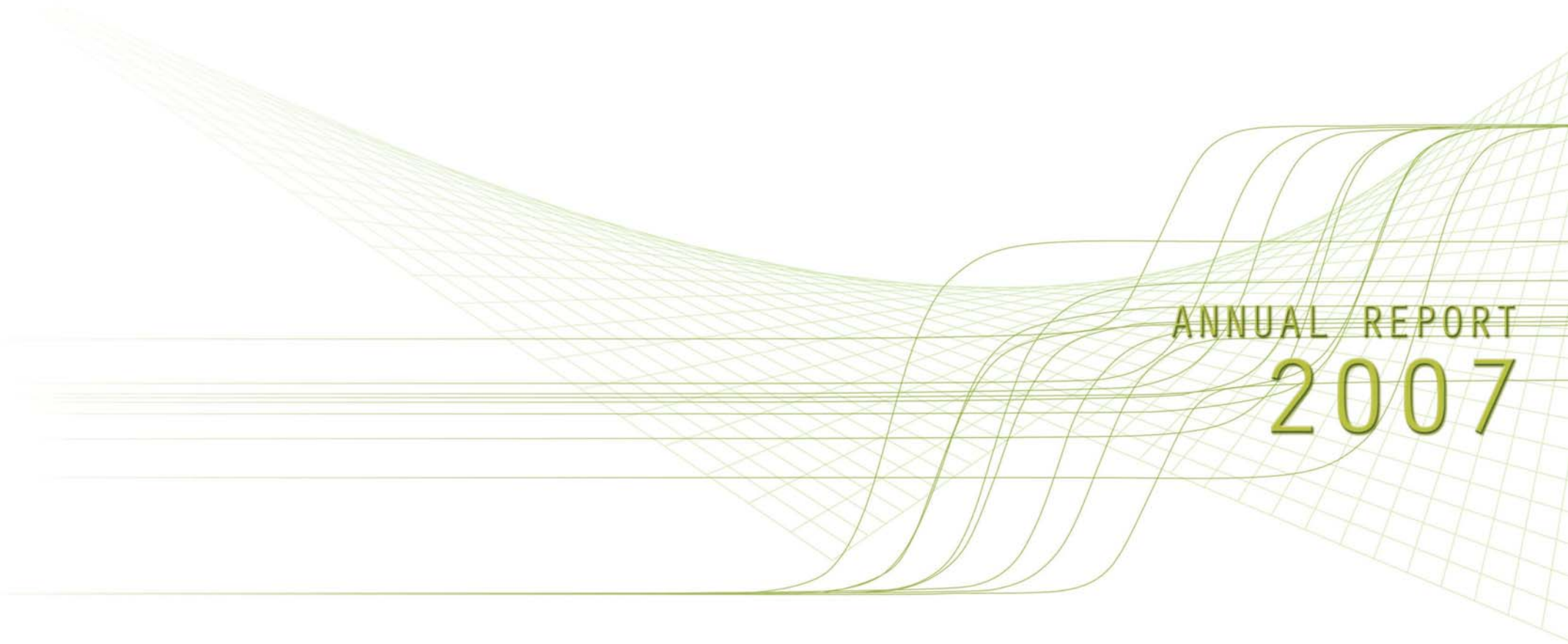
Agence Nationale des Fréquences

ANNUAL REPORT 2007


ANNUAL REPORT
2007

SUMMARY

EDITORIAL

François Rancy
Director general

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Chairman

As in previous years, 2007 was especially marked by audiovisual issues relating to the development of Digital Terrestrial Television (DTT) and its acceleration, the prospect of the end of analogue television and its switch-over to digital, and finally to the digital dividend. On all these points the ANFR has continued its activities in close collaboration with all stakeholders, particularly the *Conseil supérieur de l'audiovisuel* (CSA, the broadcasting regulatory authority), the Direction du développement des medias (DDM, Directorate of media development, ministry of culture and communication), the France Télé Numérique group (French Digital Television, in charge of communication for digital switchover) and the Comité stratégique pour le numérique (CSN, strategic committee for digital broadcasting, State committee chaired by the Prime Minister).

Major advances have also been reported in the field of international frequency harmonisation, at global level, with the 2007 World Radiocommunication Conference, and at European level, with increasing community harmonisation, particularly in the field of mobile and mobile satellite services.

The investments made by the ANFR in recent years in the fields of data processing and spectrum monitoring are yielding results: the year 2007 was an important milestone in the acceleration and rationalisation of the processing by ANFR of the requests from ministerial departments and regulatory authorities for radio-communication stations and frequency assignments, with the commissioning of two new data processing applications: FNF (the software for managing the national master frequency register) and FCS (the software for managing spectrum monitoring activities). On the other hand, the investments made in the spectrum monitoring system to encourage preventive processing of interference by regular inspection of the sites and systematic monitoring of the spectrum have enabled the number of reported cases of interference to be maintained at a level comparable to that of 2002, whilst the number of new allocations has doubled since then. With the creation of an ANFR office in Guadeloupe and the reinforcement of the Reunion and Pacific offices, the presence of the ANFR in the overseas departments and communities is now fully operational.

The search for closer relationships with the ministerial departments and authorities in charge of frequency assignments led to the renewal, in 2007, of all the frequency management agreements with the latter and to the signing of new agreements, particularly with the Civil Aviation Authority and the Supreme Administration of the Islands of Wallis and Futuna.

The implementation of a quality management approach in all departments of the ANFR has provided an accurate description of all the processes carried out by ANFR in fulfilling its tasks, of all the activities conducted within these processes and of their interactions. This approach has led to rationalisating the organisation of supporting activities to frequency assignment authorities, with the complete restructuring of the Radiocommunications Management Centre in Noiseau.

Finally, at a time when public authorities are deliberating on the most suitable mechanisms and structures of governance for promoting the harmonious development of radiocommunications, particularly in the area of spectrum management organisation, the board of the ANFR has expressed a desire to contribute to this debate. For this purpose a joint working group, bringing together members of this board, representatives of the frequency assignments departments and authorities and qualified experts, resulted in a discussion held in 2007, with the assistance of ANFR staff.

This working group has reviewed the spectrum management organisation in France, its major underlying principles, and the extent to which the new approaches which have emerged in recent years may contribute to this improvement, on the basis of experience in France and other countries.

The report on the work of this group was published in 2008 and is available on the ANFR website.

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ANFR AND AUDIOVISUAL MATTERS

Development of DTT

In June 2006, the Regional Radiocommunications Conference of the ITU (CRR/RRC-06) established at international level the conditions of access to VHF and UHF frequency bands by digital television and sound broadcasting, in the aftermath of analogue switchover. As soon as this conference ended, ANFR conducted very delicate negotiations with neighbouring countries in support of the task entrusted to the Minister for Industry, in order to determine the conditions under which these frequency bands may be used by DTT before the plan adopted by RRC-06 is implemented and analogue broadcasting is discontinued, i.e. from now until 30 November 2011. The success of these negotiations with Germany, Belgium, Luxembourg and Switzerland allowed the identification of the frequencies required to deploy DTT in the corresponding border areas and enabled the objective that had been set by the Government in October 2005 to be achieved, i.e. a coverage for the five DTT multiplexes of 85% of the French population by the end of 2007.

