours, which could make difficult the implementation of the Digital Dividend at the border of the European Union taking into account the large interfering distances between the two services. The ANFR endeavours to gain acceptance for a balance solution based on an equitable spectrum access independently from the service used by a country.

The ANFR has actively participated in the discussions on many other items like the procedures applicable to coordination and notification of space services, the spectrum harmonisation for ENG/OB, new frequency bands for mobile satellite service, spectrum to answer to requirements regarding safety and new digital technology development in the maritime mobile service or the improvement of the international regulatory framework.

3. TECHNICAL STUDIES CONDUCTED BY ANFR

Within CEPT, technical studies lead to the development of Reports or Recommendations, which enable to set up the technical conditions used as the basis for the regulatory decisions adopted by ECC and RSCOM.

In this context, technical and regulatory activities have been completed in relation to the harmonisation of the Digital Dividend. These CEPT activities in response to the EC Mandate led to the definition of the characteristics of the harmonised Frequency Duplex Division frequency plan (2 * 30 MHz) and of the emission limits of the stations ('Block Edge Mask', BEM).

Regarding the frequency plan, much discussion has dealt with the trade-off between, on one hand, the width of the guard band with the broadcasting and, on the other hand, the width of the duplex gap, which could, if being too narrow, have an impact on the performance of the mobile terminal stations. Furthermore, considering the wish of some European countries to keep some degree of flexibility for the introduction of the mobile networks in this band, ANFR managed to secure that a single frequency plan be harmonised in order to benefit from the advantages of this harmonisation as far as the cost of the terminals, the roaming and the cross-border coordination are concerned.

The ANFR also made a significant contribution to the technical studies leading to the development of a BEM, which constitutes the best possible trade-off between, on one hand, the protection of the mobile networks and of the users of the adjacent bands, in particular the broadcasting service and on the other hand, the wish to limit the constraints to the minimum extent, in order to promote the development of mobile equipment with a low cost and good performance.

The other most noteworthy results are as follows:

- Impact from the operation of the GSM multi-carrier base station: following a request from manufacturers and operators, CEPT has studied potential impact from the introduction of GSM multi-

carrier base stations in the 900 and 1800 MHz frequency bands. This study, to which ANFR made a significant contribution, has enabled definition of the technical conditions to implement these base stations without creating harmful interference to the systems operating in adjacent bands, taking into account that the out-of-band emission characteristics of the multi-carrier base stations are slightly more relaxed than the characteristics of the traditional base stations.

- Development of the conditions to allow the operation of short-range devices without interfering with speed-meter radars around 24 GHz. This work has been largely based upon field measurements performed by ANFR in conjunction with the Ministry of Defence.
- Update of the frequency plans for the fixed service in various frequency bands in order to facilitate the use of advanced technologies for the fixed radio relays.

In addition, ANFR has taken the chairmanship of a project team within CEPT addressing the potential use by mobile or fixed applications of the 'white spaces' in the interleaved spectrum resulting from the planning of the broadcasting in the 470-790 MHz band. These activities, which started in June 2009 and are expected to be completed in 2010, provide the opportunity to update and discuss at the European level the studies carried out in 2008 in response to the 'France Numérique 2012' plan. The main objectives are to determine the technical conditions for the potential operation of systems in the 'white spaces' in order to protect the broadcasting as well as to assess the consequential availability of spectrum for these 'white spaces' depending upon the type of use.

In the national framework, following a request from the ARCEP, ANFR performed a study to set up the conditions for the coexistence between one communication system operated by the RATP in the 5915-5935 MHz on some railway tracks and the intelligent transportation systems (ITS) envisaged to assist the road traffic in the bands 5875-5905 MHz in a short term and 5905-5925 MHz in a longer term.





4. STUDIES ON FUTURE FREQUENCY NEEDS

One of the missions of the agency consists in leading forward-looking analyses of the frequency spectrum needs, in proceeding to the periodic review of its use and in recommending the adjustments which seem necessary.

The frequency planning is in itself a forward-looking exercise consisting in envisaging the use of frequencies in the long-term and such prospective analyses also take place in the various working groups of UIT-R and CEPT, as well as in the committees of the agency preparing these meetings.

Within the framework of its *Commission des revues du spectre* (CRDS, or Spectrum Review Committee) and in close collaboration with the regulatory authorities or ministerial departments and with the representatives of the administrations, the manufacturers and the operators, the agency follows an approach aiming at identifying the evolutions of radio applications in the medium-term, by taking into account national and European regulatory decisions in force and assuming no disruptive technology. The working groups of the agency analyse the evolution of the spectrum uses at the European and World levels and try to ensure that it fits the national needs in a most harmonious way. The national stakeholders expect benefits of such actions for the manufacturers, the network operators (private and public) and the users.

For 2009, we can mention the works led as a supplement to the studies for the WRC-12 on the insertion of unmanned aircraft systems in the non-segregated civil air spaces. The agency has finalised a national report about the spectral needs of the UAS payloads covering mainly the needs of the Ministry of Interior and the Ministry of the Defence by the year 2013. This report will be completed in order to consider longer-term needs.

Other subjects were approached in 2009: frequency needs of Fixed Service, digitalisation of the radio broadcasting, management of the radio spectrum and new technologies, wideband access for safety networks and assessment of ETSI System Reference Documents (SRDOCs).

These works are made in relation with other industrial or scientific bodies, especially the URSI-France (Union Radio-Scientifique Internationale-France) or the National Competitive Poles such as URC (System@tic).

A general review of bands between 223 MHz and 5 GHz will be started in 2010 with a review of the use of the spectrum of each regulatory authority and the expected evolutions considering the specificities and the constraints of their services and applications and the identification of the possible solutions to answer these evolutions.

Considering the importance taken by the radio frequencies as the immaterial part of radio networks, it was decided to combine from 2010, the studies on the valuation of the spectrum together with the forward-looking studies on spectrum needs.

5. THE NATIONAL TABLE OF FREQUENCY ALLOCATIONS (TNRBF)

Updates of the TNRBF are prepared by ANFR's *Commission de planification des fréquences* (CPF, or Frequency Planning Committee) and proposed for adoption to the board.

In 2009, the National table of Frequency Allocations was subject to two amendments to ensure compliance with the Radio Regulations (limiting the allocation for the broadcasting service in the band 7 100 – 7 200 kHz on 29 March 2009), and to take into account several decisions of the European commission (No. 2008/294/CE, No. 2008/411/CE, No. 2008/432/CE, No. 2008-477/CE, No. 2008/671/CE and No. 2008/673/CE). These amendments were also related to technical provisions on the use of different frequency bands, especially the application of the provisions of these decisions in the overseas territories in Region 3. Finally, following the publication of the edition 2008 of the Radio Regulations, some editorial amendments have been carried forward in the national table.

These amendments were published by a decree of the Prime Minister of 27 March 2009 (No. 2) and 25 June 2009 (No. 3).

The CPF proposed to the Board of ANFR other modifications concerning:

- the allocation of the bands 50,2-51,2 MHz and 81-81,5 GHz to the amateur service under the conditions set up by ARCEP's decision No. 2008-0841;
- the introduction of some provisions of the European recommendation ERC/REC 70-03 in order to allow the use of the band 174 - 223 MHz in Region 1 for the wireless microphones, in conformity with the decree of 22 October 2008 approving the national scheme on the use of the frequencies which will be made available by the analogue broadcasting switchover;
- the use of the bands 1960-1980 MHz and 2150-2170 MHz for the 3rd mobile generation in New Caledonia;
- the use of the band 2 500-2 690 MHz for terrestrial systems capable of providing electronic communications services (Decision 2009/740/CE allowing France to postpone the total application of the decision 2008/477/CE until 31 May 2014);
- the harmonisation of the bands 10,7-11,7 GHz and 12,5-12,75 GHz in Regions 1 and 2 for the use of aircraft earth stations of the aeronautical mobile service (Decision ECC/DEC/(05)11) and on vessels earth stations of the satellite fixed service (Decision ECC/DEC/(05)10);
- the harmonised use of the band 63 – 64 GHz for the application of Intelligent Transportation Systems (Decision ECC/DEC/(09)01);
- the update of the frequencies available for short-range devices (ground penetration radar, Decision 2009/343/CE et 2009/381/CE), and the complete update of the annex 7 concerning these equipments.

The Board of ANFR approved these modifications on the 10 December 2010.

6. INSTITUTIONAL CO-OPERATION

The institutional co-operation of ANFR consists of:

- Bilateral actions (exchanges of views, training courses and specific missions);
- Multi-country actions in the form of training seminars and the participation of its experts in meetings and international symposiums.

Bilateral actions

The ANFR received 15 foreign delegations in 2009, that is to say 88 high representatives and foreign experts. The exchanges related in particular to the exposure of the public to the electromagnetic fields, the DTT and the Digital Dividend.

The Director General of ANFR received in particular the Minister for Media and Telecommunications of the Russian Federation on the question of the deployment of the DTT. He was received by the Vice-Minister of Telecommunications and Informatics of Venezuela about the policy of the Digital Dividend, and by the Vice-Minister

of Communications of Colombia about the DTT, the satellite networks and the creation of a national frequencies agency.

Two agreements were signed, one with the National Frequencies Agency of Algeria and the other with the National Frequencies Agency of Tunisia. These agreements reinforce the co-operation policy with the Maghreb countries with which ANFR maintains regular relations.

The multi-country actions

The ANFR took part in the meetings of the Development Sector of ITU, in the ITU-D Study Group 1 and in the 9th Global Symposium for Regulators. Taking into account its cooperation with the African countries and its key role within the CEPT, ANFR was strongly implied in the first preparatory meeting of WRC-12 which was organised in September in Geneva by the ITU and the ATU.

The Minister for Communications, Posts, Telecommunications and NICT of Cameroon invited ANFR to take part in an international workshop on the procedures of international and national notification which was held in Yaoundé in December.

Pays	Organisation	Themes	Dates in 2009
Gabon	Gabtel	Radio frequencies usage fees Spectrum reallocation	22-26 November
Taiwan	Industrial Technology Research Institute	Measuring methods and tools of electromagnetic fields	25 August
Moldavia	Orange	Exposure of the public to electromagnetic fields	2 July
Morocco	ANRT	Organisation and missions of ANFR Technical tools and means for spectrum monitoring	29 June-2 July
Niger	ARM	Organisation and missions of ANFR Technical tools and means for spectrum monitoring	29 June-2 July
Ecuador	Supertel	DTT	29 June
Russian Federation	Ministry of Media and Telecommunications	DTT	18 June
Morocco	ANRT	Radio easements and site sharing Spectrum monitoring	15-18 June
Australia	Free TV Australia	Preparation of WRC-12 Agenda Item 1.5	29 May
Tunisia	Ministry of Industry, Energy and SME	RTTE Directive and commercial compliance monitoring of equipments and terminals	26 May
India	Department of Telecommunications	Reallocation fund Cost evaluation methods	19 March
Japan	Embassy of Japan in Paris Ministry of Home Affairs and Communications	White space Broadband Internet	10 March
Venezuela	Ministry of Telecommunications and Information	DTT planning Digital dividend Policy	22 & 23 January
Colombia	Ministry of Communications	Digital dividend Policy Creation of a national frequency agency	19 & 20 January

The ANFR intervened to represent France, guest country of the 24th Congress of Telecommunications ANDICOM held in Cartagena in October. It took part in April in a seminar of ANACOM on the Digital Dividend (Lisbon) and in the Conference of Arab ICT Organization (AICTO) on mobile television (Tunis), in May in the GSMA Conference on the Digital Dividend (Moscow), and in June in the 5th International Conference of Telecommunications organised by the Colombian Association of Engineers (ACIEM) on spectrum reallocation for mobile and broadcasting services (Bogota). Moreover, ANFR was invited in May at the meeting of the Council of the Regional Commonwealth in the field of Communications (RCC) for an exchange of views on the agenda of the WRC-12 (Brdo). Lastly, ANFR took part in December in the Summit of the Community of Independent States (Minsk) as well as in the Asia-Pacific ministerial meeting organised in Bali in November by the Asia-Pacific Telecommunity (APT).

The ANFR animated one week of lectures on scarce resource management in Cameroon from 22 to 26 June 2009, within the framework of the BADGE agreement agreed by TELECOM ParisTech, the Telecommunications Regulatory Agency of Cameroon (ART) and ARCEP.

ANFR and the ANRT of Morocco held the third seminar on frequencies management and spectrum monitoring for the French-speaking African countries January 26-30 2009.

7. USE OF THE SPECTRUM REALLOCATION FUND (FRS) AND THE DIGITISATION SUPPORT FUND (FAN)

The Spectrum Reallocation Fund (FRS)

Although the switch-off of analogue TV broadcasting stations already began in 2009 in certain regions of mainland France, this year was marked by many spectrum reallocation operations of analogue frequencies to allow the extension of DTT coverage. Therefore, a lot of frequencies used by analogue broadcasting stations had to be retuned, whenever possible, to insure their compatibility with those used by DTT. These modifications were pre-financed by the Spectrum Reallocation Fund, which is biannually reimbursed by the beneficiaries of these operations, that is to say the DTT editors, according to the provisions of Decree 2003-620 modified by Decree 2009-1308 of October 26th, 2009.

Today, on the whole mainland France territory, spectrum reallocation of analogue broadcasting stations for the benefit of the extension of DTT coverage have concerned more than 4.25 million inhabitants; approximately 1,350 spectrum reallocation operations of analogue frequencies were realised and pre-financed by the Spectrum Reallocation Fund for a nearby amount of €60 million. The last spectrum reallocation operations of analogue broadcasting stations will be carried out during the 1st half-year 2010 knowing that the law of 5 March 2007 plans the extinction of analogue TV broadcasting by 30 November 2011 at the latest, and considering that this switch-off has already begun, with Nord-Cotentin, on 18 November 2009, and will continue in 2010 with one region each month on the average.

Within the framework of two spectrum reallocation agreements signed by ANFR in order to deploy mobile telephony network (UMTS) in French overseas departments, the Ministry of Defence released the whole frequency band 1 900 - 1 980 MHz in Martinique (1 July 2008) and half of this frequency band in Réunion (1 January 2008). The whole frequency band will be available for UMTS as of 1 July 2010.



The spectrum reallocation operations were pre-financed by FRS with a budget of €2.1 million. The budget has been reimbursed annually since January 2009 — for a period that is to last five years — by the operators holding an authorisation as of 31 December 2008.

In order to release the frequency band 800 MHz and 2.6 GHz for the benefit of new mobile networks, FRS is used to ensure the spectrum reallocation of:

- the governmental radio relay network (named Rubis) operating in the frequency band 2500 - 2690 MHz;
- the Infantryman Information Network (RIF) of the FELIN armament programme for which the army had planned to use a part of the Digital Dividend frequency band (830-862 MHz).

Today, the associated costs advanced by the Ministry of Defence for these two operations amount respectively to €67 million and €118 million. In March 2009, the Prime Minister's Office validated the principle of pre-financing the Spectrum Reallocation' cost for system Rubis and Felin.

The first FELIN agreement in the amount of €3.1million was approved by the Board of ANFR in October 2009 and the first Rubis agreement in the amount of €4.9 million in December 2009. The full frequency band 2500 - 2690 MHz will be released on the whole mainland France territory early 2015 at the latest.

FRS will be contributed according to conditions which have yet to be defined, by the first operators who will obtain an authorization to use these frequency bands.

The Digitalisation Support Fund (FAN)

The FAN is designed to ensure reception's continuity of analogue terrestrial television broadcasting where it may be affected due to DTT deployment, consecutively of spectrum scarcity or interrupted by the early switch off of analogue broadcasting stations decided by CSA (French audiovisual regulatory authority). FAN may also be used when the analogue terrestrial television broadcasting is jammed by broadcasting stations situated in other countries and for which borders coordination agreements were signed (Decree No. 2007-957 of 15 May 2007).

Based on the proposals from the ANFR *Commission du fonds d'accompagnement du numérique* (CFAN, or Advisory Committee on FAN), the Board of ANFR makes decisions on the geographical areas where FAN will be used and the maximum expenses to be incurred.

Five agreements were signed with *GIE Fréquences* to enable the operational implementation of the FAN, in border regions with Germany, Belgium, Italy and Switzerland.

Since its creation, the FAN has ensured continuity of analogue broadcasting service for about 170 sites serving more than 14 million inhabitants. The financial amounts committed today for these operations reach €5.6 million.

The detailed studies and the on-site preliminary studies realised by ANFR or delegated to *GIE Fréquences* enabled a precise determination of the concerned geographical areas in order to reduce at the lowest level, the FAN interventions cost so that the expense effectively spent are today about €500,000.

At this point however, FAN financial compensation applied only to about 30 households, following the introduction of 29 DTT assignments in Germany in July and December 2007: 25 households in individual housing and four households in buildings have benefited from an intervention (installation of a satellite dish antenna) and four viewers asked for the financial package.

8. MANAGEMENT OF SATELLITE SYSTEM FREQUENCIES

In 2009, ANFR received and processed an authorisation application for satellite systems at the orbital position 7° West. In December 2009, it received 11 new authorisation applications for satellite systems at the orbital positions 12.5° West and 4°, 7°, 9°, 10°, 13°, 16°, 25.5°, 33°, 36° and 70.5° East. At the end of 2009, three satellite system operators hold ten authorisations at six different geostationary orbital positions.

ANFR is also the notifying administration to the ITU for three intergovernmental organisations, two governmental satellite operators and nine commercial operators. In 2009, it transmitted to the ITU, for the benefit of these satellite operators, 98 notices for advanced publication of information on satellite networks (API), 34 coordination requests, 25 requests for inclusion in the broadcasting-satellite Plans governed by Appendices 30 and 30A (including for telecommand and telemetry assignments), 22 notification requests under Article 11 and 23 notices required by Resolution 49 of the Radio Regulations for the due diligence procedure (concerning in particular the identity of the satellite and of the launcher).

Satellite coordination activities continued with a meeting with Malaysia in November 2009, two meetings with Sweden in June and October 2009 and a meeting with Iran in December 2009 using electronic facilities for virtual meetings. Finally, ANFR attended a technical meeting between the European Commission and China in the framework of the frequency coordination of the Galileo system, for which France is a notifying administration to the ITU.



9. MARITIME ACCOUNTING AUTHORITIES

Maritime accounting authorities act as billing intermediaries between ships and electronic communication network operators. They manage the invoices of the communications between the ship and the coast station or the satellite, which provides these communications. To obtain a public correspondence radio link, the ship must communicate to the network operator its accounting authority identification code (AAIC), which is written on the ship licence. The recourse to accounting authorities helps both the ship owners (by grouping the claims from different operators on the same invoice) and the operators (as a guarantee against unpaid invoices).

The organisations wishing to be maritime accounting authorities must be registered to and obtain an AAIC code from the administration of the country where they are established. They must also be recognised by the national administrations, which deliver the maritime licences of the ships of which they are the accounting authority. The lists of registered or recognised accounting authorities are declared by each concerned national administration to the International Telecommunication Union which publish this information.