To achieve this objective, a number of frequencies used by analogue stations in these border regions have had to be modified, wherever possible, to ensure their compatibility with the frequencies used for DTT. As in other French regions, these modifications have been pre-financed by the spectrum reallocation fund (FRS), which will be repaid by the beneficiaries of these operations, i.e. DTT program providers. As a result of the shortage of frequencies, it was not possible, in about a hundred cases, to identify substitute frequencies for the analogue transmissions likely to be interfered by foreign stations, and the households affected have been compensated by the digitisation support fund (FAN), according to Decree no. 2007-957 of 15 May 2007. The affected areas have been studied and visited in order to evaluate as accurately as possible the risks of interference. In 2007 these risks have only materialised for around twenty households, as a result of the relatively slow start of DTT in neighbouring countries.

Generally speaking the development of DTT gave rise, throughout the metropolitan area between 2004 and the end of 2007, to over one thousand analogue frequency changes, which have been treated by the FRS for a total of 53 M€ and involved an affected population of 3 million people. These figures fall within the limits of the estimates carried out in 2003 (64 M€ and 4 million people). The progressive development of DTT coverage, from 85% of the population to 95% and the deployment of two additional multiplexes: one for HDTV and one for mobile TV, will require the continuation of intense activity in this area.

Digital dividend

2007 also marked an important milestone in international discussions relating to the harmonisation of the digital dividend which analogue switchover is expected to free up by 2012, due to the higher spectral efficiency of digital broadcasting. This digital dividend will of course be used for expanding DTT over a larger number of channels, for local television, for high definition or for mobile television, but other fixed or mobile, commercial or security applications, have also been considered in order to benefit from the favourable propagation characteristics provided by the UHF band, thereby facilitating the development of new services throughout the territory. These mobile applications require harmonisation at international level in order to benefit from the economies of scale and to allow roaming.

These international discussions were initially held within the European Union Radio Spectrum Policy Group (RSPG) and resulted, in February 2007, in an opinion of the Member States of the Union, aimed at European harmonisation for mobile applications, being

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adopted. This opinion was followed by the European Electronics Communications Committee (ECC), in June 2007, with the adoption of a report concluding that this harmonisation would be feasible within the upper part of the UHF band.
At the World Radiocommunications Conference (WRC-07), and in line with the mandate given to the ANFR by the Prime Minister, these conclusions have enabled the 790-862 MHz band to be allocated to the mobile service and to be identified, at global level, for international mobile telecommunications services (IMT). These decisions open up the possibility of opting, at national level, for the allocation of a part of the digital dividend to mobile services, a choice still to be made by the Prime Minister based, upon advice of the *Commission du dividende numérique* (the Parliamentary Commission on Digital Dividend).
This work has also highlighted the major practical difficulty in ensuring that broadcasting applications, such as those covered in the RRC-06 plan, and mobile services can coexist in the same sub-band due to the high level of interference caused by television transmitters into mobile base stations. Consequently, if the possibilities so far identified for harmonisation are to be put into practice, the decision should be taken, for each country, to use the sub-band in question, either for the mobile services or for broadcasting, under conditions that would require an alignment of interference levels with the most sensitive service. The introduction of mobile services could therefore greatly constrain the use of broadcasting in this sub-band.
At the request of the *Comité stratégique pour le numérique*, ANFR analysed the possibility, at the time of analog switchover, of landing the seven DTT or mobile television multiplexes which are currently in service or under deployment, not to the frequencies that were negotiated at RRC-06, covering the entire UHF band, but within a frequency band reduced by approximately 10%, excluding the sub-band which was identified by WRC-07. This analysis, conducted by the ANFR between April and August 2007, concluded that this approach was feasible, subject to more detailed discussions with the CSA and audiovisual stakeholders, and subject to its confirmation as part of negotiations with neighbouring countries. Exploratory negotiations were initiated in the autumn of 2007, also aimed at the identification of additional frequencies to meet the growing spectrum requirements of broadcasting.

Protection of television reception

From now until 2011, the deployment of DTT beyond 85% of the population, the implementation of mobile television, the transition to frequencies freed from the constraints of analogue, the disappearance of the latter and the distribution of the digital dividend among audiovisual and other services will impose a permanent and multiformed pressure on spectrum in the UHF band. All efforts have to be made, however, to minimise the effect of this pressure on present users of the spectrum (the 40 million people connected to terrestrial broadcasting networks).
Since 2006, ANFR is in charge, jointly with CSA, of ensure the protection of television reception. It also manages two funds (FRS and FAN) intended to ease the transition to digital. It will be a difficult task to reconcile the above objective with the inevitable frequency planning adjustments in an environment which is undergoing a complete revolution. At the same time, ANFR will dedicate itself to identifying, through negotiations with neighbouring countries that have now become permanent, the frequencies required to ensure successful switch-over to fully digital television broadcasing.

Current international situation

The year 2007 marked an important stage in the field of international frequency harmonisation. The World Radiocommunications Conference of the ITU (WRC-07) enabled, in particular, frequency bands to be allocated and identified for international mobile telecommunication (IMT) services, which should, in a few years, allow the transition from third to fourth generation mobile networks. This conference also gave rise to major advances in aviation, scientific and satellite communications.
European harmonisation has been marked by increase harmonisation at community level with the adoption of major recommendations and decisions, by the Radio Spectrum Policy Group (RSPG) and the Radio Spectrum Committee (RSC) respectively, on subjects such as the digital dividend, flexible allocation of frequency bands (WAPECS), mobile-satellite services, ultra-wide band systems or 5 GHz R-LAN's.
As a token of recognition for the work of ANFR in the international field, WRC-07 and the RSPG were chaired by the ANFR Director General.

Spectrum monitoring and measurements

With the installation of its Antilles-Guyane office in Guadeloupe, ANFR completed its organisation in order to fully accomplish the mission entrusted to it in 2004 in the overseas departments and communities.
ANFR is continuing its efforts in the preventive treatment of interference: despite a doubling of new frequency assignments over the last five years, the number of cases of reported interference has not increased. In the field of the preventive control of radio and telecommunication terminal equipment within the framework of the R&TTE Directive, the ANFR has proceeded to take over 60 samples of suspect equipment for testing, 28 of which were found to be non-compliant. As part of its monitoring task for the conformity of electromagnetic fields to the applicable limits for public protection, ANFR has recorded and brought to public knowledge approximately 2,500 measured results, all conforming to the limit values.

Regulatory and management procedures

The data processing applications developed by ANFR to accelerate and rationalise the processing of applications from the assignment and radiocommunication station coordination and registration, are considered essential to meet the impressive growth in demand: in five years the number of transmitting stations processed by the ANFR has doubled, now exceeding 30,000 per annum, as has the number of new frequency assignments (over 17,000 in 2007).

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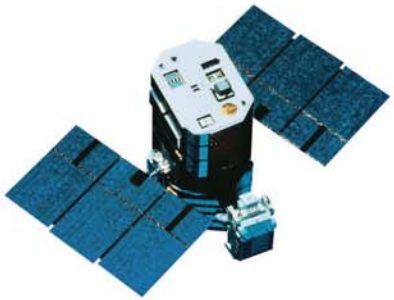
INTERNATIONAL AND SPECTRUM PLANNING ACTIVITIES

IN BRIEF...

- WRC-07 chaired by ANFR director general. Four weeks of intensive negotiations.
- Two RSPG opinions, four RSC decisions and five ECC decisions.
- Studies of digital dividend, protection of radars from wind turbines, safety perimeters around transmitting stations, UMTS in GSM bands, 5 GHz RLANs and WAPECS...
- Two updates of the National Frequency Allocation Table.



The World Radiocommunications Conference (WRC-07)

Four weeks of intensive negotiations

The World Radiocommunications Conference 2007 ended on 16 November with the signing of its final acts, which modify many articles, appendices and resolutions of the Radio Regulations, opening up new possibilities of development in the field of radiocommunications, securing essential applications and facilitating the implementation of thess regulations, which constitute an international treaty, hence is binding on Member States. Over 150 countries and approximately 3,000 delegates participated in the discussion of more than 3,000 proposals. This illustrates the challenge represented by this conference. Following the proposal of the General Secretary of the ITU, WRC-07 appointed François Rancy as chairman of this Conference.

From 15 to 19 October, the Radiocommunications Assembly (RA) had previously approved numerous technical recommendations, some of which concluded important studies for the Conference itself. The Radiocommunications Assembly also took fundamental decisions regarding the work of radiocommunication Sector of the ITU (ITU-R), for example by integrating one of the variants of the WiMAX standard within the IMT family and by adopting two resolutions to launch the standardisation process for the IMT-Advanced systems which will supply improved bitrates and services compared with IMT-2000.

WRC-07 illustrated the complexity of these multilateral negotiations at three levels, national, European and international, where ANFR has the responsibility of ensuring a dynamic consensus between the French participants (ministerial departments, independent authorities, operators and manufacturers), with the European CEPT (European Conference of Postal and Telecommunications) administrations (48 countries, from the European Union to Russia), and finally with all administrations participating in the Conference, with the aim of achieving a "win-win" situation, preserving the French objectives and interests, which were established in a negotiation mandate assigned to ANFR by the Prime Minister.

Results that meet the objectives imposed on the French delegation

From the start of the Conference, it was clear that the most difficult point of discussion was going to be that concerning the IMTs. Therefore, the working group of the Conference were this point was discussed brought together several hundred participants, no matter what time and what degree of detail discussed. Regarding the 470-862 MHz band, the Conference finally allocated the 790-862 MHz band to the mobile service on a co-primary basis with the broadcasting service, and identified this band for IMT, thereby offering the countries who wanted it a choice, when implementing a part of the digital dividend in this part of the UHF band, to the benefit of the mobile service or the broadcasting service. The allocation to the mobile service will be effective from 2015, but a number of countries, including France, may use this allocation when the final acts of WRC-07 come into force, i.e. in January 2009. The Conference also allocated to the mobile service, and identified for the IMT, the 3,400-3,600 MHz band, thus strengthening the impetus given to the development of IMT-Advanced systems within ITU-R and standardisation organisations. The French overseas departments and communities also benefit from these allocations and identifications. Other frequency bands were identified at WRC-07 to meet the needs of other regions in the world, but are not intended to be used in France and Europe for IMT, as a result of the vital requirements of government systems to maintaint access to this part of spectrum.

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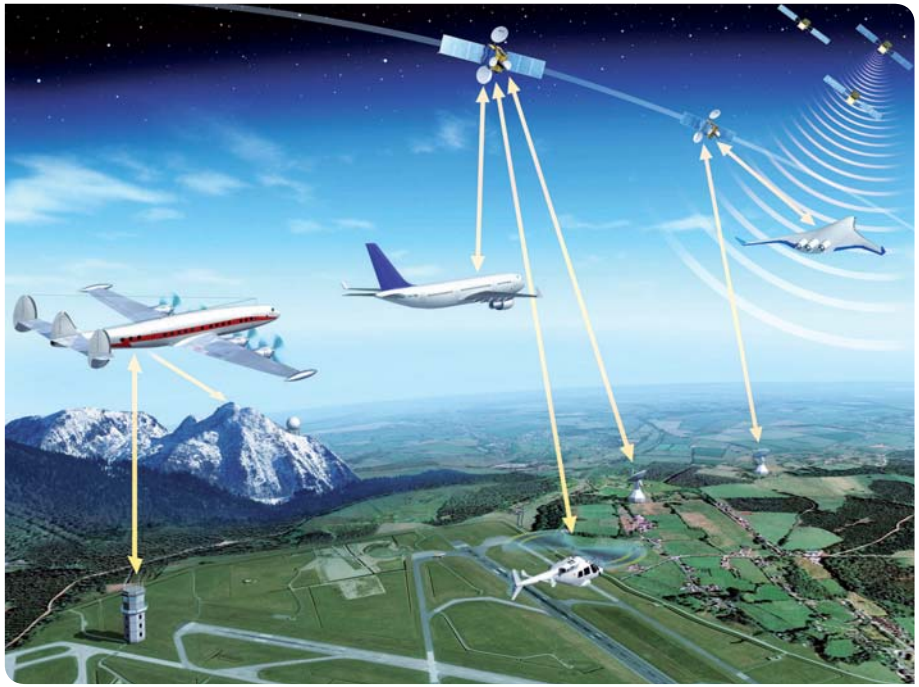
The Conference also responded to European requests on a number of other points:

- The decisions relating to scientific services will ensure their protection from interference caused by the active services operating in the same or adjacent bands. New frequencies were also allocated to the scientific services at 9 GHz for active Earth exploration and at 18 GHz for satellite meteorology.
- WRC-07 established the technical and regulatory conditions for protecting the 2,500-2,690 MHz band, currently used in France by infrastructure networks of by the Armed Forces and to be opened toIMT systems from 2010, from satellite transmissions used by a small number of countries, largely in Asia, for broadcasting satellite and mobile satellite services.
- Similarly, the 18 GHz band, used for the infrastructure networks of the mobile networks, will enjoy a better protection from satellite systems with highly inclined orbits.
- The new allocations to the aeronautical mobile service in the 112-117.975 MHz, 960-1,164 MHz and 5,091-5,150 MHz bands, will resolve the shortage of frequencies caused by the growth in air traffic, allowing for the expansion of the frequencies of existing aviation communication systems and for the development of new systems, as well as the implementation of surface

applications in airports and applications related to flight safety.