On 7 August 2009, ANFR has been tasked by the Minister of the Economy, Industry and Employment to manage accounting authorities from 1 September 2009, i.e. to register them when they are located in France and to recognise them when they become the accounting authority of a ship licensed in France. ANFR started this mission with the update of the list and information of the maritime accounting authorities registered or recognised by France before the 1 September 2009.

PROTECTION OF BROADCASTING FROM FUTURE MOBILE NETWORK BASE STATIONS OPERATING IN THE DIGITAL DIVIDEND BAND.

CEPT studies concluded that interference cases have to be solved at national level

CEPT studies demonstrating the feasibility of the Digital Dividend, in particular the compatibility between mobile networks in the band 790-862 MHz and broadcasting in adjacent band, have been conducted over a period of almost two years, from 2007 to 2009. Several CEPT reports summarise these studies (CEPT Report 22, 23 and 30) and refer to the particular case of interference from base stations into broadcasting receivers.

Technically, the risk of interference is particularly relevant for fixed television reception, since yagi antenna on top of the roofs may be close and pointing directly towards base stations. Most complete theoretical studies (CEPT Report 30) established a risk of interference of about 4% for television receiving sites in areas where channel 60, adjacent to the first channel of mobile networks with 1 MHz guard band, is operated. Other scenarios have been assessed (channel 59 interference, overloading of receivers nearby base stations) but are resulting in a lower risk.

Given that the mechanism of interference is mainly related to the selectivity of TV receivers and that it is a local interference around future base stations, CEPT concluded that the only relevant regulatory provision at the European level was to limit unwanted emissions from base stations and that administrations had to take additional provisions at the national level to solve possible interference cases.

Technical studies from ANFR

In order to complete studies from CEPT, ANFR conducted new works to assess the probability of interference in terms of

population and households rather than in terms of location and to understand better the way interference could materialise, by simulating interference in areas where channel 60 will effectively be used, for instance in the departments of Mayenne (Laval transmitter) and Vosges (Epinal and Vittel transmitters), as well as Gironde where channel 60 is part of the GE-06 Plan.

Results are converging towards a range of probability of population interference from 0.6% (complete field studies) to 2% (studies completing those from CEPT). This probability is calculated where the TV signal is received correctly. Given the statistical variability of many parameters, it is extremely difficult to know in advance where interference will take place. Preventive measures such as the use of vertical polarisation for base station antennas might reduce the risk but would not remove it.

After consulting the French stakeholders, notably ARCEP and CSA, ANFR has published on its website in December 2009 a Report detailing all the studies.

A regulatory challenge

In parallel, ANFR has started discussions with ARCEP, CSA, DGCIS and DDM in order to examine regulatory solutions suitable for this risk of interference which, although limited, could involve tens of thousand of television receiving installations, much beyond the number of interference cases that ANFR is currently dealing with in the framework of its activity in television receiving protection.

Therefore, it has to be ensured that mobile operators will take all measures necessary before deploying their networks, in particular in areas where channel 60 is used and that they will deal with possible interference caused by their base stations. Discussions are ongoing on the way to define relevant regulatory obligations for operators.





MONITORING AND MEASUREMENTS

In brief

- 131 site inspections;
- 2,336 stations using 3,723 frequencies inspected;
- 1,574 inspected PMR networks setting out 2,591 fixed stations;
- 564 cases of interference investigated;
- 6,005 ship radio installations controlled;
- 8,090 candidates invited to take the SRC examination (Short Range Certificate), 1,012 scheduled sessions.

ANFR is responsible, on behalf of ministerial departments and regulatory authorities in charge of frequency assignment, and throughout the territory, including overseas departments and communities, for monitoring radio transmissions, administrative and technical processing of interference at national and international levels and, since 1 October 2006, jointly with CSA, for the protection of television reception. To guarantee optimum use of frequency bands with minimum interference, it is essential on one hand, to identify transmissions causing harmful interference, on the other hand to ensure that the use of frequencies in the field conforms to the technical specifications and applicable regulatory procedures. ANFR must also guarantee the conformity of frequency uses with the rights and obligations resulting from the application of the provisions of the ITU Radio Regulations.

The corresponding activities include:

- administrative and technical handling of reported interference and television viewers complaints when an on-site visit is considered as necessary;
- prevention of electromagnetic incompatibilities, both by controlling radio equipment and terminals placed on the market, and by regular inspections of transmission sites and areas with a high concentration of services and radio systems – for example, port and airport areas;
- coordination of frequencies and monitoring of their use during national or international events of a political, cultural or sporting nature (during these ‘major events’ a very large number of temporary radio networks, particularly broadcasting and safety networks, are added to those already present);
- attendance to international meetings relating to measurement methods and procedures, as well as to international monitoring of transmissions;
- coordination of monitoring of compliance of public exposure to electromagnetic fields with applicable limits, particularly in the vicinity of base stations transmitters;
- provision of specific services for the benefit of the ministerial departments and regulatory authorities in charge of frequency assignment, pursuant to agreements signed with them — ARCEP, CSA, the Ministry in charge of the Maritime Affairs and the Ministry of the Interior.

1. THE RESOURCES

In order to successfully complete all its inspection duties, ANFR has at its disposal a staff of over 140 people, most of them highly qualified engineers, and structured around six regional services, distributed to ensure a uniform coverage of the metropolitan territory, and the Centre de contrôle international (CCI, International Monitoring Centre) located in Rambouillet. The latter is particularly dedicated to the international monitoring of transmissions in the LF, MF and HF bands, and as such is operational 24/7. Finally, an office established on Réunion is dedicated to the inspection and measurement activities on that island as well as on Mayotte, and an office, established on Guadeloupe since December 2007, carries out monitoring and measurement activities in the French Caribbean islands and Guyana.

In terms of technical resources, ANFR operates, in metropolitan France, a monitoring system structured around seven remote control and computerised processing centres, linked to 56 fixed stations,

one of which also providing coverage for the HF bands and to 19 transportable stations, as well as a fleet of 27 vehicles equipped with measurement laboratories allowing frequency measurements up to 3 GHz, one located in Réunion and another one allowing measurements up to 40 GHz.

This system allows monitoring of the frequency bands on which most of the transmissions take place (between 30 MHz and 3 GHz), particularly those associated with radio broadcasting and mobile services (mobile telephony, for example) and up to 40 GHz if necessary. The equipment is regularly updated to keep an optimum level of monitoring.

All these technical resources rely on a software application dedicated to spectrum monitoring, *Fichier de Contrôle du Spectre* (FCS, or Spectrum Monitoring File).

ANFR is able to control and monitor all bands open to the terrestrial services between 9 kHz and 40 GHz and to satellite earth stations. As party to an international agreement under the aegis of the European Communication Office (ECO), ANFR has also access to the Leeheim (Germany) station facilities for monitoring space stations.

2. MONITORING POLICY

Inspection of radio sites

In 2009, 131 radio sites were inspected by ANFR. These included 2,336 stations using 3,723 frequencies.

Inspection reports identify non-compliances observed in respect of the data provided in assignment reference database (FNF), in transmitting stations database (STATIONS). Non-compliances are also noted in respect of spectrum rights of use (SRU) given by ARCEP. The responsible regulatory authorities and the operators are charging up of regularisation of all non-compliances by requests or updating seizures in concerned databases.

The non-compliances recorded during these inspections of radio sites and of independent radio networks were mainly due to:

- absence of COMSIS agreement (58);
- non-compliance with operating conditions given by ARCEP (51);
- unauthorised use of frequencies (19).

Measurements for verification of compliance with the limits of public exposure to electromagnetic fields

In 2009, ANFR recorded 3,927 measurements, performed by bodies accredited by COFRAC, aimed at verifying compliance within the limits of public exposure to electromagnetic fields. In total, ANFR database contains over 19,135 reports, carried out since 2001. These reports are available on www.cartoradio.fr.

Due to the disappearance reported in 2007 of organisations having facilities for qualification of CPICH decoders necessary for realisation by accredited laboratories of in situ measurements of the field transmitted by 3G mobile telephony stations, ANFR kept taking over the activity in 2009. ANFR qualified twenty-three CPICH decoders for Bureau Veritas, Aexpertise, LCPP (Laboratoire Central de la Préfecture de Police), Emitech and ANFR itself.

ANFR also get COFRAC accreditation in September 2009 for in situ electromagnetic field measurements for its teams of Rambouillet CCI and Lyon regional service.

International monitoring of transmissions

The International monitoring centre (CCI) in Rambouillet monitored 94,783 HF frequencies, among which 14,491 were not being used in compliance with applicable regulations. Six infringements were recorded and identified for which foreign administrations received a notification, and over 6,932 non-compliant transmissions were notified to the ITU.

Further to agreements signed in 2008 for the pooling of HF direction finding facilities within CEPT framework, ANFR brought into operational service the interconnection of HF CEPT direction finders. Rambouillet CCI pooled direction-finding facilities with Switzerland and Spain. Moreover, the activity of the Internet forum between international monitoring centres of CEPT Member States decreased slightly after an increase which reached its maximum in 2008 (106 mutual aids in 2009, against 126 in 2008, 71 in 2007, 50 in 2006, 34 in 2005 and 22 in 2004).

On the other hand, concerning the HF frequency band, the number of complaints slightly increased (34 complaints in 2009 including 12 international, against 31 complaints in 2007, including 7 international).

Concerning the future of HF direction finding facilities available in the CCI, ANFR decided to join the project of a new HF direction finding system (Clovis project) developed by the Ministry of Defence, which will replace the current system for 2014/2015. This new system, which will use a significant monitoring stations network with coverage beyond European borders, will provide ANFR with greater capabilities for monitoring HF bands. Its availability will be permanent and immediate with response time adapted to operators' requirements in the monitoring centre.

International activities relative to the spectrum monitoring

In 2009, ANFR continued to contribute to the work of ITU-R Study Group 1 and to actively participate to the work of updating the spectrum-monitoring handbook. This action concerns the complete review of this ITU publication.

Within the framework of a contract with Météo France, measurements were carried out on four radars in order to qualify their unwanted emissions in 2007. These works come within the framework of checking on the compliance of the radars of Météo France with the aim of the respect for the regulation concerning the limitation of the unwanted emissions of this type of facility in 2012.

In 2009, ANFR carried volunteer to chair work of reviewing the circular letter 159 of ITU-R which defines the methods of HF frequency band monitoring by international monitoring centres on behalf of ITU.

Frequency coordination and inspections for major events

In 2009, ANFR organised the assignment, coordination and protection of frequencies for eight major events.

Event	Date	Participation by ANFR
FIS Alpine World Ski Championships Val d'Isère	2-15 February	31 January 15 February
NATO summit	3-5 April	1-5 April
The French Open	24 May- 7 June	22 May- 7 June
D-Day 65th anniversary	5 & 6 June	3-6 June
24 Hours of Le Mans	13 & 14 June	11-14 June
48th International Paris Air Show 2007	15-21 June	12 & 15-21 June
Tour de France (96th edition)	4-26 July	2-26 July
14th of July military parade, Paris	14 July	12-14 July

Processing of interference cases

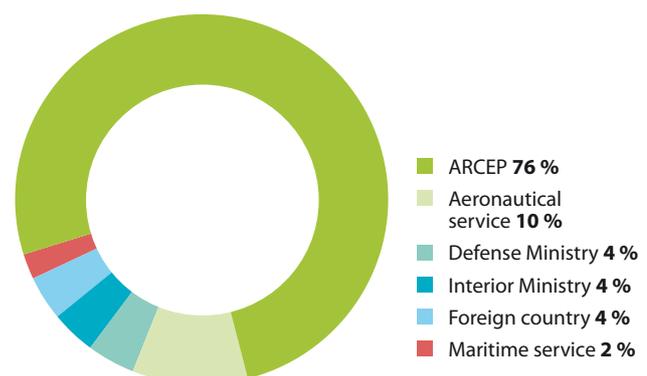
In 2009 the number of interference cases reported to ANFR (797) increased in comparison with last two years.

The breakdown of these cases by main ministerial departments and regulatory authorities is represented in Figure 1.

The specific campaign on the use of illegal long-range cordless telephones SENA0 operating in 225-399.975 MHz which began at the end of 2008, was carried on more intensively in 2009 on the whole territory, and 279 cases of use of these type of equipments. Action of ANFR on this file allowed to recall five types of these products from the market in May 2009.

Year	Number of requests reported to ANFR (including SENA0)	Number of requests reported to ANFR (apart from SENA0)
2009	797	518
2008	616	442
2007	447	447

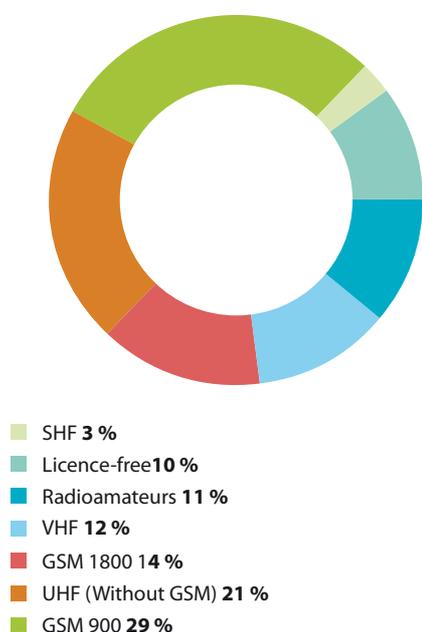
Figure 1 : Interference cases between ministerial departments and regulatory authorities in 2009



Three-quarters of these cases are in ARCEP bands. The breakdown is represented in figure 2: cases on GSM 900 and 1800 of three operators represent more than 40%. Increasing of GSM 900 cases is important in comparison with 2008 (29% in 2009 in comparison with 13% in 2008). Usage of unauthorised equipment on this band is the main cause of these interference cases. On the other hand, interference cases reported in the SHF band seem to increase.

The interference cases reported on licence-free and radio amateurs bands are steady in comparison with 2008. Cases from professional radio networks (independent networks in UHF and VHF bands) are slightly increasing.

Figure 2 : Interference cases reported to ARCEP in 2009 in ARCEP bands



The number of investigated interference cases (564) is also increasing in comparison with the last two years.

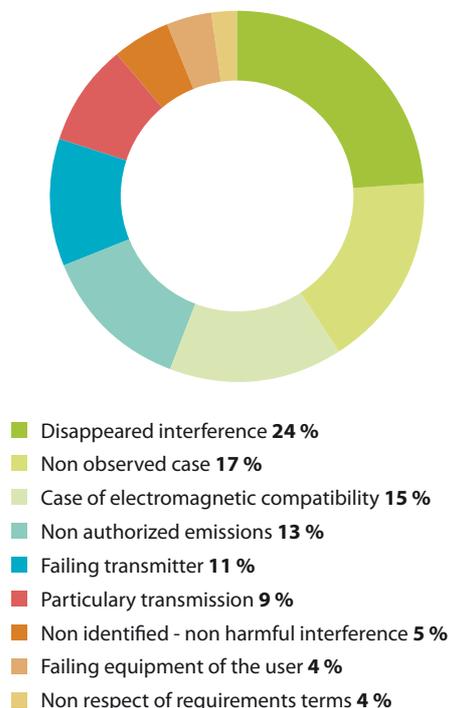
Figure 3 shows the different sources of disturbance. More than 40% of investigated cases did not succeed (unobserved or disappeared disturbance during the technical service intervention). Concerning identified sources, results show, as last week, that an important part of interference is caused by other than radio equipment (particularly data processing units, cable networks, etc.). Handling such cases is difficult due to the absence of legal grounds allowing cessation of this type of disturbing emission.

Concerning the processing of GSM files, we note an increasing of interference source as:

- GSM scrambler (prayer sites, secondary schools);
- unidentified (by operators) GSM repeaters.

A tax of €450 was levied in 293 instances of interference in 2009. Most of these notifications relate to unauthorised emissions (use of long-range cordless telephone SENAQ, of GSM scramblers and repeaters). Of these notifications, 43% were subject to an appeal to the spectrum technical monitoring director, but only 1% were cancelled.

Figure 3 : Disturbance identified in 2009



Development of FCS software application

The first part of the FCS software, brought in service in April 2007, allowed in a simple way, thanks to a web navigator, to access the information contained in the STATIONS, FNF and COORDINATION databases and in the specific databases maintained by ANFR on behalf of ARCEP for private networks and radio links).

Three other parts of the software, brought in service at the beginning of 2008, allowed automatic operation of the monitoring system and following through the treatment of interference cases and TV viewers' claims.

During the 4th quarter 2008, the software application was opened to all ministerial departments and regulatory authorities, which facilitates the exchange of information on the status of treatment of interference cases and TV viewers' claims.

In 2008, the last developments of the FCS software were delivered to ANFR. They were brought in service during the first quarter 2009 in order to facilitate the management of compliance monitoring actions and the implementation of particular researches on all data contained in this centre for analyses and specific treatments.

An autonomous, 'nomadic' version of the FCS software for portable computers was also brought in service at the end of the year 2009. It allows monitoring teams to have access to all the relevant data on the spot.

3. MARKET SURVEILLANCE OF RADIO AND TERMINAL TELECOMMUNICATION EQUIPMENT

In order to prevent the risk of interference and to protect consumers, it is necessary to maintain continuous surveillance of radio equipment placed on the market. This monitoring includes five permanent tasks:

1. Updating a database of notifications of non-harmonised equipment whose use is not harmonised throughout the European Union (Class 2); this information is supplied by manufacturers or importers through an electronic form available on the European One Stop Notification (OSN) portal or on our website, www.anfr.fr;
2. Control over the selling points (shops, retailers, distributors) of the administrative conformity of equipment (CE marking, Declaration of Conformity information in the User's manual, packaging, etc.);
3. Review and verification of the technical documentation of certain devices;
4. Seizures on the selling places of samples to assess the compliance with applicable essential technical requirements (standards);
5. Following findings of non-compliance (technical and administrative) notified by warning letter sent to distributors and responsible for placing on the market. And for the most serious cases launching prosecution procedures based on the minutes prepared by our sworn and authorised officers.

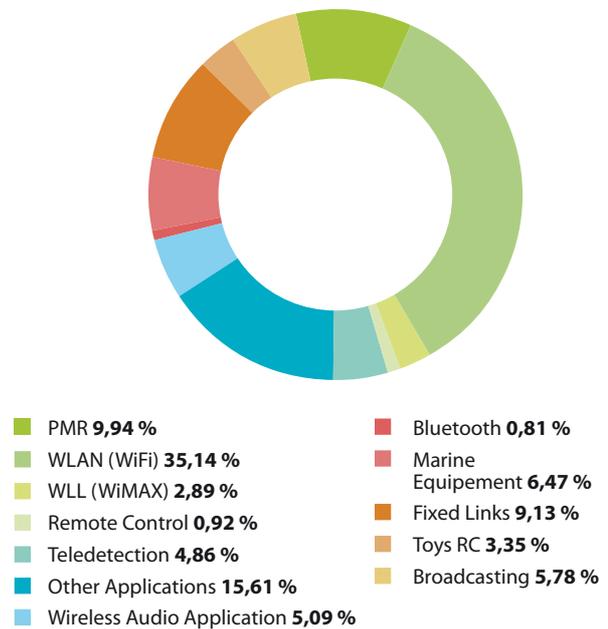
In 2009, the agency has significantly increased its level of market surveillance of radio equipment and terminal telecommunication equipment, with the completion of 155 samples picked up from the market (only 68 in 2008) and 699 administrative controls (325 in 2008).