- The 5,091-5,250 MHz band was also allocated to the aeraonautical mobile service and identified for aeronautical telemetry, which is used by manufacturers, particularly Airbus, for testing aircraft in flight.
- The procedures of Appendix 30B, which apply to the bands planned for the fixed satellite service, have been successfully revised. A new non-sequential method for the processing of submissions, with a single type of notification form, was adopted, and the technical parameters of the allotments were modified to better reflect current technology. The protection criteria were revised so as to introduce a coordination arc, to extend the protection of assignments and allotments throughout their service area and to allow the use of the down- link or up-link only. These modifications should increase flexibility when using this band.
- The procedures applicable to the maritime mobile service were simplified, placing emphasis on the Global Maritime Distress and Safety System (GMDSS), and only retaining from the old system what was strictly necessary.
- Finally, a number of other frequency bands and regulatory issues were discussed at the Conference, providing responses on issues as the satellite mobile service, the protection of radioastronomy observations or the procedures applicable to space services.



On all these subjects, the results of the Conference are essentially in line with the French and European proposals. However, on the subject of reorganisation of the HF band to enable new allocations to HF broadcasting and to facilitate the introduction of new digital technologies in the maritime mobile service, the Conference could not offer solutions to the French and European requirements, mainly because these bands are used for government purposes in most countries. Except for this point, the European proposals adopted within the CEPT generally formed the working basis for drawing up the modifications to the Radio Regulations and the CEPT also demonstrated its capacity to change position constructively in response to arguments put forward by the other regional organisations, particularly on the UHF band.

WRC-11 is already appearing on the horizon

WRC-07 also approved the provisional agenda for the next world radiocommunication conference, in 2011. WRC-11 will have to take important decisions that have potential impact on the development of electronic communications, as well as that of aviation systems, radars or scientific observations.

A preparatory meeting for this future Conference (CPM) was held immediately after WRC-07 to organise the technical and regulatory work that must be carried out by the ITU-R between now and 2011 to enable that Conference to take appropriate decisions. A joint action group was created to deal with the agenda item of WRC-11 relating to the use of the 790-862 MHz band.

The European preparation for this conference has already begun, the CEPT having appointed Éric Fournier, director of spectrum planning and international affairs at ANFR, as chairman of the group responsible for this preparation (CPG). Finally, in France, the coordinators for every WRC-11 agenda item have been appointed and the discussions have already begun regarding certain important points.

The European harmonisation files

ANFR is participating in the three major structures contributing to European harmonisation in the field of frequencies:

- the community level, with the RSPG, for spectrum policy, and the RSC, for implementing community measures on spectrum use;
- the ECC, which intervenes both within the framework of the community mandates and at the request of ETSI, by establishing the technical conditions for spectrum use ;
- ETSI, which is responsible for developing harmonised European standards applicable to radio equipment authorised in Europe.

ANFR is also participating in the European research and development project E2R.

The community component: RSPG and RSCOM

The RSPG (*Radio Spectrum Policy Group*) is a high level strategic group which issues recommendations to the Commission on spectrum policy. In 2007, the RSPG was chaired by François Rancy, director general of the ANFR, and adopted two opinons. The first related to the digital dividend and complemented previous RSPG opinions on "multi-media services" and "digital switchover. It provides the framework for the technical and regulatory work which was carried out throughout the year on the digital dividend within CEPT. The other opinion related to WRC-07 and underlined the different strategic points of European interest by supporting the European common proposals adopted by CEPT on these subjects. The RSPG also inititated the development of new opinions, relating to collective use of the spectrum, streamlining of the European spectrum regulatory framework, use of spectrum by government services and coordination at the borders of the Union.

The RSC (*Radio Spectrum Committee*) is the committee for application of Decision no. 676/2002/EC of the European Parliament and Council of 7 March 2002. In 2007, the RSC approved decisions relating to the technical conditions for harmonised use of the spectrum for mobile-satellite services in the 2 GHz band, to the harmonised introduction of ultra-wide band (UWB) technologies within the Union, to the European Radiocommunication Office (ERO) information system, to the use of spectrum within each Member State (EFIS) and to the amendment to the decision on 5 GHz wireless access systems, including RLANs. Other harmonisation measures are being discussed, particularly on communications systems onboard aircraft and on short range devices (SRDs).

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The CEPT and its Electronic Communications Committee (ECC), European expertise in the field of frequencies is the tool for the widest possible harmonisation.

The work of the ECC of CEPT concentrated in 2007 on WAPECS (see box), on digital dividend, with the feasibility study of a harmonised sub-band for mobile applications at the high end of the UHF band, on intelligent transportation systems (ITS) for security applications in the 5,875-5,905 MHz band, and on the continued harmonisation of frequencies for short range devices. Moreover, with regard to the ULPs/UWBs, which operate at very low power but over a very wide spectrum, the studies have continued on DAA (*Detect And Avoid*) sharing techniques, which would allow a relaxation of the power limits, as well as on establishing conditions specific to certain applications providing equivalent protection. In connection with the discussions on the digital dividend, and in response to a mandate of the Commission, the ECC has begun to examine the concept of "white spots", i.e. the use of TV spectrum planning "holes" by short range equipment using suitable sharing techniques. In 2007, the ECC published twenty reports and five decisions. France will implement these decisions.

The ETSI: an actor in the European regulatory framework

ANFR participated in certain ETSI activities associated with EMC and radio, with the objective of ensuring coherence between standardisation and the regulatory options taken by the ECC. ANFR has been given the chairmanship of the Working Group on Receiving Parameters. Finally, by agreement with the MINEFE, ANFR is involved in the governance of ETSI by participating in the Finance Committee.

The European research projects: E2R and E3 investing in reconfigurable and cognitive radio

ANFR participated in the work of the community research programme E2R on reconfigurable and cognitive radio techniques which are regularly put forward as future solutions for solving the problems of spectrum congestion, and simplifying spectrum access and management. ANFR will also be involved in E3, which is a follow-up programme of E2R. The E2R scope is very wide, covering technical aspects (distribution of intelligence between network and terminals, modelling of network architectures, protocols), economic aspects (business plans, for example) and regulatory aspects (consistency with the current framework and lines of improvement associated to the introduction of reconfigurable and cognitive radio). ANFR has made universities, manufacturers and, to a lesser extent, operators aware of frequency management constraints and has studied the regulatory implications in the context of the R&TTE directive. It has also initiated approaches to making members of the ECC aware of these questions through several consultations and communications on the work of the E2R. Moreover, consistent with this process, it has actively supported the establishment of a reconfigurable radio technical committee (TC RRS) within ETSI, with the assistance of the MINEFE.

The technical studies conducted by the ANFR

The ANFR is closely involved in various technical studies relating mainly to the compatibility between radio systems and to the protection of radio systems from passive interference. The main forum for these studies was the Advisory Committee on Electromagnetic Compatibility (CCE) of ANFR at national level, and served as a basis for contributions to CEPT or ITU-R.