Notification received in 2009 analysis

In 2009, the agency received 867 notifications, against 1651 in 2008.

This very significant reduction is partly explained by the near alignment of Bluetooth and WiFi that still remain in class 2, when their power exceeds 10mW in the whole 2.4GHz band, but without notification required. Another reason is the slowdown in industrial facilities during 2009. Indeed, there is a decrease of statements PMR equipment subject to licensing and a decrease in fixed link (microwave) mainly used for the deployment of cellular networks. Similarly these last ones suffer a significant decline: from 18 notifications of GSM base stations in 2008 there are only 4 declared products in 2009 and from 15 notifications of UMTS base stations (NodeB) in 2008 it rises to only 6 declarations in 2009.

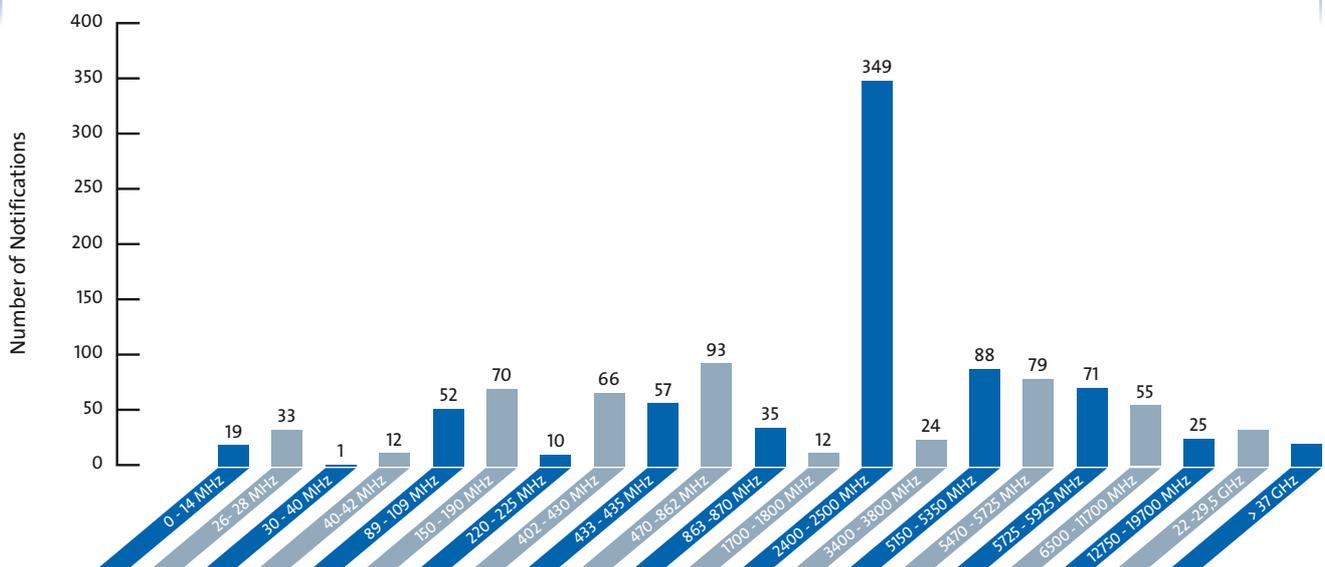
Figure 4 : Simplified distribution by application type



Among all notifications received, the most significant points are:

- significant decline of WLAN notifications: 304 in 2009 against 715 in 2008.
- significant drop statements of PMR: 86 in 2009 compared to 198 in 2008.
- significant drop statements of Fixed Links: 79 in 2009 compared to 157 in 2008.
- only one significant increase in video transmission equipment (26 in 2009 compared to 5 in 2008) and DVB-T broadcast transmitter (50 compared to 23 in 2008, which illustrates the rise of the network equipment side of DVB-T).

Figure 5 : Breakdown of R&TTE notifications by frequency bands



The above breakdown of notifications by frequency bands shows that the 2.4 GHz band is still the most popular despite a significant decrease of notifications in this band (from 814 in 2008 to 349 in 2009).

Review of seizures and administrative controls in 2009

In 2009, the agency collected 94 mobile devices from a total of 155 radio equipment, including 17 non compliant devices (mostly radio controlled toys) to at least one of the essential requirements.

These have mostly been subject to an offence or a warning letter to both the distributor and its supplier responsible for placing on the market, with a copy where appropriate, to the French Direction of Prevention of Fraud (DGCCRF).

These samples seizures were systematically followed by an investigation of the technical documentation (TCF) mainly including the test reports. In 2009, the agency processed 158 documentations, compared to 84 in 2008. Some TCF requests are made proactively following administrative controls not necessarily followed by sampling (sample seizure).

In 2009, the agency has strengthened its activities in the field of control of Specific Absorption Rates (SAR) of mobile phones, 3G USB Dongles and other cellular mobile devices to better ensure compliance with limits for public exposure to electromagnetic fields (EMF) generated by mobile terminals (2W/Kg for head / body and 4W/Kg for members). In this way 94 mobile terminals have been tested, including 85 mobile phones, over a total of 155 samples checked.

Other major developments in 2009

- systematic monitoring of special new devices carried by users on their person: four mobile phone watches, four 3G laptops and 3G USB modems tested;
- publication of a decree signed by the Minister of Economy, Industry and Employment which mandates the withdrawal of long-range SENAQ phones based on our agency monitoring actions;
- 699 units inspected for conformity with administrative requirements, of which 328 were found to be non-conformities (around two cases of non-conformities on average);



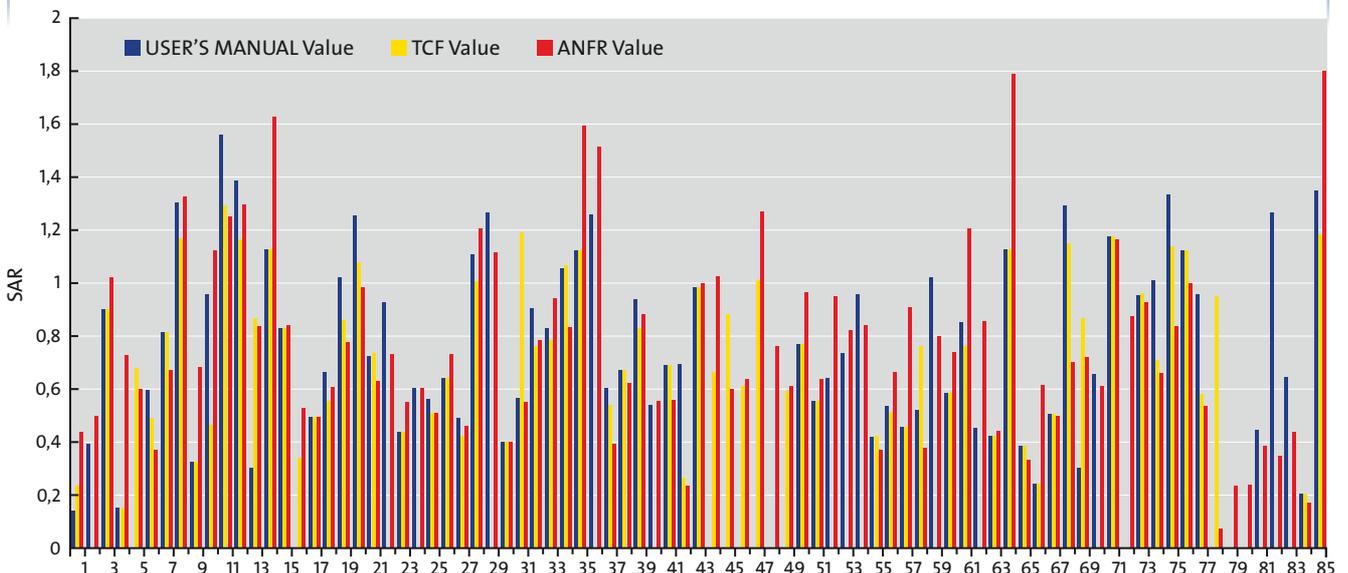
- all controls conducted at 177 different places (shops) located throughout France.

The results of administrative control campaigns and SAR measurements (Picture 6) revealed no excess in terms of terminals used near the head. These controls show that the vast majority of terminals have lower than 1W/Kg for their SAR values (two times less than the limit).

However the agency has found few significant drifts (difference between the SAR value indicated by the manufacturer in the User's manual and the one measured by ANFR) probably due to manufacture dispersions. An official request to change the SAR in the user manual was required by the agency for manufacturers and/or operators concerned.

For terminals brought near the body (other than those used near the head) the agency has requested from three manufacturers to specify the missing conformity distance to comply with the body limit in the precautions of use chapter within the User's Manual.

Figure 6 : Head SAR, 2009 Measurements





REGULATORY MANAGEMENT PROCEDURES

Raw numbers

- *2009 international recordings: 24,299 notifications sent to ITU (all departments);*
- *Nationally: 37,850 transactions processed for ground services through the FNF portal; 25,802 new assignments; 1,766 assignment modifications; 10,282 assignment suppressions;*
- *3,133 were processed for spatial services;*
- *691 new assignments;*
- *2442 withdrawals.*
- *15,886 French assignments generating 24,905 border coordination files, including 205 digital terrestrial television broadcasting assignments generating 933 files;*
- *Some 100 days of coordination meeting with France's neighbouring countries;*
- *6 coordination agreements signed;*
- *533 weekly movements for station registration on average (new, modification or withdrawal);*
- *125 radio station easement files processed.*

Regulatory and management procedures encompass two activities: management of radio sites and associated easements, and recording of assignments in the National Frequencies Register (Fichier National des Fréquences or FNF) preceding the notifications to the ITU when needed or requested.

In close cooperation with frequency stakeholders (ministerial departments, regulatory authorities and radio communication operators), the agency invest to improve its data processing tools in order to provide a better service in spectrum management and a complete and up-to-date information to its customers..

1. RADIO SITES AND ASSOCIATED EASEMENTS

Recordings

Applications for recording new or modified radio stations are processed in conformity with the procedure described in the ANFR DR-05 reference document designed to optimise the shared usage of radio communications sites (known as COMSIS).

The 2009 flow of agreements requests for establishing new or modifying existing radio communication stations was about the same than for 2008, which showed a 20% increase compared to 2007 (see figure 1).

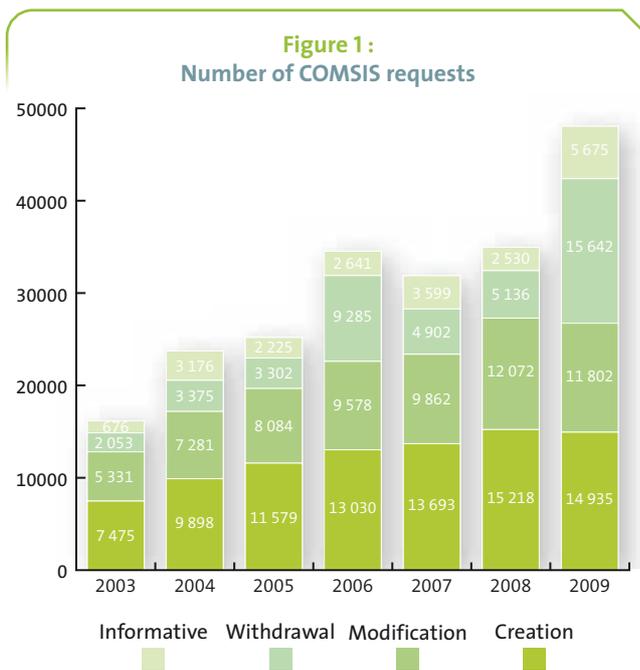


Figure 2:
Breakdown by stakeholder in 2009

	Modification	Creation	Withdrawal	Informative	Trend 2008/2009
AC	5	1	0		→
ARCEP	10 357	9 135	10 895	5 675	↓
CSA	375	3 444	2 450		↑
DEF	479	823	913		↑
ESP	3	4	0		↑
HCR	1	10	0		→
INT	523	1 188	1 218		↑
MTO	2	2	1		→
PNM	52	61	158		→
RST	0	1	0		→
TTOM	5	266	1		↑

The stability of numbers must not hide the increase in activity of the CSA and of administrations such as the Ministries of Defence and the Interior. One can also note an increased activity in overseas communities.

According to the decree of 30 January 2009, amateur radio operators must notify the agency of their fixed installations when the P.A.R exceeds 5 watts. A website was placed online to facilitate this notification.

After verification, the corresponding data are after registered in the COMSIS database.

Protection against propagation obstacles and radiated interference is ensured by the establishment of public easements. According to the French law, this protection can only benefit to governmental services. Easement recording was very sustained in 2009 with a record of 125 files.

Improvement actions

The effort to improve the reliability of the data recorded in ANFR bases was pursued in cooperation with the operators, ministerial departments and regulatory authorities represented within the Sites and Easements Committee (COMSIS) of ANFR. Six meetings of this Committee were held in 2009.

The significant increase of station withdrawal is mainly the result of implementation of a systematic verification of 'in service' date, which avoids keeping ghost stations in the base. In parallel, the FM 2006 plan along with new management rules for independent networks implied some closures

The so-called 'pooling' effort continued and more than half of the base is now processed. This effort aims at ensure consistency of information concerning stations sharing a common site. Verifications are made on formal checking (for instance, systematic search for missing bringing into use declarations), use of the results of on-site monitoring and measurements, and verification of the data provided by the requesting entities. Many benefits may be derived from this operation: provide a single and common physical description of what is deployed, allow new requests on common, harmonised infrastructures, improve geographic display accuracy, and make final data more reliable.

Data reliability is also ensured through on site measurements and verifications pursued by agency agent (see previous chapter).

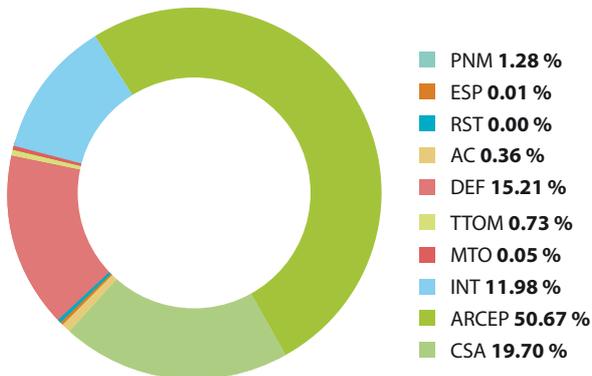
Last, two working groups were established, first on increasing coherency between the assignment process and radio station declaration process, second on updating the radio electric easement establishment process. Actually, this process is still based on outdated regulations, no longer aligned with the actual administrative structures.

2. ASSIGNMENTS

On 31 December 2009, 243,715 assignments had been recorded in the national master frequency register (FNF), compared to 228,195 in 2008, representing an increase of almost 7%.

Figure 1 shows the breakdown of assignments amongst stakeholders in the national master frequency register at this date.

Figure 3 : Breakdown of assignments in the French master frequency register (FNF)



During the year 2009, the agency registered 25,802 new assignments, 1,766 assignment modifications and 10,282 assignment withdrawals.

Figure 4 : Number of assignments processed in FNF

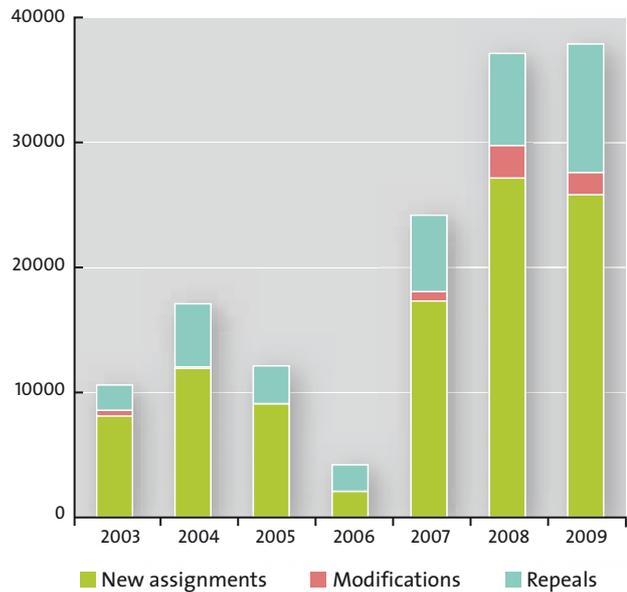


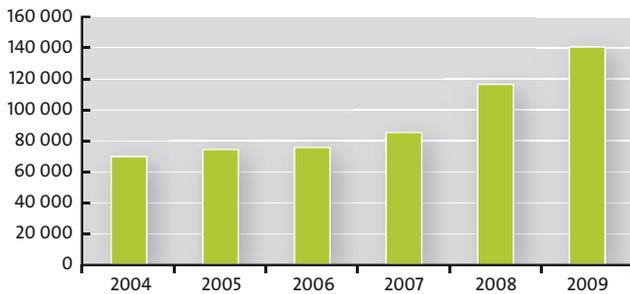
Figure 4 shows the evolution of the number of assignments in the French National Frequency registry.

Recording in the national registry (FNF) is pre-requisite to record an assignment in the Master International Frequency Register (MIFR), which provides international recognition of that particular use of a frequency, and enables the user of that assignment to benefit from all guarantees granted to France as a Member of the International Telecommunications Union (ITU).

Such recording may also be used as a basis to defend existing uses when World Radiocommunication Conferences discuss changes to the international frequency allocation table and associated procedures.



Figure 5 :
MIFR French assignment evolution since 2004



In 2009, the agency notified 23,854 assignments to MIFR (news, modifications or withdrawals) for terrestrial services and 445 for spatial services (earth stations). On 31 December 2009, France had 140,120 assignments for terrestrial services and 255 assignments for earth stations recorded in the MIFR placing it in fifth position among contributing nations.

The main 2009 stream was provided by fixed links assignment in support of Mobile phone companies, wireless local loop operators, regional safety services, independent networks and airports.

Mobile networks assignments were mainly coming from the ACROPOL network (Ministry of Interior), port facilities, and independent networks.

This flow was manageable thanks to the dedicated software developed under the agency requirements and used by the stakeholders. This software offers a completely electronic exchange procedure for the recording of frequency assignments. It provides an easy and effective means for stakeholders to consult the national frequency register, as well as the list of recording requests to be considered at the upcoming meetings of the Frequency Assignment Committee (CAF).

An extended version, including registration of radio diffusion services (including TNT), was deployed by October. Debugging of this new function required a close cooperation between the agency and the CSA regulatory authority.

The software also allows for registration of assignments for mobile networks operating within 790-862 MHz.

Development was started for the extension to the spatial services, and user requirements were defined in cooperation with potential users. Deployment is slated for the end of 2010.

The software also provides an automatic link with the software used for international coordination.

The Frequency Assignment commission (CAF) provided support to facilitate coordination of the 8 GHz band and to provide guidelines to achieve an agreement between various FH users and Météo France earth station in Lannion.