Impact of wind turbines on radars

ANFR continued its work on the impact of wind turbines on radars. After publishing a report on the protection of meteorological radars in 2005, and a report on the protection of civil aviation and defence radars in 2006, ANFR, at the request of CETMEF, examined the protection of fixed maritime, river and port radars and published a new report in 2008. ANFR also lent its support to the Direction general de l'énergie et des matières premieres (DGEMP, General Directorate for Energy and Raw Materials) by developing a guide for radar protection when deploying wind turbines.

Safety perimeters surrounding transmitting stations

ANFR has completed the first version of a guide which determines the typical values for safety perimeters surrounding transmitting stations. This guide determined the values of safety perimeters provided for in the interministerial circular of 16 October 2001 for cellular radiotelephony, taking account of the development of the networks and including the UMTS. It also specifies the safety perimeters for typical configurations used for other radio systems such as broadcasting, digital PMR at 400 MHz, WiMax type local radio loop systems at 3.5 GHz, and WiFi type local networks at 2.45 GHz. This guide will be regularly updated so that new systems can be included in it and technological advances can be reflected.

UMTS in GSM bands at 900 and 1,800 MHz

In 2007, the studies conducted within the CEPT, aimed at establishing the technical conditions for introducing the UMTS systems in the GSM bands at 900 and 1,800 MHz, have been completed. One delicate point was the compatibility in adjacent bands around 960 MHz between UMTS 900 on the one hand and the DME aviation radionavigation systems and the MIDS military systems on the other. In order to establish the conditions of coexistence, additional studies on this point have been conducted at national level under the responsibility of ANFR, concluding to the absence of interference, provided that certain conditions are met.

Protection of radars from local 5 GHz RLANs

In 2007, interference from RLANs into meteorological radars was observed in some European countries, including France. Analysis and in situ tests carried out by ANFR, in collaboration with Météo France, enabled the identification of the origin of this interference. The DFS interference reduction technique (dynamic frequency selection) employed in the 5 GHz RLANs to prevent interference into radar had several shortcomings which made it ineffective in some situations. On the basis of ANFR analysis, the required modifications to the DFS characteristics were identified, which resulted in the revision of ETSI harmonised standard EN 301893 for the 5 GHz RLANs. This work should be completed in 2008.

Technical studies conducted within the CEPT

Within CEPT, a number of technical studies were completed in 2007 in the form of Reports or Recommendations. This work, to which ANFR made a considerable contribution, constitutes the technical basis for the regulatory decisions adopted by ECC and RSC.

The most noteworthy results are as follows:

- technical rules for implementing the WAPECS concept in the 2.6 and 3.6 GHz bands (see box);
- technical conditions for the use of ultra-wide band (UWB) technology and work on interference reduction techniques for these systems;
- technical conditions for the deployment of intelligent transport systems (ITS) in the 5.8 GHz and 63 GHz bands;
- determination of the impact of mobile-satellite service (MSS) Iridium systems at 1,610 MHz on other MSS systems and on radioastronomy.

Studies relating to the digital dividend

In August 2007, ANFR submitted a study conducted at the request of the *Comité stratégique pour le numérique* (CSN), created by Decree no. 2006-502 of 3 May 2006 of the President of the Republic for coordinating and directing the actions taken for digitisation of terrestrial television broadcasting, for switchover of analogue transmissions to digital and for re-use of the spectrum thus released. This study examined the possibility of creating, in the UHF band, a sub-band that could be dedicated to services other than broadcasting. The coexistence, within the same band of frequencies, between mobile networks and high power broadcasting networks presents major interference risks, which justifies the search for a sub-band that is harmonised throughout Europe for mobile applications in the UHF band. According to the requirements expressed by the CSN, three sub-band scenarios were considered in the upper section of the UHF band: channels 60-69, 62-69, 63-69. The study of these scenarios revealed two types of difficulties: the impact on the Defence networks and the need to reconstitute the seven complete coverages allocated to France for broadcasting by the 2006 Geneva (GE-06) Agreement, corresponding to the five current DTT networks and those provided for in Law no. 2007-309 of 5 March 2007 for high definition (HD) and personal mobile television (TMP). The study

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concluded that this reconstitution was feasible subject to further discussions with audiovisual players to examine the proposed solutions and, of course, subject to the agreement of neighbouring countries.

This study resulted in similar conclusions at European level regarding the feasibility of a harmonised sub-band capable of accommodating mobile services and comprising at least channels 62 to 69. These studies were continued to establish a new channelling plan for the mobile services within the sub-band identified by WRC-07 (channels 61 to 69) and to examine in greater detail the solutions to the difficulties of implementing this sub-band in terms of reconstituting the layers and coordinating broadcasting and mobile services in adjacent countries.

The work of studying in greater detail the reconstitution of the seven French coverages of the GE-06 Plan was initiated with the CSA and the DTT program providers in September 2007. At the same time discussions commenced with the neighbouring countries to identify the channels available both for reconstituting the existing layers and for creating additional layers.

Institutional cooperation

The institutional cooperation of ANFR includes:

- bilateral actions (exchanges of views, training courses and selective tasks organised at the request of ANFR counterparts),
- regional or national training seminars and attendance of experts at international meetings and symposia in the framework of the ITU development sector, CAPTEF or FRATEL.

Bilateral cooperation

ANFR received nine foreign delegations, comprising thirty five high-level representatives and experts, to prepare for the World Radiocommunications Conference (WRC-07) and to discuss spectrum planning and management, spectrum monitoring and regulations relating to radio terminal equipment circulation.

ANFR signed a cooperation agreement with the Ministry of Telecommunications and Information Technologies of Yemen. ANFR also sent two experts to Yemen to share experience and know-how relating to the protocol for *in situ* radio field measurements and to conduct, on several sites, a campaign of measurements between 100 kHz and 3 GHz, during which experts from Yemen were trained in handling the equipment.

ANFR met its German counterpart, BNetzA, for discussions on spectrum monitoring measurements in the HF/VHF/UHF bands and the handling of interference.

In addition, ANFR was invited to attend two international symposia, one in Algeria on the digital dividend and spectrum valuation, and the other in Yemen on information, prevention and communication regarding public exposure to electromagnetic radiation. It also took part in two joint ministerial committees.

Foreign delegations received at the ANFR

Country	Organisation	Subjects	Dates
Ivory Coast	ATCI	Frequency and spectrum monitoring management	5-7 December 2007
Morocco	ANRT	Joint follow-up commission Preparation for WRC-07	7 September 2007
Japan	Ministry for Information and Communications	Preparation for WRC-07	5 September 2007
Morocco	ANRT	Supervision of the radio equipment market	29 May to 1 June 2007
Yemen	MTTI	Cooperation agreement	7 February 2007

ANFR delegations invited abroad

Country	Organisation	Subjects	Dates
Algeria	ARPT	Symposium: Digital dividend	3-4 December 2007
Germany	BNetzA	Meetings: Spectrum monitoring	13-15 November 2007
Mauritius	ICTA	Meetings: Maritime radio control	29 and 30 May 2007
Yemen	MTTI	Symposium: exposure of the public to electromagnetic radiation measurement campaign	28-30 April 2007 2-16 March 2007
Japan	MIC	Joint Franco-Japanese ministerial committee	13-14 March 2007

International actions

ANFR continues to develop its activities involving cooperation with other countries.