3. COORDINATION

The cross-border coordination activity relates mainly to the fixed, mobile and broadcasting services. The procedures applicable to these services are as follows:

- for the broadcasting service, the regional agreements concluded within ITU or CEPT (Geneva 2006, Stockholm 61, Geneva 84, Maastricht 2002), together with a number of bilateral or multilateral agreements;

- for the mobile and fixed services, a series of bilateral or multilateral agreements, the most important being the 'framework' agreement for the fixed and mobile services (HCM), as well as the procedure of Article 9 of the Radio Regulations for coordination between terrestrial services and space services.

All these agreements result from numerous bilateral or multilateral meetings, and may be found on www.anfr.fr under 'Bases de données / coordinations'.

For mobile services (GSM/UMTS), several bilateral meetings took place between France, Spain, Monaco and the United Kingdom regarding insertion of UMTS in GSM frequency bands, and normalising UMTS levels in the 2GHz upon the CEPT recommendation.

Overall, the coordination workload was about the same as that of 2008, with 23,539 assignments coordinated through 38,665 coordination procedures.

For private Professional Mobile Radio communications (PMR), there was a significant increase in the number of French stations requesting coordination with neighbouring countries (4,438 in 2009 compared to 1,163 in 2008). This is due to the fact that new PMR networks are now registering assignments in the French registry, specifically in the VHF band, and also to the ACROPOL network deployment.

For fixed services, there was a decrease of about 20% in French requests. Regarding incoming ones, Switzerland and Italy had not yet officially begun implementation of the HCM agreement, whereas Germany continued the process.

For radio broadcast, coordination work continued along the FM 2006 plan devised by CSA. For the Geneva 84 plan, France had 257 assignments in Part A and 281 in Part B registered by UIT.

For TV Broadcast, the activity consists in analysing plan modification or addition requests published by IUT or ERO (European Radicom Office), and in processing bilateral coordination request both on the technical and administrative aspects.

Many bilateral coordination meetings have been held since the 06 CRR to achieve:

- digital TV deployment in complement of the analogue network (before the analogue switch-off);
- the *Plan de passage*, to ensure service availability;
- the target plan (or *Plan cible*), taking into account the Digital Dividend.





CONTRACTUAL ACTIVITIES

Overview

- *1,200 claims received from viewers, 800 of which were processed and investigated, a quarter of which required on-site intervention;*
- *Renewal of about 13,000 usage authorisations (AUF, for Autorisation d'Utilisation de Fréquences) which had expired, involving frequency changes to comply with the national table of frequencies allocation;*
- *1,144 new frequencies authorisations for Independent Radio Networks;*
- *Calculation and billing of fees relating to 24, 857 independent networks in accordance with new regulatory provisions;*
- *Renewal of 70,616 ship station licences and finalisation of a new software application which will also be used by the Direction des Affaires Maritimes (DAM) and CROSS when under operation.*

Pursuant to the provisions of Article R 20-44 11 11° of the Post and Electronic Communications Code, ANFR, at the request of ministerial departments and regulatory authorities, may perform spectrum management and monitoring tasks within the framework of agreements signed with them. Furthermore, pursuant to Article 22 of Law No. 86-1067 of 30 September 1986 as amended by Article 43 of Law No. 2006-961 of 1 August 2006, within the framework of a contract with CSA deals with claims from television viewers throughout the French territory.

Contractual activities include:

- frequency management, including frequency assignment, frequency recording in national databases, stations management and editing of administrative documents relating to licences;
- technical monitoring of emissions, including spectrum measurements and compliance verification for independent networks and broadcasting stations;
- handling of claims from television reception, including preliminary investigations, and, when required, on site inspection;
- calculation and invoicing for spectrum usage fees and charges for PMR networks.

Counting 42 contracts in effect by year's end, the increase in these contractual activities already observed in 2008 continued in 2009.

All contracts already in effect last year were renewed, and new ones were signed with different private operators concerning the qualification of digital receivers, the issuance of approval for maintenance of radio beacons on land and to recover the cost of ITU notices for the new satellite network operator DUNIASAT.

Main features of the contractual activity of ANFR in 2009 may be summarised as follows:

1. CONTRACTS WITH CSA

Protection of television reception (PRTV)

In 2009, ANFR received about 1,200 claims, among which more than 800 were acceptable and investigated and 292 required on-site intervention.

Key observations may be analysed as follows:

- Defects of the receiving installation, which still represents a quarter of the cases, despite the fact that, in order to take the claim into account, a certificate of operation must be issued by an installer.
- Problems which ceased before the intervention of ANFR staff — these represent 17% of the cases and may result of transmitter breakdown/maintenance, transmitting defect (delay in ensuring early synchronisation of transmitters), transmitter failure and some cases of exceptional propagation conditions.
- Coverage defects, which represent 20% of the cases and include in particular situations where reception, which is located outside the analogue TV service area, is no longer provided for during the transition to digital, and transmitter failures.
- Interference between broadcasting transmissions, caused, in most cases, by French transmitters between themselves, which represent 15% of all cases. Most of these cases result from the lack of synchronisation of SFN networks.



- Other interference cases, which represent 22% of the cases, and equally share between interference and occultation resulting from obstacles (60%, including those due to wind turbines, and 40% due to new buildings).

In order to improve the quality of its service, ANFR developed a new software application to increase the fluidity and transparency of information exchanges, inside ANFR and with the CSA. This application, the procedure of claim and enquiry request, and the reception guide are regularly updated and adapted as necessary.

In order to prepare the deployment of all-digital broadcasting, in all regions of France, which began 18 November in the Nord-Cotentin region, the deployment of TV digital transmitters, planned by CSA, increased in 2009 in Metropolitan France.

This deployment, involving many secondary sites, combined with the need to keep analogue TV until 31 November 2011, contributed to increase the number of potential interference areas of analogue and digital transmitters between themselves, mainly due to synchronisation of SFN problems.

This situation required close attention and many technical studies jointly conducted by ANFR and CSA, in order to ensure good TV reception quality in these new service areas.

Technical expertise

In the framework of this contract, field measurements of DTT transmissions were led in Royan, Coulommiers, Lille, Valence, Saint-Peray, Sarreguemines and one interfering transmission without authorisation was identified in Corsica.

This measurement activity, within the framework of broadcasting, was completed by FM measurement campaigns, carried out in over 20 cities, including Paris and Pointe-à-Pitre.

2. CONTRACT WITH ARCEP

Under contract with ARCEP, ANFR carries out administrative and technical tasks relating to PMR. In this framework, it deals with frequencies assignments, and performs all procedures, pursuant to Article R20-44-11, Nos. 4 and 5, of the Code of Posts and Electronic Communications (respectively called CAF and COMSIS) and also prepares the individual or collective licences for spectrum use, concerning terrestrial, maritime and aeronautical mobile services, which are subject to validation by ARCEP. The contract was slightly modified at the end of 2009, ARCEP deciding to take back frequencies assignments on his own for the fixed service at 1.5 GHz.

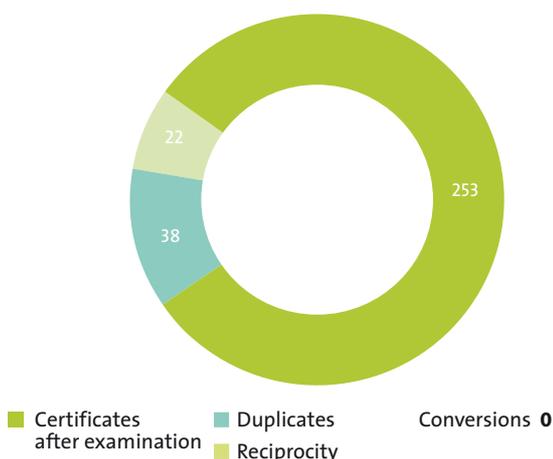
On 31 December, there were 26,648 PMR networks. The 1,444 new licences issued did not fully compensate the number of cancellations recorded during the same period (1,870), which confirms the decline of PMR. Also, different provisions, adopted either at European level, or as part of the National Table of Frequency Allocations (TNRBF) required a number of frequency changes at the time of the five-year renewals of licences.

In 2009, activity was characterised by the renewals of 13,000 licences expiring in June 2009. These mass operations were complicated by the need to move inside the VHF band about 3,000 assignments, in order to comply with new sharing between ARCEP and the Ministry of Defence, such as defined by the national table of frequency allocations.

If the figures relating to network creation (1,457) remain the same in 2009 compared with the figures of the previous year, the great number of cancellations (2,675) — despite resulting from new principles for calculating fees — enhances the PMR decline, which can be observed from the mobile phone boom. On 31 December 2009, there were 24,857 PMR networks.

Contract with DGCIS - the amateur radio service

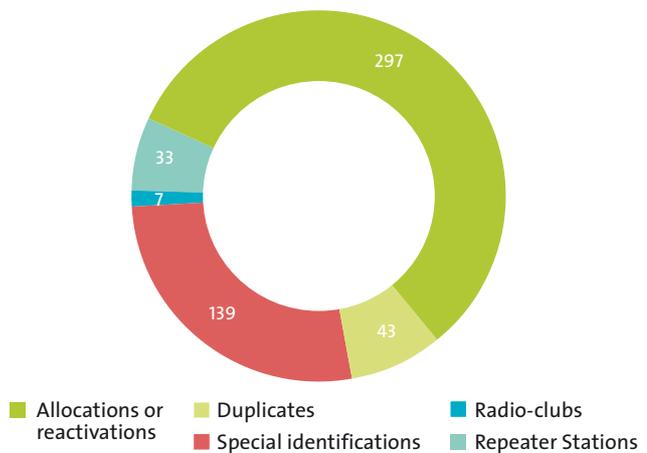
Figure 1: Breakdown of amateur radio operators certificates issued in 2009



Article R20-44-11, No. 14 of the Code of Post and Electronic Communications provides that ANFR organises, on behalf of the Minister in charge of Electronic Communications, examination sessions for amateur radio operator certificates and manage international call signs allocated to transmission.

The radio amateur population, which has slightly decreased in comparison to last year, totals 14,963 operators at the end of 2009 (15,298 in 2008). If the number of new call signs issued this year (528) significantly increases (519) the number of certificates issued remains the same (313 in 2009 instead of 353 in 2008).

Figure 2: Breakdown of activities relating to identifications issued in 2009



Since 12 May 2009, pursuant to the provisions of Article 9 of the regulatory statute of 30 January 2009, amateur operators have been asked to declare their stations having radiated power above 5 Watts.

Invoicing for spectrum use fees and other taxes

The delivery of a licence (spectrum right of use) by ARCEP is conditioned on the payment by the holder of spectrum management and usage fees. On behalf of the Ministry in charge of electronic communications, ANFR is invoicing these fees corresponding to the use of frequencies by independent radio networks using frequencies bands below 470 MHz allocated to ARCEP.

Fees are payable to the Trésorerie générale des créances spéciales du Trésor (TGCST) in Chatellerault. For the time periods before 1 January 2008, these fees were calculated in accordance with the provisions of the Decree of the 3 February 1993 (French Gazette J.O.R.F. of 5 February 1993). For the periods of time from 1 January 2008, the calculation had to be based on the provisions of Decrees No. 2007-1531 and 2007-1532 modified, dated 24 October 2007 and the associated Order adopted at the same date (French Gazette J.O.R.F. of 24 October 2007). This new regulatory structure was established in compliance with the EC Directive 2002/20/CE (Authorisation Directive, 24 April 2002), intends to promote a more efficient use of radio spectrum.

Under this new structure, the charges applicable to PMR networks invoiced by ANFR is now proportional to the number of assignments and the spectrum fee is proportional to the amount of spectrum used and increases with the area covered, irrespective of the number of mobile or portable stations used in the network. Application of this new structure may, in certain cases, lead to important changes in the amount of invoices, both upside and downside.



In addition, pursuant to the provisions of the Code of Property of the Public Person (Articles L.211-17, L.2124-26, L.2125-1 and L.2125-4), radio frequency fees are now subject to upfront payment. To ease the consequences of such a change for licence holders, invoicing for the years 2007, 2008 and 2009 was delayed wherever possible.

On 27 December 2009, other new modifications of these regulatory texts were published. They mainly deal with frequency fee coefficients, perimeter of networks exempt from this fee, the minimum billing of temporary networks, a reduction of 20% for 2009 and 10% for 2010 from the fee for certain types of networks.

In 2009, ANFR delivered about 29,000 payment orders, corresponding to about €19.25 million in fees and charges.

The following Table shows the evolution of this activity since 2005.

Figure 3: Invoices delivered by ANFR since 2005 concerning the private networks licences

Applicable period for spectrum use	Date of invoice	Number of invoices sent	Amount in euros
2005	April 2006	30,277	20,176,670
2006	April 2007 (1)	28,540	18,589,544
2007	November 2007 (1)	27,588	16,855,570
2008	October and December 2008 (2)	29,114	19,237,512
2009	June and December 2009 (2)	28,952	15,876,935

(1) 2 mass invoicing (Decree of 1993), the first one under the year 2006 and the second one under the year 2007

(2) Invoicing in accordance with new regulatory provisions adopted in 2007.

The following tables show ANFR activity for invoicing of the taxes applicable to the amateur service and to the amateur radio certificates.

Figure 4: Flat-rate charges and amateur

Year	Number of invoices sent	Amount in euros
2005	16,425	813,268
2006	16,128	797,419
2007	15,939	774,806
2008	15,737	774,402
2009	15,541	796,074

Figure 5: Examination fees concerning short-range radio certificate and duplicate (CRR)

Année	Number of invoices sent	Amount in euros
2005	17	5,304
2006	47	12,402
2007	42	12,246
2008	50	26,812
2009	50	24,882

3. CONTRACT WITH THE MINISTRY OF THE INTERIOR, OVERSEAS TERRITORIES AND COMMUNITIES (MIOCT)

Under a contract signed in 2006, which can be extended yearly till the end of ACROPOL network deployment, ANFR conducts, on behalf of the MIOCT, frequency management and spectrum monitoring tasks. In 2009, these management activities consisted in the recording, in the National Frequency File, of assignments, from mobile service (ACROPOL network): 5,990 assignments were registered, and calculations have been realised for stations located in border areas, in order to ensure compliance with the limit values defined by HCM Agreement, signed by France.

Recording of 6,320 assignments for the mobile service (ACROPOL network) in the national frequency register;

In cooperation between ANFR and the MIOCT, a computerised tool to record assignments of the fixed service (ACROPOL infrastructure network) was developed and a test file corresponding to the Département of Cantal properly recorded;

The 111 assignments for the fixed service, corresponding to the current activity were registered, the catching up of the past having already been done.

At the end of the year 2009, based on a global number of 18,000 assignments for all the stations of mobile service corresponding to ACROPOL network, about 14,000 assignments were registered, remaining assignments being localised in Paris and its surroundings, where frequencies shall be planned again and network engineering modified.

4. CONTRACT WITH THE DIRECTORATE OF MARITIME AFFAIRS (DAM)

Under this contract, ANFR carries out management of licences and ship identities (MMSI) organisation of short-range certificates (CRR) examinations, and inspection of ship stations.

Ship station licences and ship identities (call signs and MMSI)

Maritime activity was heavily impacted by an economic downturn in 2009. The number of new boat registrations — which accurately reflects the state of the market — significantly decreased by about 17%. However, this decrease was not reflected in licensing, and ANFR renewed 70,642 licences, corresponding to an increase of 4.9%. This growing percentage includes compliance with regulatory provisions for radio-equipped boats in overseas territories and communities, mainly in French Guyana and Caribbean areas. Boat registration and maritime identities, which steadily increased over 10 years, decreased in 2009 (- 6.2% new call signs and -4.7% new MMSI).

The year 2008 showed continued growth of the activity related to boating, as a result of technical improvements in radio equipment, which offer extended functionalities at lower cost, leading many boaters to acquire such equipment.

A light increase in maritime mobile licensing began during the second half of the year. At the end of the year, this activity breaks down as follows:

- boating now represents 82.5% of licences;
- radio-equipped boats represent 15.2%;
- the remaining 2.3% correspond to the inland waterways.

The update of licence contact details through reply coupons or the ANFR website continues to meet great success, with more than 6,000 updates having been submitted in 2009.

The new application project 'radiomaritime' merging current tools relating to licences and ship monitoring ('Firmar, MMSI et Base Maritime Portable') was developed by a service provider in 2009. This new application, available on consultation by DAM, should be under operation by mid-2010.

Figure 6: Evolution of number of licences between 2005 and 2009

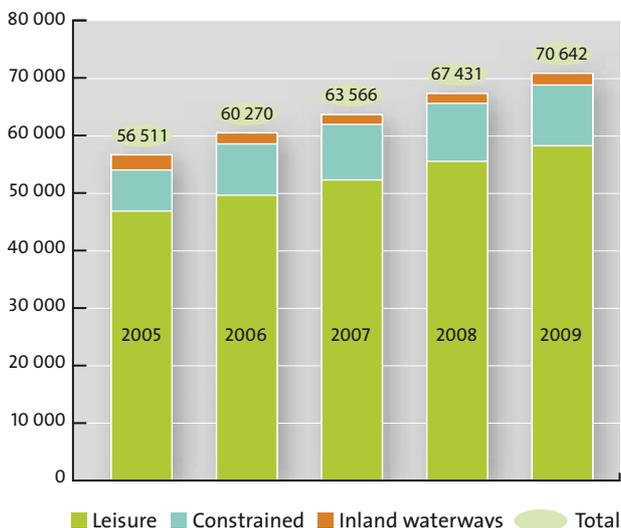
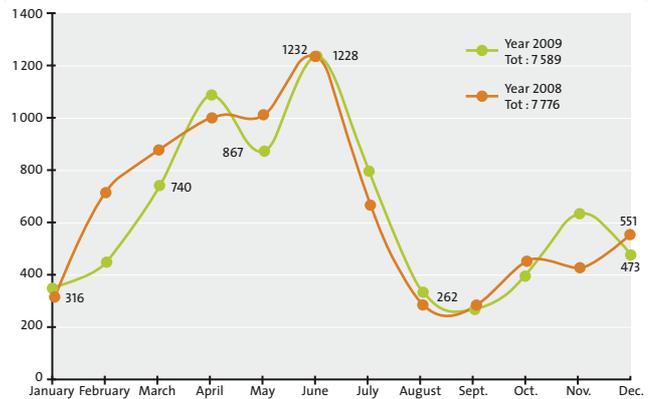


Figure 7: Successful applicants in the SRC exam



Short-range certificate (SRC)

In 2009, 1,013 examination sessions were held, with 7,589 applicants having acquired the SRC, which represents a percentage of success of 93.8%, a decrease of 2.4% compared with the previous year.

In 2009, 8,091 candidates took the SRC examination, whereas 8,227 took it the previous year — a decrease of 1.6%.

These figures show certain stability of the number of applicants registered compared with the previous year, despite the possible cancellation of this examination for some categories of users.

Organisation of examination sessions to take the inside waterways SRC — delayed due to difficulty obtaining authorisation from the proper State authorities — began in the areas overseen by the ANFR regional services of Villejuif, Lyon and Nancy. Only 237 candidates took examination in 2009, and the percentage of failure is comparable with which of maritime SRC, around 6%.