The second seminar, entitled "mastering frequency management and spectrum monitoring", was organised jointly in Rabat by ANFR and the Moroccan National Telecommunications Regulatory Agency (ANRT) from 9 to 13 July 2007. Thirty five participants from thirteen French-speaking African countries attended the seminar. Its success opens the way for similar projects in partnership with the European Commission targeting other Mediterranean countries as part of the neighbourhood policy of the European Union.

The success of the first CAPTEF preparatory meeting for WRC-07, in February 2007, reinforced the policy of institutional cooperation and reciprocal information between French-speaking administrations. A second meeting was held in October 2007, just before WRC-07, in Geneva. More than eighty participants from twenty countries attended this meeting.

The National table of frequency allocations (TNRBF)

The updates of the TNRBF were prepared by the Commission de planification des frequencies of ANFR (CPF, Frequency Planning Commission). In 2007 the CPF proposed to the Board of ANFR modifications relating to:

- the timetable for release of frequency bands around 150 MHz by ARCEP and the Ministry of Defence;
- the harmonisation of the 169.4-169.8125 MHz band;
- the addition of a broadcasting service in the 223-224.792 MHz band;
- the anti-collision systems for gliders operating in the 868-868.6 MHz band;
- the fixed service Civil Aviation links in the 1,375-1,377 MHz, 1,427-1,429 MHz, 22.1725-22.21 GHz and 23.1805-23.218 GHz bands;
- the allocation of the 1,544-1,545 MHz, 5,000-5,010 MHz and 5,010-5,030 MHz bands to the CNES
- the harmonised use of the radio spectrum in the 2 GHz frequency bands for implementing systems supplying mobile-satellite services;
- the allocation of the 2,500-2,690 MHz band in Mayotte and la Réunion pursuant to Decision ECC/DEC/(02)06 of the Electronic Communications Committee of 15 November 2002, designating these bands for the introduction of the UMTS/IMT2000 systems (suppression of the allocation to the broadcasting-satellite service in these bands);
- the agreement between ARCEP and Météo France on the use of the 7,750-7,890 MHz band;
- the fixed service links for the administration of ports and maritime navigation in the 22.1725-22.21 GHz, 23.1805-23.218 GHz, 37.35375-37.39225 GHz and 38.61375-38.65225 GHz bands;

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- the revision of the conditions of use of the 22.55-23.55 GHz band by ARCEP;
- the reorganisation of the 37.0-39.5 GHz band;
- the identification of new channels for the video links anciliary to broadcasting;
- updating of the frequencies to be used by low power and short range devices (particularly by equipment operating with ultra-wide band technology, movement detection and warning devices, induction loop equipment, RFID radio tags and medical implants).

The Board of ANFR approved these modifications and forwarded them to the Prime Minister, according to current procedures, which provide for formal consultation with ARCEP and CSA. The modifications, approved on 22 March and 21 June 2007, were published by decrees of the Prime Minister of 15 June and 24 August 2007 respectively.

As part of its spectrum planning mission, ANFR is also conducting prospective analyses of the use of radio frequencies. The *Commission des revues de spectre* of ANFR (*CRdS*, Advisory Committee on Spectrum Reviews) is in charge of conducting surveys on current use of spectrum and to collect information on long-term spectrum requirements. Its working program is defined annually and takes account of the activity within the international organisations (CEPT, ITU). In 2007 it was related to:

- spectrum demand for the fixed service up until 2015;
- new radio technologies and their implications in terms of frequency management;
- broadband access systems.

Use of the Spectrum Reallocation Fund (FRS) and the Digitisation Support Fund (FAN)

The FRS is an essential tool for enabling new spectrum uses. The current resources of FRS are used mainly within the framework of Decree 2003-620 for pre-financing the analogue TV frequency changes operations required for the deployment and extension of digital terrestrial television (DTT) broadcasting networks in metropolitan France.

Authorised digital terrestrial program providers make half yearly repayments to the FRS. In 2007, according to the provisions of the above-mentioned decree, the FRS lent € 10,922 including taxes to GIE Fréquences, the entity tasked with the frequency changes work. On this basis each of the 28 DTT program providers with national coverage received, at the beginning of January 2008, an invoice for € 393,778.95 incl. taxes corresponding to their half-year share.

25 local digital television program providers, who were granted licences on 31 December 2007, contributed for the first time in January 2008 to the repayment of the FRS costs for 2007, totalling € 225, 422 incl. tax. Their share varied from € 1,129 to € 42,100, according to the population covered, and the respective broadcasting time of each programme in case of a shared channel.

In addition, for deployment of the UMTS networks in Martinique and Réunion, the Ministry of Defence has benefited from FRS contributions for the release of five radio relay links in the first case and three in the second. The extension frequency bands for UMTS in France (2,500 – 2,690 MHz) are currently used by almost 600 electromagnetic waves in the RUBIS network of the *Gendarmerie*, and the Ministry of Defence began studying the conditions for using the FRS in reallocating this band. The total cost of this reallocation, which could take four to five years, is estimated at 70 M€.
Following the publication of Decree no. 2007-957 of 15 May 2007, ANFR set up a new advisory committee, in July 2007, to study the digitisation support fund of ANFR (FAN). This committee has the responsibility for issuing recommendations and making proposals on the use of FAN, particularly on the geographical areas that may be affected by interference from DTT transmitters and the expenses and costs to be incurred.

Four agreements have been signed with GIE Fréquences for the use of FAN. The fund was used for the first time in 2007, for compensating households affected by interference caused by German DTT broadcasting stations which started operation near the French border in July and December 2007.

Management of satellite system frequencies

The year 2007 was marked by the implementation of the regulatory provisions of Articles R52-3-1 to R52-3-21 of the Post and Electronic Communications Code derived from Decree No. 2006-1015 of 11 August 2006, which supplements the legislative framework established in Articles L97-2 to L97-4 of the same code derived from the Law no. 2004-575 of 21 June 2004 on the confidence in digital economy. These regulatory provisions enable operating licences for frequency allocations declared by France to the International Telecommunications Union (ITU) to be granted by the Minister in charge of Electronic Communications after processing of the applications by ANFR. These licences associate to the licensed operators the rights and obligations acquired by France in the ITU in relation to frequency assignments to satellite systems.

The law provided for a period of one year from the publication date of the decree – 12 August 2006 – to clear the situation of satellite networks previously in operation. During this period, ANFR received eight licence applications for systems at orbital positions 8°W, 7°W, 5°W, 1°E and 3°E. Moreover, a licence application for a new satellite system at 10°E was registered during the same period. To facilitate the

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application process, ANFR established a new advisory committee (CSAT) which met for the first time on 15 January 2007 to examine the first three applications, then again on 24 September to examine the other six applications. The nine processing files were submitted to the Minister in charge of Electronic Communications in 2007.