Furthermore, in connection with DAM, it is proposed to update the SRC during 2011, towards a multiple-choice questionnaire which could be compared with the maritime licence.

Ship inspections

In metropolitan France, ship inspections are handled by the four regional departments with a maritime authority. Concerning overseas territories, these inspections are carried out by the agents of the local offices in collaboration with the agents of these four departments. In 2009, 5,336 ship stations were inspected in metropolitan France, representing 76.32% of the fleet.

Furthermore, the percentage of radio-equipped boats in metropolitan France not yet inspected since the take-over by ANFR is about 2%, a figure close to the goal set by DAM. Overseas, 680 boats were inspected during the year, which represents 23% of the fleet.

Figure 8: Table relating to type of ship inspections (metropolitan France and overseas)

Type	2008	2009
Passenger ships	559	614
Cargo ships	1,185	1,461
Fishing boats	3,405	3,735
Other	84	424

Figure 9: Breakdown of inspections by regional departments

Regional departments	Fleet of vessels in 2009	Number of inspections in 2009	Number of inspections in 2008	Percentage of fleet inspected
Aix-Marseille	1,944	1,425	1,210	73.30 %
Donges	3,324	2,256	2,000	67.87 %
Toulouse	380	305	283	80.26 %
Villejuif	1,344	1,350	1,326	100.45 %
Overseas dep. (1)	2,953	680	689	23.03 %

(Because some ships can be inspected several times during the same year, some percentages can exceed 100.)

(1) These figures do not take into account ships in the TAAF and RIF.

Figure 10: Breakdown of inspections by ship safety centre (metropolitan France)

Ship safety centre	Fleet of vessels in 2009	Number of inspections in 2009	Percentage of fleet inspected
Dunkerque	50	53	106.00 %
Boulogne	210	223	106.19 %
Rouen	161	170	105.59 %
Le Havre	142	153	107.75 %
Caen	781	751	96.16 %
Saint-Malo	618	412	66.67 %
Brest	436	259	59.40 %
Concarneau	594	378	63.64 %
Lorient	663	450	67.87 %
Saint-Nazaire	644	512	79.50 %
La Rochelle	459	245	53.38 %
Bordeaux	380	305	80.26 %
Sète	502	467	93.03 %
Marseille	1442	958	66.44 %

(Because some ships can be inspected several times during the same year, some percentages can exceed 100.)

Figure 11: Breakdown of inspections by ship safety centre and types of ship (metropolitan France)

Safety centres	Fleet of passenger ships	Inspections completed*	Fleet of cargo and fishing (1st & 2nd)	Inspections completed*
Dunkerque	1	1	0	0
Boulogne	7	8	48	48
Rouen	12	12	22	24
Le Havre	1	1	7	7
Caen	24	25	59	63
Saint-Malo	18	18	34	33
Brest	26	25	27	30
Concarneau	20	21	173	156
Lorient	54	60	46	48
Saint-Nazaire	25	27	75	73
La Rochelle	32	34	41	40
Bordeaux	61	58	72	67
Sète	41	43	52	59
Marseille	209	196	10	11

* Note: a ship can be inspected several times when found non-compliant.

5. OTHER CONTRACTS

In 2009, ANFR had already carried out tasks pursuant to two other contracts signed with civil aviation and with Météo France.

The purpose of the contract with civil aviation was to identify airlines using VHF frequencies from the aeronautical mobile service, in Roissy-Charles-de-Gaulle airport, for commercial aims.

Contract with meteorological service (Météo France) was about measurements of out-of-band emissions concerning four radars using bands S and C.

6. OVERSEAS

ANFR is represented in overseas territories (Réunion and Guyana-Caribbean) and in French Polynesia and New Caledonia.





FRENCH POLYNESIA OFFICE

ANFR, whose competencies in the overseas territories are also based on Articles L43, R20-44-25 and R20-44.26 of the Code of Post and Electronic Communications, is represented in French Polynesia by its office in Papeete.

Under a contract signed in 2004, the High Commissioner of the Republic (HCR) entrusted ANFR with a number of tasks under his competency pursuant to the Organic Law No. 2004-192 of 27 February 2004 on the autonomy of French Polynesia.

ACTIVITIES CARRIED OUT UNDER CONTRACT WITH THE HCR

ANFR French Polynesia office issues import licences (AAI) relating to radio equipment not connected to a public network. In 2009, the office dealt with 1,004 applications corresponding to 50,345 import equipment (compared with 54 561, corresponding to 899 applications in 2008) with a majority of radio-controlled toys.

In order to improve ANFR quality of service, in general and in this matter in particular, a team of experts was sent to New Caledonia in June 2009.

This mission enabled the documentation and harmonisation of work procedures used in the two ANFR offices located in the Pacific Ocean area.

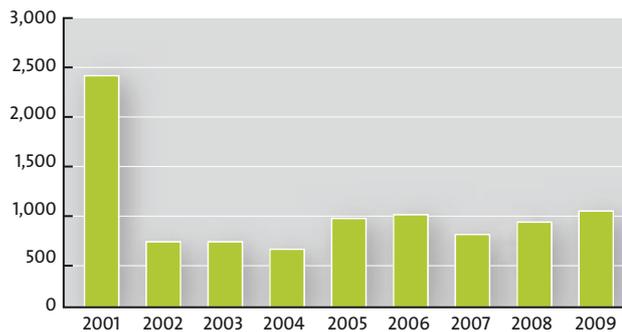
A total of 85 radio amateurs residing in French Polynesia were listed in 2009, and their licences renewed. Nine temporary licences were granted to foreign radio amateurs. Two important events took place in 2009 — the first in the Austral Islands for the 220th anniversary of the original Bounty's first arrival in Tahiti and the second during the World Scout Jamboree in the Leeward Islands. Five licences were granted for CB.

The number of applicants who successfully completed the SRC examination (994 compared to 649 in 2008) significantly increased.

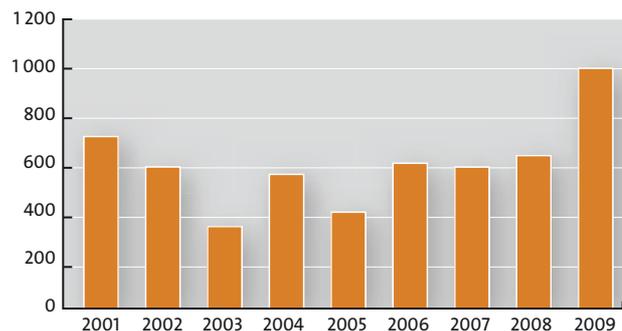
The 57 examination sessions which were held throughout the French Polynesia archipelago (Tahiti Island, Austria Islands, Windward Islands Leeward island, Marquesas Islands and Tuamotu Gambier Islands) required significant planning and organisation.

Furthermore, at the request of the High Commissioner and within the terms of the contract, ANFR was entrusted in several specific missions. In particular, the preparation of the digital workshop (FIFO 2010) and the Polynesia States General held within the framework of the TNT deployment.

Evolution of the number of AAI



Evolution of the number of SRD



Several meetings, relating to standards and regulation relating to easements in the territory, were chaired by the Office.

The Office also participated in the '2009 Cyclone' and represented the High Commissioner in the committee of video surveillance (two meetings in 2009).

OTHER ACTIVITIES

Administrative and technical activities, in connection with maritime mobile service — mainly inspection of on-board radio equipment conducted at the request of Maritime Affairs — are the chief activities of ANFR, which took part of two regional safety committees.

Some 139 ship radio stations were inspected, including 12 located in Maupiti or Raiatea and 7 in Moorea.

A total of 11 new inspections were required in order to verify compliance. The verification of radio officer and captain competencies continued in 2009. Despite the increased length of inspection, this activity enables the knowledge of professionals using stations on board to be verified.

These inspections were conducted in cooperation with the safety centre of Papeete and the coastal station of Mahina Radio.



In 2009, 1,113 licences were issued, among which 387 are associated to MMSI. This significant increase results from the will of fishing service to provide fishing boats equipped with beacons EPIRB in order to improve the safety of ships. This question was dealt both by French Polynesia fishing service and ANFR (department of Saint-Die-des-Vosges and Polynesia Office).

Concerning terrestrial inspections, in order to facilitate deployment of DTT broadcasting in French Polynesia, the Office checked of all transmitters with their technical parameters. The details were provided to CSA in order to plan the DTT frequencies.

During a technical mission, organised at the request of the General Manager, the Office provided its support in performing measurements for verification of compliance with the limits of public exposure to electromagnetic fields and with independent networks in the 2.4 and 5 GHz bands, at the request of the Polynesian Government.

At the request of Civil Aviation, it solved a case of interference caused by the failure of a broadcasting transmitter, located close to Tahiti Faa'a Airport, and organised, for services of this frequency user, training in use of the EB 200 receiver.

The Office has continued its activity of awareness in order to comply with the procedure of the COMSIS sites and easements committee. It held several meetings in order to issue temporary licences, and to coordinate radio equipment for major events such as the Billabong world-class surfing competition, the Hawaiki Nui Va'a outrigger canoe race, the ABC Cup regatta, the Miss Tahiti pageant, the Upa Nui music and dance contest, on-location filming of a movie in Teahupoo and military, diplomatic and scientific missions.

Three meetings, involving national users, were held, one of which was chaired by the General Manager of ANFR.

Annual results of ship inspections

Types of ships	Number of ships
State competence	47
French Polynesia competence	92
Inspections of putting under operation	78
Total *	139 (12 outside windward)

* 15 of which were re-inspected

Since the new autonomy statute in French Polynesia came into effect, inspection of ships of less than 160 register tons (cargo ships and fishing ships) has been under the authority of the local government. Conditions on transferring the corresponding activities are under discussion between this one and state Direction of Maritime Affairs.





NEW CALÉDONIA OFFICE

ANFR is represented in New Caledonia and on the territory of Wallis and Futuna, by its office located in Noumea. ANFR conducts its activities either as part of its own duties (Articles L.43 and R20-44-25 of the Code of post and electronic communications) or under contract with the High Commissioner of the French Republic (HCR) and the Superior Administrator of the Wallis and Futuna Islands.

ANFR Office issues administrative import licences (AAI) for radio equipment not connected to a public network. After a steady increase over five years, the number of AAI applications decreased in 2009 (729 compared to 898 in 2008). It should be emphasised that this trend does not reflect a decrease in imports, but results from the simplification of licence issuing procedure, which allows some importers holding a general licence to obtain a new AAI licence each time they import the same equipment.

Because of these new provisions, ANFR was able to handle the steady increase in applications to process.

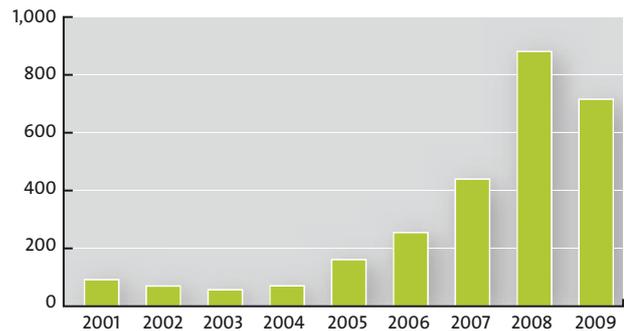
An analysis was conducted both by the Polynesia and New Caledonia offices in order to define common procedures for examination and treatment of AAI import licences. Consequently, since 2010, a new document and form letter for requests for authorisation will be used. This procedure will enable any information required for the examination of the request and the issuing of licence to be collected more easily, for a limited period of time. It will also enable an importer, for a period of 18 months, to delay a declaration of unauthorised equipment without having to make a request for AAI.

A computerised application for request processing and integration of all these changes was planned and conducted by the New Caledonia Office.

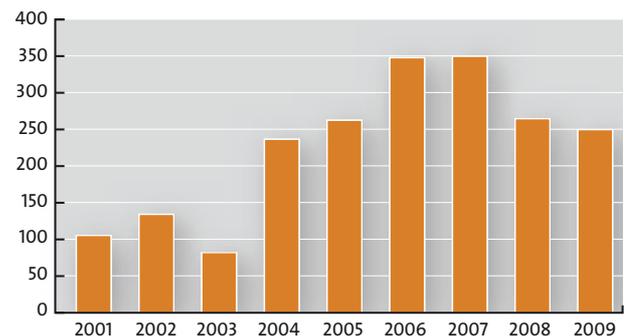
The specific case of importing equipment to establish wireless networks in the 5 GHz band required a consultation of frequency users. This approach enabled a clarification of conditions of realisation of these networks, to outline regulations, and to promote efficient spectrum utilisation, with a main goal of protecting meteorological radar, what is mainly important in this cyclonic area.

These PMR networks are under licence issued by the OPT.

Evolution of the number of AAI



Evolution of the number of SRD



Organisation of the SRC sessions

The number of SRC examination applicants again declined in 2009 (256 compared to 272 in 2008), and the number of sessions — five held in Wallis and Futuna — also decreased from 28 to 22.

This significant decrease can be explained by a decision by Maritime Affairs, reserving the possibility for residents to take the boating licence examination, which leads some applicants to abandon the SRC as well.

Maritime Affairs and Navy officials, such as local speakers, are waiting for the regulatory changes, which would integrate the GMDSS in the SRC examination program, as it is already done in metropolitan France since 2005. In June 2009, the planning committee of the contract with the Ministry in charge of the Maritime Affairs, asked ANFR to establish a working party, in order to change the SRC, while retaining some aspects dealing with BLU.

Organisation of examination sessions for amateur Certificate

The Office also organised examination sessions for amateur radio operator certificates and managed the licences and call signs for the amateur service. A total of 125 amateurs were registered in 2009.

A modification of the database dealing with examination will permit, from 2010, to organise the sessions under the same conditions of those set up in metropolitan France, nevertheless taking into account the specific provisions established in New Caledonia.

CONTRACTS WITH THE ISLANDS OF WALLIS-ET-FUTUNA

A special mission was conducted in August 2009, with the aim of organising five examination sessions.

At the request of the High Commissioner, a mission focused on monitoring was conducted in November 2009. This was shortly after the DTCS-NC IV technical mission. Inspections during mission identified a non-compliant wireless network using frequencies in the 2.4 and 5GHz, and some stations and frequency assignments not registered in ANFR database. This mission also provided the opportunity to inventory the broadcasting analogue transmitters in both the islands of the territory, in order to achieve DDT broadcasting deployment.

Management and monitoring

Administrative and technical activities relating to maritime radio are an essential part of ANFR office activity, including in particular the management of licences, in cooperation with ANFR teams in Saint-Dié-des-Vosges. ANFR office maintains its own database and associated administrative files. In December 2009, 1,121 licences (1,121 in 2008, +7%), 557 of those with MMSI (447 in 2008, +22%) were transmitted.

Number of licences by type of vessel

Type of ships	Number of licences	2009 figures
Pleasure craft	948	883
Fishing boats	77	74
Passenger ships	19	18
Cargo ships	98	91
Mixed-use ships	43	41
Other	15	14
TOTAL	1,200	1,121

The number of professional boats amounts to 202 (170 units in 2008), the difference having been explained by taking into account all ships, including small units, for which the inspection of putting under operation was not already performed. In cooperation maritime affairs, 71 ships were identified as requiring priority inspection of for radio equipment control. This figure includes from now the shared use ships belonging of first and second categories. The office of ANFR office conducted 106 ship inspections, including to inspections in foreign countries.

In addition to these inspections, ANFR office attended a Regional Ship Safety Committee. State services and New Caledonia government are studying the conditions of a transfer of some ship safety issues to the territory.

In 2009, the General Manager and the Contracts Manager of ANFR visited the Office of ANFR. It was the opportunity for exchanges of views with both representatives of the institutions of the territory and frequency national users, about the main questions relating to spectrum management.

For DTT deployment, the Office of ANFR inventoried all analogue TV broadcasting transmitters. This inventory corresponded to a great operation, providing the opportunity to precise the transmission conditions of stations located on 87 sites (140 channels) belonging to the two operators from the Territory.



RÉUNION AND MAYOTTE OFFICE

ANFR conducted monitoring activities both within the framework of its own missions, and under contracts with the DAM and ARCEP.

MONITORING WITHIN THE FRAMEWORK OF THE MISSIONS OF ANFR

The office inspected 169 stations sites in order to ensure the compliance of the equipment compared with data registered in ANFR database. It inspected in particular the Piton-des-Neiges site (area of grouping). Fines were levied to 10 non-compliant stations.

In the frame of monitoring using mobile monitoring stations, the office did not detect interference. It carried out the inventory and verification of the transmitting sites of analogue broadcasting.

Legal proceedings for interference cases

Four interference cases (one in civil aviation, one in defence, and two for operators under authority of ARCEP) were addressed to the office in 2009. All were resolved within a one-week time period. Fines were levied to two non-compliant amateur stations.

MONITORING WITHIN THE FRAME OF CONTRACTS:

Monitoring of PMR networks

Thirty assigned frequencies networks were inspected in 2009. Four cancellations and one modification of network resulted from these inspections.

Examination for amateur certificate

Two sessions were organised in 2009, each of them with only one applicant which succeeded.

Contract with the Maritime Affairs Direction

Office activity was regular during the year, and 264 ships were monitored. During the second half of the year, in cooperation with the Maritime Affairs of Reunion, about 50 ships of fourth



category without licence, whose owner had not got the SRC, were numbered. The Maritime Authorities' employees and maritime training school have decided to act together in order to regularise these boats and to pass the examination to the owners.

Contract with the TAAF

This contract deals with station site inspections, located in three districts of the French Southern and Antarctic Lands.

In the framework of a contract concluded with the administration of the French Southern and Antarctic Lands, ANFR's employees used the supply ship Marion-Dufresne, when it carried out a mission from Reunion to TAAF, from 20 March to 16 April, in order to inspect the station sites on Crozet, Kerguelen and Amsterdam and Saint-Paul Islands.

This inspection showed a number of non conformity cases when compared with registered data in the ANFR database.

The results are as follows:

- Crozet district: 17 stations inspected, with 15 later declared;
- Kerguelen district: 42 stations inspected, with 39 later declared;
- St Paul- Amsterdam district: 21 stations inspected, with 19 later declared.

All the reports were transmitted to the prefect responsible for the TAAF in order to compel the registration of these stations.



CARIBBEAN-GUYANA OFFICE

The office, located in Baie-Mahault, Guadeloupe, represents ANFR for three departments and two local governments.

The activities in Martinique, Guyana, Saint-Martin and Saint-Barthelemy, scheduled at regular intervals, include the monitoring for maritime and terrestrial mobile services.

At the request of the services depending on the prefect, ANFR established a list of stations in the order of their inclusion in the prefect's computerised system, with the aim of organising the territory, sharing the equipment and improving governance.

178 radio-equipped ships were inspected. The presence of an ANFR employee in the Caribbean-Guyana area makes it possible to reach the priority goal of annual safety inspection of 52 passenger ships. Furthermore, 23 ship stations of first and second categories, 75 of third category, and 80 from the fourth and fifth categories were inspected.

The number of ships not yet inspected by ANFR is 1,182, and represents 79% of the total of the Caribbean-Guyana fleet, concerning ships licensed to utilise a radio station on board.

A significant increase in the number of candidates registered to take the examination for short-range Certificate (SRC) and Amateur Certificate was observed:

- 440 candidates (245 in 2008) following an action in Guadeloupe targeting fishermen with ships in the fourth and fifth categories;
- nine candidates (none in 2008), some of whom are awaiting switchover from Minitel to Internet for this examination.

In 2009, the office focused on the monitoring of spectrum allocated to the mobile service. Some 100 stations and 20 independent networks were inspected.

The sites of the airports of Saint-Martin and Saint-Barthelemy were inspected following the monitoring of an airport in the Caribbean-Guyana area.

Three links relating to FM broadcasting located in the North Islands were put off operation, based on a report stating that they used frequency bands attributed to ARCEP (970 MHz) and Defence (230 MHz).

To summarise, eight citations for non-compliance were sent to the heads of these FM sound broadcasting stations and to the two mobile operators, to one airline, to one energy supplier, and one to the prefect services.

The cases of interference concerning two national users were dealt with, the first concerning Civil Aviation (one case), the other concerning ARCEP (two cases). The interference was caused by modifications to infrastructures and in frequency assignments for FM stations which occurred when the licences became valid.

On 17 & 18 January, ANFR participated in the monitoring of FM broadcasting stations involved in the new frequency plan established by the CSA.

The second half of the year was mainly spent conducting measurements of analogue TV broadcasting, in order to prepare for the DTT deployment.





**GENERAL
ADMINISTRATION**

1. BUDGETARY AND FINANCIAL ISSUES

In accordance with the 2009-2011 multi-year schedule, the amount of subsidy paid by the General Directorate for Competitiveness, Industry and Services (*Direction générale de la compétitivité, de l'industrie et des services* or DGCIS) to ANFR as operator of the Companies and Services Development (*Développement des entreprises et des services*) programme was €35,990,788.

This amount covered 96.5% of the budgetary envelopes (€37,290,789) for the provisional, personnel and operating budgets (excluding depreciation and capital expenditure), with the remaining 3.5% being covered by internal resources forecasts (income of €290,000 under agreements with the frequency allocation authorities and other sources, and financial income of €1,010,000).

The increase in the subsidy compared with 2008 (€2.1 million) is accounted for by a new area of expenditure in the form of repayments to the Ministry of Defence. These payments commenced on 1 January 2009, and refer to personnel temporarily allocated or seconded to the agency (€1.3 million), and take into account the

increase in the contribution to the special ring-fenced account (compte d'affectation spéciale or CAS) for civil and military pensions (€500,000).

The establishment budget includes the agency's own internal budget, plus the Spectrum Reallocation Fund (*Fonds de réaménagement du spectre* or FRS) and the Digital Broadcasting Support Fund (*Fonds d'accompagnement du numérique* or FAN).

The ANFR internal budget

The agency's own budget (excluding depreciation), as modified by the authorised withdrawal from working capital for prior commitments (€314,000), was 95.9% implemented.

Profit & Loss Account

Personnel expenditure, which represented 75% of operating costs (compared with 73% in 2008), was 100% of forecast and rose on a like-for-like basis by €714,000, including the €521,000 change in the civil pensions CAS.

Figure 1 : 2009 ANFR internal budget (in euro)

Account nos.	BUDGET HEADINGS	2009	Account nos.	BUDGET HEADINGS	2009
PROFIT & LOSS ACCOUNT					
C64	Payroll costs	22 379 112	C741	Operating subsidy	31 760 788
C631, C633	Taxes, duties and similar salary-related payments	1 815 256	C748	Others operating subsidies (including allocated resources)	626 259
	Personnel	24 194 368			
C60	Purchases	725 186	C70	Provisions of services	343 373
C61	External services	3 590 585	C75	Other ongoing management income	0
C62	Other external services	3 488 133	C76	Financial income	813 471
C635, C637	Other taxes duties and similar payments	14 857	C77	Extraordinary income	4 349 136
C65	Other ongoing management expenses (including allocated resources)	681 656	of which C775	Income from asset disposals	13 612
C66	Financial expenses	14	of which C776	Neutralisation of depreciation	558 012
C67	Extraordinary expenses	1 348	of which C777	Share of investment subsidy transfer to Profit & Loss	3 735 135
	Operations	8 501 780	of which C778	Others extraordinary income	42 376
C68	Depreciation allowances and provisions	4 428 235			
	TOTAL EXPENSES	37 124 383		TOTAL INCOME	37 893 027
	Provisional profit	768 644		Provisional loss	0
	Profit & Loss Account BALANCE	37 893 027		Profit & Loss Account BALANCE	37 893 027

CASH FLOW

C68	Provisional profit	768 644		Provisional loss	0
	Depreciation allowances and provisions	4 428 235	C775	Income from asset disposals	13 612
C675	Carrying value of disposals		C776	Neutralisation of depreciation	558 012
			C777	Share of investment subsidy transferred to P & L	3 735 135
	TOTAL	5 196 879		TOTAL	4 306 759
	Cash flow	890 120		Cash flow shortfall	0

Account nos.	ASSETS	2009	Account nos.	RESOURCES	2009
SUMMARY STATEMENT OF SOURCE AND APPLICATIONS OF FUNDS					
	Cash flow shortfall	0		Cash flow	890 120
C20	Intangible fixed assets	311 579	C131	Investment subsidy	4 230 000
C21	Tangible fixed assets	3 619 479	C27	Long-term investments	2 946
C27	Long-term investments	218		Other resources (exc. balancing transactions)	14 245
	Investment	3 931 276		TOTAL RESOURCES	5 137 310
	TOTAL ASSETS	3 931 276		Withdrawal from working capital	0
	Contribution to working capital	1 206 034		BALANCE for the source and application of funds	5 137 310
	BALANCE for the source and application of funds	5 137 310			

Operating expenditure excluding personnel (89.5% of forecast) fell by 3.5%, continuing the downward trend that began in 2008, as a result of a procurement policy based on regular competitive tendering rounds (for telecoms, cleaning, maintenance, etc.). Market monitoring raised €295,000 (up €169,000) as a result of the priority given to the checking of mobile phone Specific Absorption Rates (SAR).

Internal resources represented 3.5% of income excluding extraordinary items (compared with 7.4% in 2008), and included a marked reduction of €963,000 in financial income as a result of the collapse in interest rates seen at the end of 2008. The provision of services to frequency allocation authorities returned to a more normal level after an exceptional year in 2008.

Payments relating to satellite channel frequency assignment requests generated €619,000 of allocated resources from four operators.

Statement of source and application of funds

Investment in spectrum monitoring equipment remained stable at €2.8 million. Slippage in delivering the National Frequencies File (*Fichier national des fréquences*) IT project and the completion of building renovation and upgrading work at Noiseau together explain the majority of the reduction seen in 2009.

Working capital rose by €1,206,000 during the 2009 financial year, including €385,000 of fixed asset orders not settled in 2009.

The Spectrum Reallocation Fund (FRS) budget

In 2009, the FRS paid €7,282,000 to the Frequencies EIG (*GIE Fréquences*) of analogue content providers as preliminary funding for analogue reallocation operations prior to deployment of DTT, and €1,662,000 to the Ministry of Defence for the release of UMTS bands in Martinique and Réunion.

The total income of €9,170,000 came from payments received from approximately 80 digital channel content providers on 1 January and 1 July (€8,748,000) and five UMTS operators in the French overseas departments (€422,000) on 1 January.

The Digital Broadcasting Support (FAN) budget

Net expenses totalled €154,000 in payments to the Frequencies EIG under the terms of its framework agreement with the agency, and in surveys to verify continuity of analogue programme reception following the start-up of foreign transmitters.

Improvements in financial and accounting procedures

The project to improve the quality of financial and accounting procedures was formalised in 2009 by the drafting of a modernisation protocol, which was signed at the beginning of 2010 by the Director General and the accounting officer. The 15 initiatives adopted (which include asset recognition, service provided, modernisation of payment methods and the revision of account names) will be implemented in 2010 and 2011, and should enable the rationalisation of management procedures required to ensure the production of accurate, factual and reliable annual financial statements.

This protocol forms part of the agency's 2009 internal commitment to develop its own Quality policy, and the 2009-2010 performance contract entered into with its regulator.

The agency pays almost all of its supplier invoices within the overall legal payment deadline of 30 days, with 98% being settled within 21 days.

The development of management accounting, supported by the process benchmarking introduced as part of the Quality policy, enabled the agency to identify the entire cost of the agreement-based tasks required to set the rates for its services in 2008 and 2009.

Contracts

Six open calls for tender resulted in the award of 26 formal contracts to cover purchases of technical, maintenance and IT equipment.

These contracts included those relating to the development of the RADIOMARITIME and STATIONS applications, to the supply of radio frequency measuring equipment and to the maintenance of the fixed spectrum control system (CDS), which, at an estimated €5.8 million (including VAT) over four years, is one of the agency's largest.

For the first time, the agency issued a call for tender for the purpose of entering into a framework agreement for the supply of IT hardware and software. It resulted in the approval of nine contractors, which will compete for every potential supply project as part of helping the agency to benefit from the latest hardware developments.

68 contracts were signed as a result of competitive tendering in 2009, including the contract to maintain the spectrum control



system (CDS) infrastructures, which is estimated to be worth €1.7 million (including VAT) over 4 years, as a result of the increase in the formalisation threshold for this work, which rose to €6,159,400 (including VAT) at the end of 2008.

Lastly, the wording of the agency's public contracts now includes three new general administrative clauses (*Cahiers des Clauses Administratives Générales* or CCAG) published at the end of the year.

2. HUMAN RESOURCES

Forward management of employees, jobs and skills

The human resources management policy applied in 2009 focused primarily on managing the payroll and other aspects of personnel management expenditure.

Payroll and related expenditures totalled €24,200,000 in 2009.

The agency employed a workforce of 329.26 ETPT (full-time equivalent posts, excluding three seconded staff, most of whom work in the French overseas local authorities).

The agency has conducted an inventory of jobs involving critical skills in order to bring its recruitment policy in line with non-replaced retirements and the forecast priority needs of the agency in delivering its missions.

Ministry of Defence personnel seconded to the agency

An agreement has been reached between the Ministry of Defence and the agency on the establishment of a management framework for military personnel already seconded to the agency, and the payment by the latter of the expenses relating to these personnel. This agreement came into effect on 1 July 2008. The committee of representatives from both parties formed to monitor this agreement met twice in 2009. Under its terms, two public-sector employees managed directly by the agency (in effect as of 1 January 2009) were able to join the Ministry of the Economy, Industry and Employment (MEIE) on 1 January 2010, 14 military personnel were posted temporarily to the agency and one public-sector employee was on secondment.

Employee benefits

During the year, the agency continued to develop its employee catering policy, which forms the largest single budget item in terms of employee benefits. The trial programme of issuing restaurant vouchers to staff working at the NOISEAU centre in 2009 was assessed by the Joint Technical Committee (CTP), with the result that the agency has decided to adopt this employee benefit permanently at Noiseau. The agency also continued its policy of issuing universal service vouchers (CESUs) to support the provision of childcare for parents of children aged 6 years and under. The agency has been able to negotiate an agreement with the MEIE under which the ministry will meet the preventive medical expenses for all agency staff from 1 January 2010 onwards.

Employee relations

Ongoing consultation with employee representatives forms an important part of the agency's human resources management policy. Many meetings were held during 2009 in the form of informal working groups, as well as under the more formal arrangements of committee meetings (joint or otherwise) and commissions. The implementation of a dynamic salaries policy arrived at in consultation with employee representative organisations has enabled the agency to reward the efforts made by staff following the departmental restructuring initiatives, some of which resulted in workforce reductions. This policy includes the statutory measures applicable to public-sector staff employed by the Ministry of the Economy, Industry and Finance, and those specific to each grade (e.g. the measures applying to heads of section, which are spread over three successive budgetary years). All these measures have resulted in only half the posts vacated by retiring employees being retained.

The Joint Technical Committee (CTP) met in April, September and December 2009. The following key issues were discussed at these meetings:

- fixed-salary contracts for heads of department and project leaders;
- provisions relating to appraisals of contract employees and military personnel;
- postponement of the dates for the election of employee representatives;
- the agency's annual training plan;
- provisions to address the threat of flu pandemic;
- the employment of seniors over 55 by the agency;
- the employee relations audit for 2008.

The CTP working group met twice in 2009.



The Health and Safety Committee (CHS) met in April to address the practical issues relating to employees required to drive company vehicles or laboratory trucks in order to minimise the risks to which they may be exposed.

Induction and career development policy

Several years ago, the salaries policy was joined by a promotion-based career development policy under which expert joint consultative committee meetings are held to issue recommendations concerning the individual situations of contract staff. As a result, seven contract staff members received promotion in 2009. Ministerial staff are covered by the career advancement mechanisms managed by the *Direction des personnels et de l'adaptation de l'environnement professionnel* (DPAEP). Thirteen public-sector staff were promoted during the year.

The agency has continued to apply its policy of integrating public-sector staff seconded from other government departments. As of 31 December 2009, only three public-sector employees were still seconded under contract, compared to 26 in 2005.

Reducing the number of non-permanent posts remains a priority for the agency. As of 31 December 2009, only seven people were still employed under fixed-term contracts, compared to 16 in 2005.

3. LOGISTICS

General issues

The agency organised the 54th meeting of the Working Group Spectrum Engineering (WGSE) of the CEPT (European Conference of Postal and Telecommunications Administrations) 7-11 September in Bordeaux, attracting 80 delegates, as well as a DTT frequency coordination meeting with Germany 14-18 December in Strasbourg. The agency also hosted more than 40 international meetings at Maisons-Alfort in 2009.

During the year, the agency introduced a sustainable development policy, which includes using recycled paper and imposing 'ecolabel' standards on suppliers and contractors.

As part of the national flu pandemic prevention and response plan, the agency has put in place all the measures necessary to protect its staff and ensure continuity of service. A Pandemic Group has been formed to monitor the development of any epidemic in coordination with the senior civil servant with responsibility for defence and security (*haut fonctionnaire de défense et sécurité*).

Fixed asset management

As part of the 3-year schedule of building works, 2009 saw the commencement of work at Noiseau on the second phase of the renovation and electrical upgrading work in the state wing.

Government policy on state-owned buildings was set out in the Prime Ministerial circular of 16 January 2009. Under the terms of the circular, the agency has supplied France Domaine with the data required to validate the information contained in the General Register of State-Owned Properties (*Tableau Général des Propriétés de l'Etat* or *TGPE*), including details of premises leased to private tenants.

The agency has consulted on the issues involved in the Multiyear Property Strategy Plans (*Schémas Pluriannuels de Stratégie Immobilière* or *SPSI*), and has begun the task of completing the General Building Characteristics (*Caractéristiques générales du bâtiment*) and Building Condition (*Etat du bâtiment*) sheets.

Physical inventory checking was completed for 50% of the locations occupied by the agency.

The replacement of vehicles with high fuel consumption unable to meet current emissions and/or road safety standards, combined with a significant fall in fuel prices, delivered a 21.5% reduction in the fuel bill compared with 2008. At the same time, maintenance costs were 10.6% lower on total distance covered of 1,950,000 kilometres, compared with 1,928,000 in 2008.

Assignments

3,541 assignments were undertaken in 2009, including:

- 2,994 assignments in mainland France and the French Overseas Departments and Territories (84.55% of the total). The majority of these assignments involved the inspection of shore-based and marine radio installations;
- 547 assignments abroad (15.45% of the total), the majority of which relate to agency participation in international negotiations.

The total number of assignments was 3.36% lower than in 2008, as a result of 17.62% fewer international assignments.

The total amount of assignment-related expenditure rose during the year to €1,262,802 (including €624,802 in transport costs) compared with €1,221,000 in 2008. This situation is the result of rate increases and a higher number of long-haul assignments.

4. INFORMATION TECHNOLOGY

IT system management

In accordance with the guidelines set forth in the 2009-2011 information system master plan, IT-related tasks focused on the following areas in 2009:

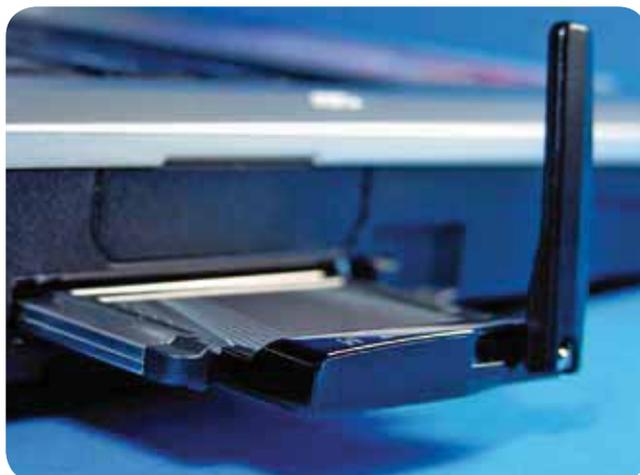
Application functional developments for:

- human resources department — personnel (the ASTRE package) and ABSENCES;
- those areas of the business related to agreements with frequency allocation authorities — NETWORKS and Authority NETWORKS, INVOICING, COMPLAINTS and AMATEUR;
- terminal and base station equipment market monitoring — SUMATRA;
- border frequency protection — COORDINATION.

Upgrades:

- RADIOMARITIME application;
- www.anfr.fr website;

These upgrades are scheduled to go live in June 2010.



Major projects:

- National Frequencies Database (*Fichier National des Fréquences* or *FNF*) with the operational introduction of phase 2 for radio broadcasting services, and the commencement of phase 3 for terrestrial and radio astronomy station management;
- Spectrum Control Database (*Fichier du Contrôle du Spectre* or *FCS*), with the operational introduction of phase 4 for compliance inspection case management;
- FRR project for the ongoing development-based maintenance of the INVOICING, COMPLAINTS and NETWORKS applications as part of completing implementation of the new decree on the invoicing of independent radio networks.

Implementation of governmental guidance

In 2009, the IT department implemented government guidance on business continuity, and on the provisions required to address sustainable development issues.

The Business Continuity Plan (BCP)

In terms of information technology, all the necessary technical measures have been put in place and tested to enable the agency to continue to provide essential services in the event of a Level 6 pandemic alert.

Remote access to the most sensitive applications and priority applications has been tested under realistic operating and security conditions. These applications are: the e-mail service and the FCS, FNF, COORDINATION, MMSI, PERSONNEL and ACCOUNTING applications.

In terms of the human resources department, personnel with a critical role to play in the event of pandemic (PARCEP initiative) have been identified, and a crisis group has been formed. If the need arises, this group will step in immediately to coordinate the work of the agency.

Sustainable development

In the context of the ministerial directive on sustainable development in relation to office systems and practices (cf. *Prime Ministerial circular 5351/SG of 3 December 2008 on "The need for the State to lead by example in respect of sustainable development issues affecting the operation of public services and establishments"*), the agency has implemented a set of provisions, including:

- phase-out of inkjet printers;
- systematic use of recycled paper;
- printers configured with default settings that enable double-sided monochrome printing;

- introduction of a pilot phase of a project involving users to develop solutions that will optimise the total number of printers in use and reduce the number of standalone photocopiers.