The regulatory provisions of the above-mentionned Decree also provide for the advance payment to the ANFR of a fee corresponding to the ITU processing costs before the ANFR can forward an assignment request to the ITU on behalf of a satellite network operator. However, the ITU receipt date of the assignment request is very important for the associated rights. Agreements between ANFR and three satellite network operators were therefore signed to enable advance payment to ANFR for future satellite projects and avoid any delay in transmitting the requests to the ITU.

ANFR is continuing its administrative task of notifying the ITU for three inter-governmental organisations, two governmental operators and six commercial operators. In 2007 it forwarded to the ITU seventeen

applications for the advanced publication of information (API), fourteen coordination applications and seventeen notification applications according to Article 11 of the Radio Regulations on behalf of satellite network operators. The coordination activities were followed up with a coordination meeting between the French and Malaysian administrations at the ANFR in June 2007.

The WAPECS

The WAPECS concept (*Wireless Access Policy for Electronic Communication Services*) was the subject of an opinion by the RSPG to the European Commission in 2006. Pursuant to this concept, the Commission intends to introduce more flexibility in the spectrum management by minimizing the technical and regulatory conditions. As part of a mandate, the Commission tasked CEPT for an initial definition of the technical rules aimed at converting the WAPECS concept into an operational framework.

The work of CEPT, in response to the WAPECS mandate, demonstrated the limits of the principle of technological neutrality. The approach adopted is based on a BEM (*Block Edge Mask*), which provides the operator with a power template which must be respected within and outside the allocated band. These rules are based on WAPECS reference systems taken into account during the compatibility studies. If the systems implemented have characteristics that differ from the assumptions made, it is no longer possible to guarantee the absence of interference, at least not without a loss in spectral efficiency. Flexibility is increased in terms of spectrum management, but at the expense of potential conflict between operators. Monitoring the local compliance with the rules also represents a challenge for regulators. The BEMs, which are technical rules that apply to operators, are intended to be independent from harmonised standards and monitoring compliance with them may require tools other than these standards. Moreover, the work of CEPT has shown that interference problems more often result from differences in network implementation characteristics rather than from the technology itself: TDD/FDD (2.6 GHz), power, height of antenna, coverage, bandwidth.

The Commission requested CEPT to work on introducing the WAPECS concept for several bands. However, some of the bands considered (900 MHz, 1,800 MHz or 2 GHz) had just been the subject of recent harmonisation measures and were considered sufficiently flexible. Moreover, the 470-862 MHz band is already the subject of much debate within the context of the digital dividend. The discussions regarding flexible conditions of use have therefore concentrated principally on 3.4-3.6 GHz and 2.6 GHz.

For the 3.5 GHz band, the BEM has been defined on the basis of work previously carried out by CEPT, extending the technical conditions to electronic communications as established for the BWA (Broadband wireless access systems). For the 2.6 GHz band the BEM is based on the channelling of Decision ECC/DEC/ (05)05 as well as on several compatibility studies relating particularly to the delicate matter of coexistence in adjacent bands between TDD and FDD networks.

Revision of the regulatory framework

The final quarter of 2007 was marked by the publication of the European Commission proposals on the revision of the regulatory framework for electronic networks and communications services. They are centred around draft amendments of the following directives of 7 March 2002 of the Parliament and Council: the "Framework" directive (2002/21/CE), the "Access and interconnection" directive (2002/19CE), the "Authorisation" directive (2002/20/CE), the "universal service" directive (2002/22/CE), as well as the directive of 12 July 2002: "private life and electronic communications", known as "personal data protection" (2002/58/CE). As far as the spectrum is concerned, several objectives have been pursued: strengthening of the Commission's power over harmonisation, simplification of the spectrum access rules and removal of the constraints of use. This is expressed by a reinforcement of the principles of technological and service neutrality, the secondary market and the general authorisation regime, to the detriment of individual licences, as well as by the establishment of an authorisation procedure for pan-European services. Finally, the purpose of the reform is to establish a European Electronic Communications Market Authority (EECMA), a highly controversial project which would add a new entity in the European decision-making process, which is already complex in terms of frequency harmonisation. ANFR has analysed these proposals in detail, and their impact on frequency management both for electronic communications and for governmental applications. It has contributed to preparation from the French perspective in anticipation of the debates within the European Council and Parliament, which will commence in 2008 under the Slovene presidency and continue under the French presidency.

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IN BRIEF...

122 site inspections, including 4 port areas

447 cases of interference reported to ANFR

5 inspection missions in the overseas departments and communities

5,100 ship radio installations inspected

8,321 candidates invited to take the SRC examination(sShort Range Certificate), 1,015 scheduled sessions

1,311 independent radio networks inspected

MONITORING AND MEASUREMENTS

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

The corresponding activities include:

- the administrative and technical handling of reported interference and television viewers complaints when an on-site visit is considered necessary;
- the prevention of electromagnetic incompatibilities, both by inspecting radio equipment and terminals put 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;

- the 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);
- the attendance of international meetings to discuss matters relating to the measurement methods and procedures, as well as to the international monitoring of transmissions;
- coordination of monitoring of compliance of public exposure to electromagnetic fields with the applicable limits, particularly in the vicinity of base stations transmitters ;

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■ the 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.

The resources

In order to successfully complete all inspection tasks , ANFR may call upon the services of the *Direction technique du contrôle du spectre* (DTCS, Technical Spectrum Monitoring Directory), with staff of over 140, most of them highly qualified engineers, and structured around six regional departments, 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 hours a day / seven days a week. Finally, an office established on the Island of la Reunion is dedicated to the inspection and measurement activities on that island as well as in the island of Mayotte, and an office, established in Guadeloupe since December 2007, carries out monitoring and measurement activities in the French Carribean islands and Guyana.

In terms of technical resources, the DTCS operates, in metropolitan France, a monitoring system structured around seven remote control and computerized processing centres, to which fifty three fixed stations are connected, one of which also providing coverage for the HF bands, as well as a fleet of twenty six vehicles

equipped with measurement laboratories and eight transportable stations.

This system allows monitoring of the frequency bands between 30 MHz and 3 GHz on which most of the transmissions take place, particularly those associated with radio broadcasting and mobile services (mobile telephony, for example). Its operating architecture was renovated and modernized in 2006 allowing the essential spectrum monitoring functions to be retained, with the possibility of integrating both interferometry radiogoniometers and rotating directional antenna stations. For the renovation of the monitoring stations, two contracts were independently notified in 2006, the work being carried out in 2007, to replace eight goniometers with three goniometers from the latest generation and five stations with rotating directional antennas.

All these technical resources are complemented by a software application dedicated to spectrum monitoring, currently under development: FCS (spectrum monitoring data base management application, see box). The first version of this application relates to the creation and the consultation modes of the database, was delivered in March 2007 and has been in operation since April 2007.