Updating of the information system master plan

A new version of the information system master plan to cover the period 2010-2012 was submitted to those frequency allocation authorities represented on the Management Board working group. This master plan was approved and adopted by the management board on 10 December 2009.

The overall total represented by operating costs and all the information system development and maintenance work scheduled for the next three years remains below the annual €2.7 million threshold, as the agency continues to significantly drive down operating costs.

The information system between now and 2015: the SIPR 2015 project

What is the outlook for ANFR information system between now and 2015?

The legal data held by the agency may also be accessed by the frequency allocation authorities, and must be able to be partly or totally restructured to improve the quality of data and facilitate its management. Process optimisation must also extend to include those processes identified as part of the quality policy. The availability of a reference base shared by all databases should make future developments easier and optimise interfaces between applications.

A study was commenced in 2009 to examine these courses of action. Its aim is to define what the *Système d'Information des Processus de Réalisation 'Cible 2015'* (SIPR 2015, or Delivery Process Information System for 2015) should be by addressing all the agency's business data and processes.

In the current phase, the immediate goal is to map all the information systems that support all of the agency's business processes, and to define an organisational and location structure for all data, including data definition, segmentation, responsibilities, conversions and exchange formats. The aims of this target information structure are:

- to maintain a forward development path, whilst enabling convergence and a progressive process of standardisation right across the existing IT architecture;
- to be able to support the exchange of data with agency clients (the regulator, frequency allocation authorities, operators and companies), local authorities and the general public as part of helping all of these stakeholders to guide their own future developments.

In the immediate future, this project does not include the development of new applications, but rather aims to make recommendations for the development, combination or replacement of existing applications.

Infrastructure projects

E-mail network

Despite the fact that average monthly e-mail traffic has doubled from 100,000 to 200,000 in one year, and that spam content has increased from 50% to 86%, service quality (filtering and availability) remained under control, thanks to the successive consolidations applied at every point in the e-mail system.

Internal network

The data rates offered by the various connections between agency locations in mainland France have been doubled. All MPLS links are monitored by gateways. The ADSL access points for each site are configured to provide MPLS network redundancy via a VPN tunnel, where required.

WiLAN

A new secure WiFi network access method has been introduced for the Maisons-Alfort and Noiseau meeting rooms: WiFi Local Area Network (WiLAN). This new access method enables all ANFR staff to log on to the local network via dedicated WiFi terminals. Alternatively, other WiFi terminals are provided for guests to access the Internet directly (without using the LAN) at higher bandwidth. These free access points are also filtered to ensure compliance with new rules designed to limit certain types of download.



THE ANFR QUALITY POLICY AND PERFORMANCE CONTRACT

The agency quality policy fully implemented in 2009

Initially introduced on 8 January 2008, the agency's quality policy entered its second year of operation in 2009.

Following on from that of July 2008, a second round of process reviews was conducted in April 2009 as the basis for analysing the operational performance of the agency relative to the process-based policy defined in 2007. The use of operational indicators to evaluate the degree to which process operational targets have been met has shown a satisfactory level of performance for the organisation. These reviews have confirmed the relevance of the system finalised in 2008, and have led to the introduction of a general action plan for each of the agency's management, delivery and support processes (see figure 1 below).

The agency also applies a risk management policy, which was put into operation for each business process during 2009.

Implementation of this policy has resulted in the identification, evaluation and measurement of risks, and the description of actions to be taken in the event of crisis.

The corresponding methodology has been used to develop and perfect the business continuity plan to be activated in the event of H1N1 flu pandemic.

Performance contract between the central government and ANFR

Developed in 2008 and signed on 30 April 2009 by central government, represented by the Director General of the Directorate for Competitiveness, Industry and Services (DGCIS), and by the agency, represented by its director general and the chairman of its management board, the performance contract gives strategic status to the agency's quality policy at operational level.

The 2009 implementation of the 2009-2011 performance contract was reported in an executive summary setting out the agency's strategic targets and indicators. This report examines how effectively the agency met the strategic targets set by the regulator and frequency allocation authorities. These targets are shown in the agency's strategy map (see figure 2).

The degree to which these targets are met is measured using quantitative and qualitative strategic indicators. The quantitative strategic indicators generally take the form of a set of operational indicators (known as a 'basket of indicators') defined within the context of the agency's quality policy. The qualitative strategic indicators are developed on the basis of the outcome of a satisfaction survey conducted with the regulator (DGCIS, DGMIC and Budget) and each of the frequency allocation authorities in mainland France and the French overseas departments and territories. This satisfaction survey used two questionnaires: one focusing on the strategic targets set for the agency by the regulator, and the other focusing on the strategic targets that the frequency allocation authorities wish the agency to achieve.

Both the regulator and the frequency allocation authorities gave a positive assessment to the performance of the agency in 2009. Responses to the questionnaires highlighted certain areas for improvement, and these have been incorporated into the agency's overall policy with the aim of improving its performance. These areas include:

- management of independent radio broadcasting networks for ARCEP, the French Telecommunications and Postal Services Regulator;
- spectrum forecasting studies;
- funding of frequency reallocation operations;
- agency participation in the work done on the spectrum by industry organisations;
- adaptation of IT systems to meet the needs of the frequency allocation authorities.

Figure 1: Processes implemented by ANFR

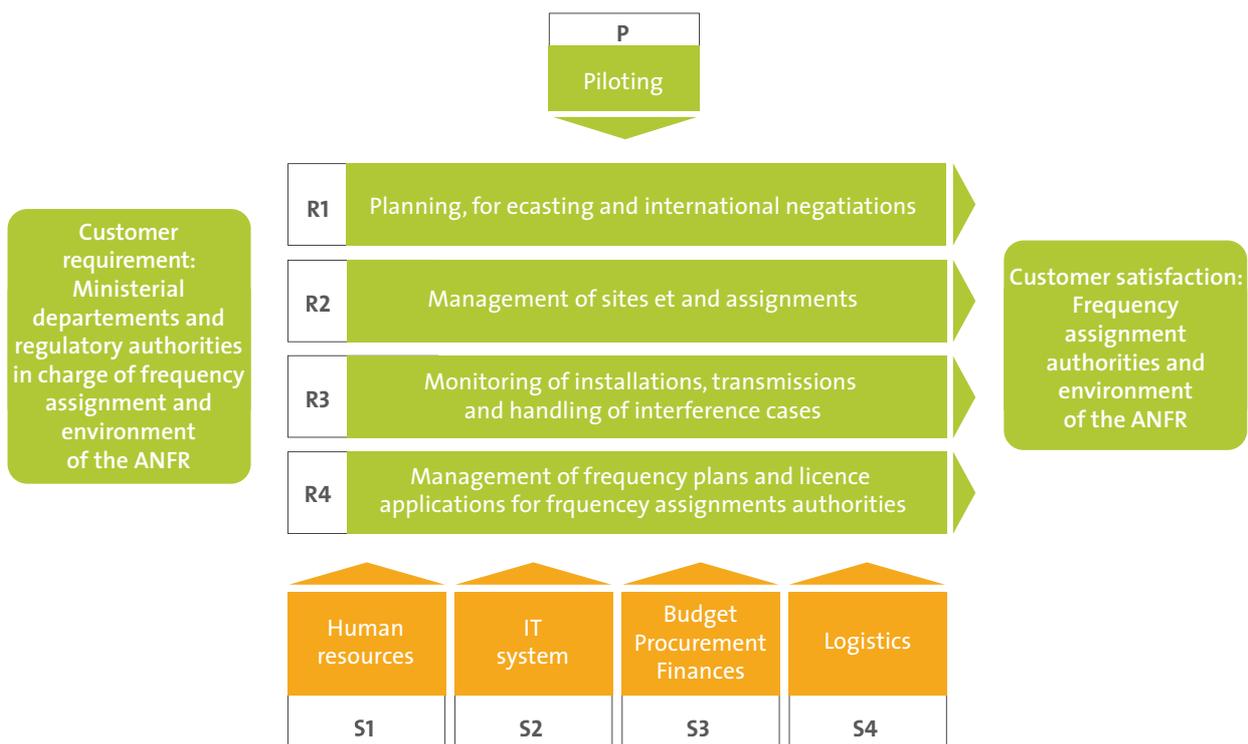
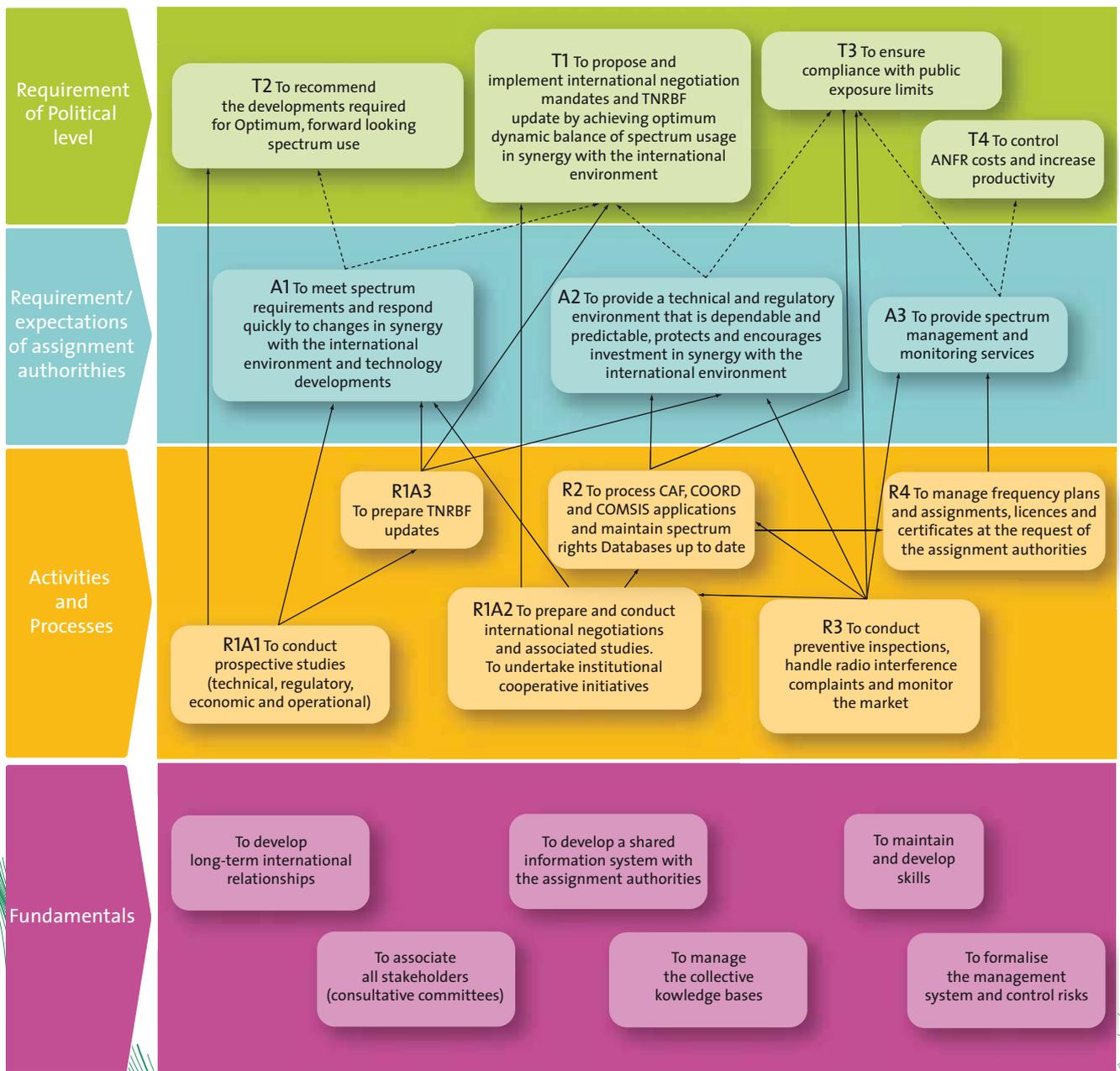
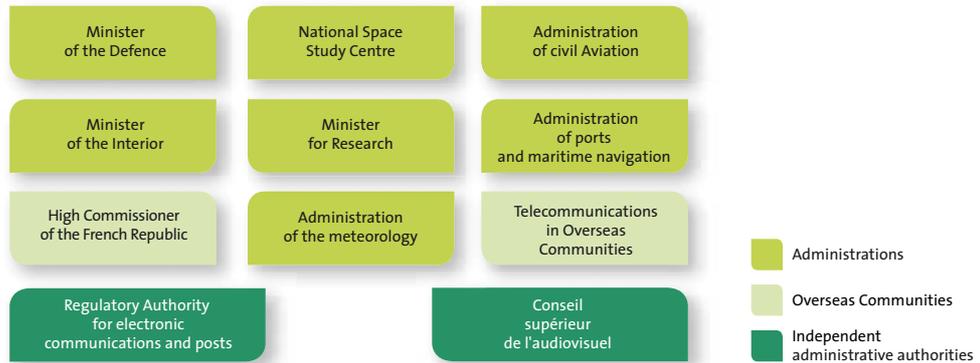


Figure 4 : Agency Strategy Map (Version 4 of 8 January 2009)

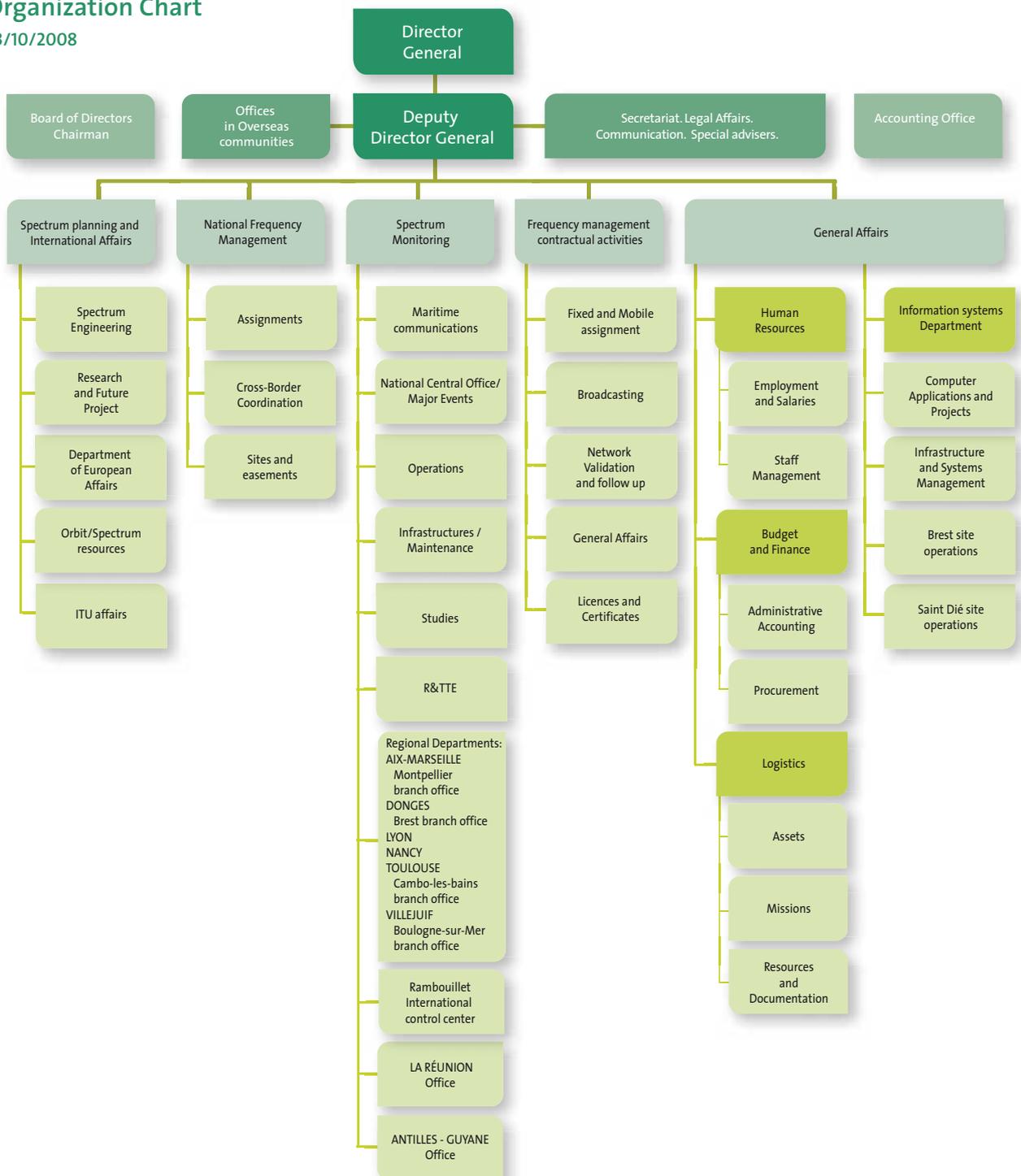


Ministerial departments and Regulatory authorities in charge of frequency assignment



Organization Chart

23/10/2008



Board of Directors of the Agence nationale des fréquences (07/04/2010)

Persons selected because of their skills

Mr. Arnaud MIQUEL,
ingénieur général de l'armement, Chairman

Mrs Pascale SOURISSE,
CEO, THALES ALENIA SPACE

Mr. Arnaud LUCAUSSY,
SFR, Director, regulation and economic studies

Mr. Jean-Marc NASR,
president, EADS Secure Networks Manager

Mr. Daniel SAUVET-GOICHON

Minister representatives

Mr. Pierre PUGET,
representative of the Defence Secretary, Head of National Military Frequency Office

Mr. Reynald BOUY,
representative of the Minister of the Interior, deputy director for information and communications systems

Mr. Jean-Christophe FLEURY,
representative of the Foreign Secretary, deputy director of foreign audiovisual media and information technologies

Mrs. Cécile DUBARRY,
representative of the Minister in Charge of electronic communications, department Head in charge of the technologies of information and telecommunication

Mr. Marc BELLOEIL,
representative of the Minister for Space, DGR/A1 – aeronautics and European Space Affairs

Mr. Christian RIOULT,
representative of the Minister for transport, CGEDD

Mr. André de LUSTRAC,
representative of the Minister for Research, DGRI/A3

Mr. Vincent MOREAU,
representative of the Minister for the Budget,
Head of 8 BJM Office

(to be appointed soon),
representative of the Minister for overseas

Mr. Frédéric BOKOBZA,
representative of the Minister for culture and communication,
assistant director for media development and the information society

Representatives of independent administrative authorities

Mr. Gilles BREGANT,
representative of the Conseil supérieur de l'audiovisuel,
Director for technologies

Mr. Jérôme ROUSSEAU,
representative of the Regulatory Authority for electronic communications and posts, head of the department of operators and regulation of rare resources

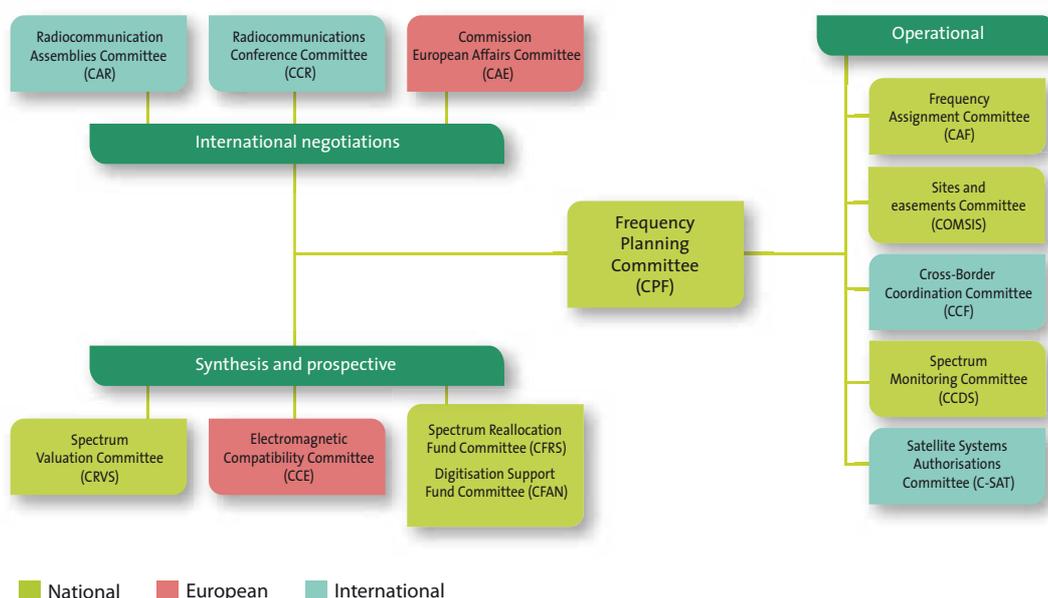
Consultative participants

Mr. François RANCY,
Director general, ANFR

Mr. Michel BRAULT,
Department of Budgetary Control and Ministerial Accounts, Head of the Budgetary Control Department

Mr. Gilles MOYA,
accounting officer of the ANFR

The advisory committees with the Agence nationale des fréquences



GEOGRAPHICAL MAP

-
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- 2 Noiseau Technical Centre**
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Départementale 136
94880 Noiseau
Tél. : 01 45 95 33 00. Fax : 01 45 90 91 67
- 3 Villejuif regional department**
112, rue Edouard Vaillant
94815 Villejuif CEDEX
Tél. : 01 49 58 31 00
Fax : 01 47 26 55 22
- 4 International control Center**
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78660 Prunay-en-Yvelines
Tél. : 01 34 94 17 00
Fax : 01 34 94 17 20
- 5 Brest Technical Centre**
CS 13829
29601 Brest CEDEX
Tél. : 02 98 34 12 00
Fax : 02 98 34 12 20
- 6 Donges regional department**
BP 39
44480 Donges
Tél. : 02 40 45 36 36
Fax : 02 40 91 01 37
- 7 Cambo-les-Bains office**
BP 40
64250 Cambo-les-Bains CEDEX
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- 8 Toulouse regional department**
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- 10 Nancy regional department**
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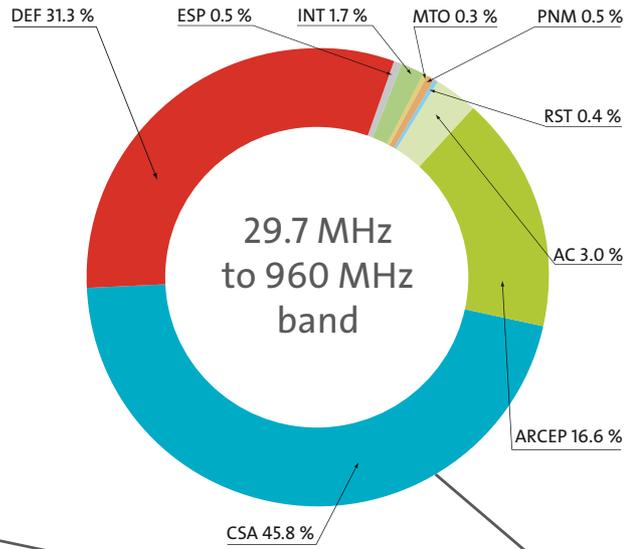
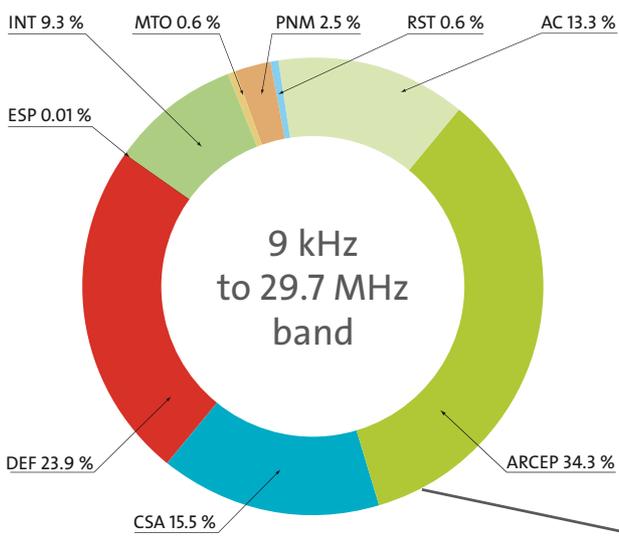
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GLOSSARY

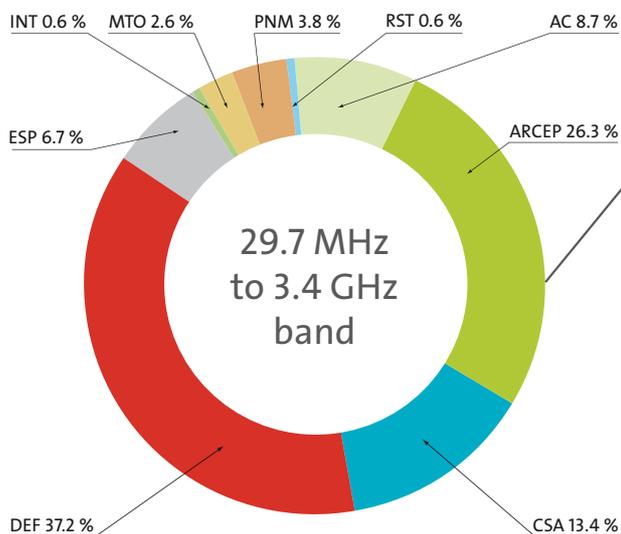
- AAI:** Autorisations administratives d'importation (import licences)
- ANFR:** Agence nationale des fréquences
- API:** Application programming interfaces
- ARCEP:** Autorité de régulation des communications électroniques et des postes (the regulator of electronic communications and post office)
- ARTEL:** the Agency of Telecommunications Regulation of Burkina Faso
- BCN:** Bureau centralisateur national (National Central Office)
- BEM:** Block Edge Mask
- BNetzA:** Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen (the German Federal regulator for electronic communications and broadcasting, inter alia)
- BWA:** Broadband Wireless Access
- CAF:** Commission consultative d'assignation des fréquences (Frequency Assignment Committee)
- CCI:** Centre de contrôle international (International Monitoring Centre)
- CDS:** Contrôle du Spectre (Spectrum Monitoring)
- CEPT:** Conférence européenne des postes et télécommunications (European Conference of Post and Telecommunications administrations)
- CHS:** Comité d'Hygiène et de Sécurité (Health and Safety Committee)
- CIPH:** Common Pilot Channel
- COMSIS:** Commission consultative des sites et servitudes (Sites and Easements Committee)
- CPF:** Commission consultative de planification des fréquences (Frequency Planning Committee)
- CPG:** Conference Preparatory Group
- CRdS:** Commission consultative des revues du spectre (Advisory Committee on Spectrum Reviews)
- CSA:** Conseil supérieur de l'audiovisuel (the French broadcasting regulatory authority)
- CSN:** Comité stratégique pour le numérique (strategic committee for digital broadcasting, State committee chaired by the Prime Minister)
- CSNPSN:** Conseil supérieur de la navigation de plaisance et des sports nautiques (High Council for Maritime Affairs and Water Sports)
- CTP:** Comité technique paritaire (Joint Technical Committee)
- CUS:** collective use of spectrum
- DAA:** Detect And Avoid
- DAM:** Direction des affaires maritimes (Directorate of Maritime Affairs)
- DCA:** Direction des conventions avec les affectataires (Directorate of contractual activities with ministerial departments and regulatory authorities in charge of frequency assignment)
- DDM:** Direction du développement des medias (Directorate of media development, ministry of culture and communication)
- DFS:** Dynamic Frequency Selection
- DGE:** Direction générale des entreprises (General Directorate of Enterprises, part of the Ministry in charge of Industry)
- DGNF:** Direction de la gestion nationale des fréquences (Directorate of national frequency management)
- DME:** Distance Measuring Equipment
- DPSAI:** Direction de la planification du spectre et des affaires internationales (Directorate of Spectrum planning and international affairs)
- DSC:** Digital Selective Calling
- DTT:** Digital Terrestrial Television
- E2R:** End-to-end Reconfigurability
- E3:** End-to-End Efficiency
- ECC:** Electronic Communication Committee of the CEPT
- EECMA:** European Electronic Communication Markets Authority
- ERDF:** European Regional Development Fund
- ERO:** European Radiocommunication Office
- ETPT:** Equivalent temps plein travaillés (full-time equivalent posts)
- DTCS:** Direction technique du contrôle du spectre (General Directorate of Spectrum Monitoring)
- ETSI:** European Telecommunications Standards Institute
- FAN:** Fonds d'accompagnement du numérique (Digitisation Support Fund)
- FCS:** Fichier contrôle du spectre (Spectrum Monitoring File)
- FDD:** Frequency Division Duplex
- FNF:** Fichier national des fréquences (French master frequency register)
- France Télé Numérique:** French Digital Television, in charge of communication and assistance for digital switchover
- FRS:** Fonds de réaménagement du spectre (Spectrum Reallocation Fund)
- GIE frequencies:** an economic interest group formed by the analog program providers
- GSM:** Global System for Mobile Communication
- HCR:** Haut-Commissariat de la République (High Commissioner of the Republic)
- ICTA:** Information and Communication Technologies Authority
- IMT-2000:** International Mobile Telecommunications-2000
- ITRE:** Commission on industry, transport, research and energy
- ITS:** Intelligent Transportation Systems
- ITU:** International Telecommunication Union
- HCM:** Harmonized Calculation Method
- MIC (Japon):** Ministry of Internal Affairs and Communications
- MIDS:** Multifunction Information Distribution System
- MIFR:** Master International Frequency Register
- MINEIE:** Ministère de l'économie, des finances et de l'emploi (French Ministry of the Economy, Industry and Employment)
- MIOCT:** Ministère de l'intérieur, de l'outre-mer et des collectivités territoriales (Ministry of the Interior, overseas and territorial communities)
- MMSI:** Maritime Mobile Service Identity
- MSS:** Mobile Satellite Service
- OFCOM:** Office of Communication (UK, Switzerland)
- OPC:** Open to Public Correspondence
- OSN:** One Shot Notification
- P-CPICH:** Primary Common Pilot Channel
- PLB:** Personal Locator Beacons
- PMR:** Private Mobile Radiocommunications
- PRTV:** Protection de la réception de la télévision (Protection of television reception)
- PUS:** Public use of spectrum
- R&TTE:** Radio and Telecommunication Terminal Equipments
- RFID:** Radio Frequency Identification
- RLAN:** Radio Local Area Network
- RRC:** Regional Radiocommunications Conference
- RRI:** Réseau radioélectrique indépendant (Independent radio networks)
- RSCOM:** Radio Spectrum Committee
- RSPG:** Radio Spectrum Policy group
- SMS:** Short Message Service
- SRC:** Short Range Certificate
- SRD:** Short Range Devices
- TDD:** Time Division Duplex
- TMP:** Télévision mobile personnelle (Personal Mobile Television)
- TNRBF:** Tableau national de répartition des bandes de fréquences (National Table of Frequency Allocations)
- UAS:** Unmanned Aircraft Systems
- UHF:** Ultra High Frequencies
- UMTS:** Universal Mobile Telecommunication System
- UWB:** Ultra Wide Band
- VHF:** Very High Frequencies
- W-CDMA:** Wideband Code Division Multiple Access
- WAPECS:** Wireless Access Policy for Electronic Communication Services
- WRC:** World Radiocommunications Conference
- WiFi:** Wireless Fidelity
- WiMAX:** Worldwide Interoperability for Microwave Access

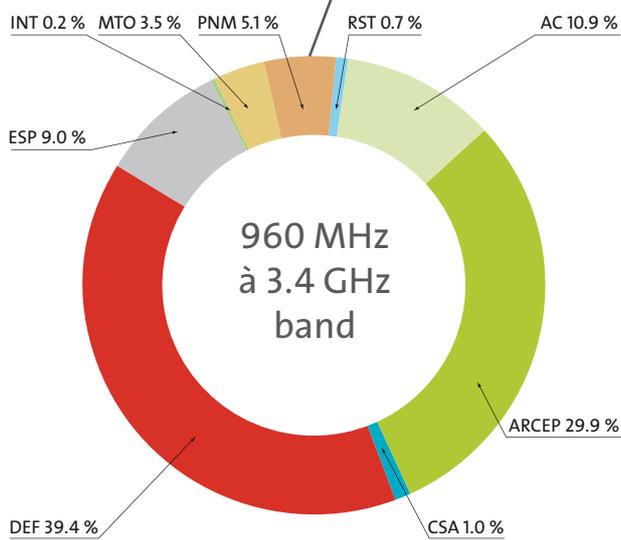
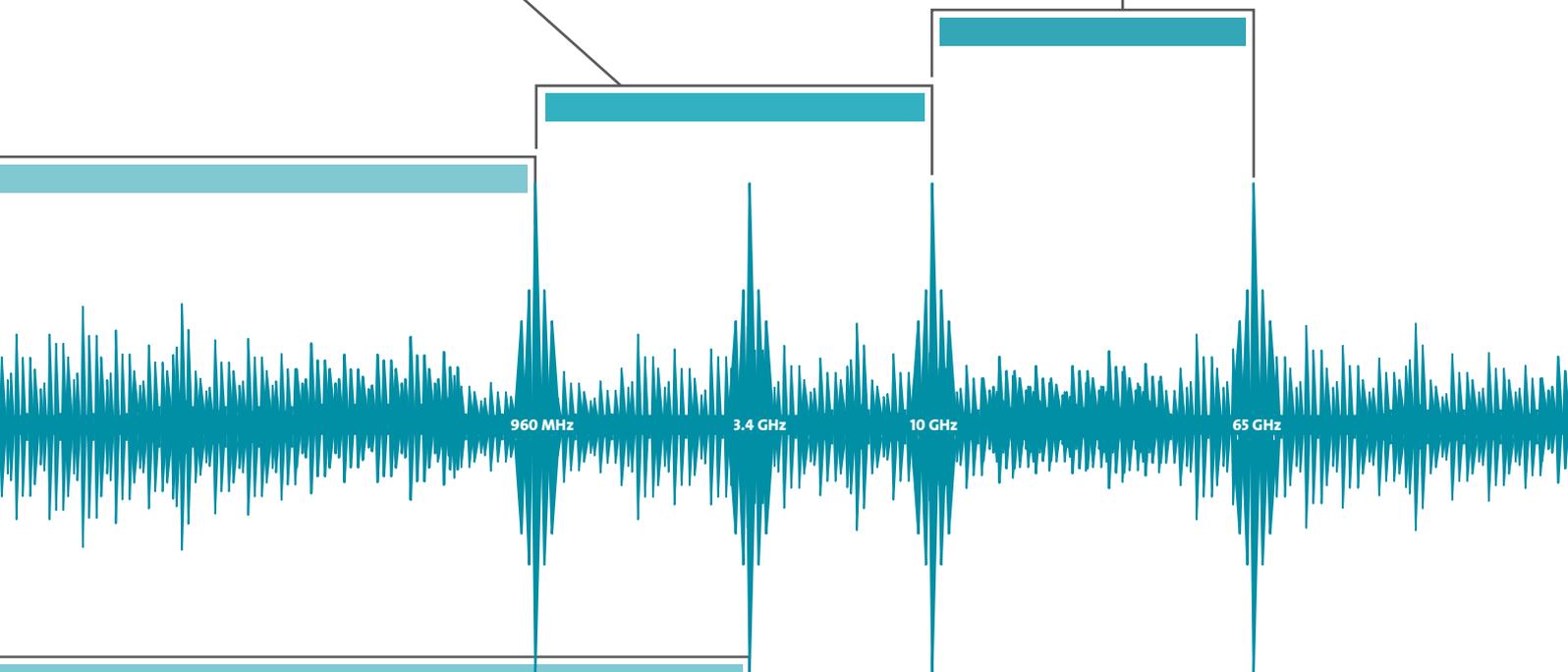
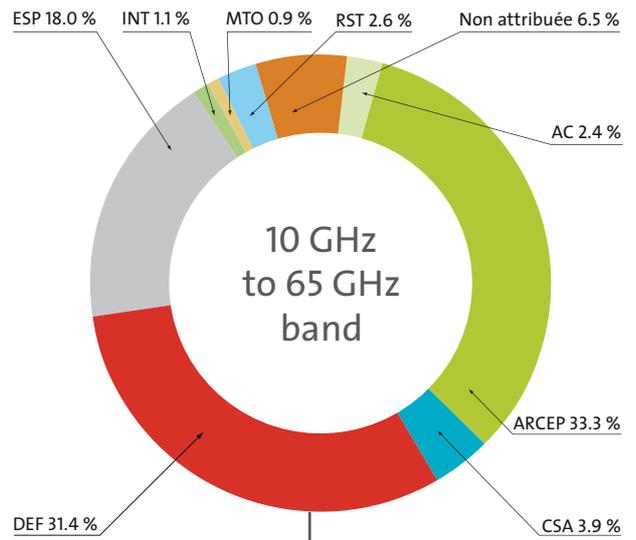
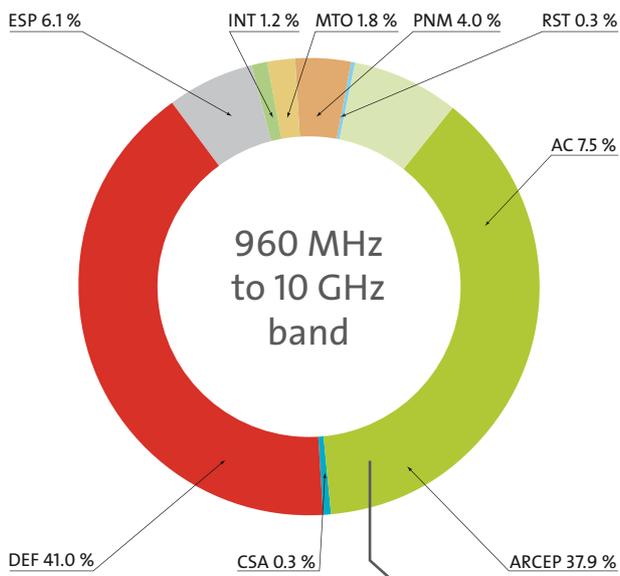


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