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

Monitoring policy

Inspection of radio sites

One hundred and twenty two sites were inspected in 2007. They include a total of 1,334 stations using 5,275 frequencies.

Inspection reports identify non-compliances observed in relation to the data declared by the frequency allocation authorities in the reference data bases of ANFR, such as the FNF and the STATIONS registers. These reports are therefore used to update these databases in line with requests made to the relevant frequency assignments authorities. The main non-compliances noted concerned non-compliance with the specifications associated with licences issued by ARCEP (53), the absence of a COMSIS agreement (41) and the use of frequencies without authorisation (56).

Inspections were also carried out on other radio sites such as port and airport areas, which are characterized by a high concentration of transmitting resources, including in particular networks dedicated to the safety of ship and aircraft, whose protection from interference constitutes an undeniable obligation.

Inspection of airport areas

In 2007 the major campaigns undertaken in the airport areas of Roland-Garros in Saint-Denis de la Réunion, Tontouta in Nouméa and Faa'a on Tahiti resulted in the regularization of the independent aviation radio networks (OPC). These networks are used in airports for commercial purposes and not for safety, air traffic control or equipment test. The frequencies used by the OPC networks are under the responsibility of civil aviation, but are subject to a system of licences issued by ARCEP or by the competent local authority in French Polynesia and New Caledonia. The inspections also covered the airport area of Cayenne-Rochambeau in French Guyana.

Inspection of port areas

Three port areas were inspected: the ports of Colmar and Strasbourg in metropolitan France, as well as the autonomous port of Papeete in French Polynesia.

Measurements for verification of compliance with the limits of public exposure to electro-magnetic fields

In 2007 the ANFR recorded the reports of 2,438 measurements aimed at ensuring compliance within the limits of public exposure to electromagnetic fields. In total ANFR "Measurement Sheets" database contains over 12,000 reports relating to measurements carried out since 2001. These sheets are available to the public on www.cartoradio.fr.

Only organizations accredited by COFRAC to carry out measurements of electromagnetic field levels are recognized. Since 1 January 2006, with the application of version 2.1 of the protocol, the electromagnetic field measurements carried out in the frequency band reserved for UMTS have to be conducted using a UMTS scanner.

Following the publication of the procedure relating to the qualification of P-CPICH decoding equipment in W-CDMA mode in July 2006, it had been agreed that, as of 1 August 2007, the accreditation of laboratories not having certified equipment would be suspended until conformity has been obtained. Following the decision of the sole service provider to terminate its CPICH decoder qualification services in the course of the 1st half of 2007, the deadline was extended to 1 January 2008. Since ANFR was able to resume the CPICH decoder qualification activity only on 1 December 2007, laboratories therefore were given one month to certify their equipment.

In 2007, ANFR also initiated the accreditation procedure of the CCI in Rambouillet and of the regional Lyon service, for performing in situ measurements.

International monitoring of transmissions

The CCI in Rambouillet monitored approximately 70,000 HF frequencies, over 10,000 of which were not being used in compliance with the regulations. Fifteen irregularities were noted for which foreign administrations received a notification, and over 5,000 non-compliant transmissions were notified to the ITU. In the HF frequency band, the number of complaints received remained constant overall (40 complaints, 11 of which international). Following the creation, at the end of 2005, of an Internet forum between monitoring centres in ITU member countries, the number of cases of mutual assistance through international cooperation has increased (71 in 2007, against 50 in 2006, 34 in 2005 and 22 in 2004). Thanks to previous investigation work carried out on illegal transmissions, particularly in the bands allocated to the mobile aviation service, a significant reduction in their number was observed in 2007.

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Frequency coordination and inspections for "major events"

In 2007 the *Bureau centralisateur national* (BCN, National Central Office) , the regional services and the CCI were involved in seven "major events", including the Rugby World Cup, which was held over six and a half weeks on ten sites in France, the last two being entirely managed by UK OFCOM.

XXIVth African France Summit in Cannes	from 13 to 16 February
Roland Garros International tennis championship	from 25 May to 10 June
47th International Aerospace Show Le Bourget 2007	from 18 to 22 June
Test Day + 24 Hours of Le Mans	2 June / from 14 to 17 June
Cycling Tour de France (94th edition)	from 4 to 29 July
Formula 1 Grand Prix in Magny-Cours	from 28 June to 1 July
Rugby World Cup	from 5 September to 20 October

Processing of interference cases

The number of interference cases reported to ANFR decreased by 25% in 2007 following an increase recorded in 2006.

Year	Number of requests made
2007	447
2006	599
2005	541
2004	540
2003	654
2002	644

Types of interference identified in 2007

Type	Percentage
Industrial interference (DPU, etc.)	32.2
Spurious emissions	15.3
Illegal emissions	10.4
Frequency sharing	9.9
Intermodulation products	7.4
Various breakdowns	7.4
Cross-border interference	6.9
Permanent transmission	4.0
Antenna defect	3.5
Reception saturation	2.5
Excessive frequency deviation	0.5

As in previous years, these results show that a major proportion of interference was casued by sources other than radio-equipment (particularly data processing units, cable networks, etc.). These cases of interference are difficult to solve and require significant resources. The professional networks are increasingly affected by low power and short range equipment which do not require an individual licence, are designed for the general public and available at low cost, and produce a cumulative interference which is far from negligible.

The heading "Illegal emissions" mainly includes the use of equipment that does not meet the requirements of Community Directive 99/5/CE of 9 March 1999, the so-called "R&TTE directive", such as long range cordless telephones operating in the VHF or UHF bands.

International activities relating to spectrum monitoring

ANFR has contributed to the work of Study Group 1 of the ITU-R. ANFR is also involved in the work of the CEPT for monitoring transmissions.

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The FCS-INFOCENTRE software application

Objectives

ANFR manages reference databases (STATIONS, FNF and COORDINATION) which enable reliable recording of the rights of spectrum users (ministerial departments, electronic communication and broadcasting operators) at national and international levels. These data bases can currently be consulted only by successively interrogating each of these databases, which is cumbersome, particularly for monitoring.

The primary objective of FCS-INFOCENTRE application is provide to all the users of the reference databases of ANFR:

- all the available information relating to the authorised use of frequencies in a given area;
- the main results of the monitoring and inspection campaigns;
- the situation regarding notified non-compliances, following reports of major deviations found during inspection campaigns;
- the monitoring of regularizations required following reported non-compliances.

All this data is easily accessible thanks to a web browser. The use of FCS-INFOCENTRE requires no preliminary installation at the workstations.

Transmitting stations, as well as allocations in force, can all be visualised simultaneously on maps, using a cartographic tool combined with sets of maps covering, on several scales (from 1/5,000 to 1/500,000), the entire French territory (metropolitan France, overseas departments and communities).

Developments in 2007

The first phase of the FCS development, implemented in April 2007, allows inquiries on the main data contained in the STATIONS, FNF and COORDINATION databases and in the Radio networks and relays management data bases, which is maintained by ANFR on behalf of ARCEP. All data collected from the reference databases can easily be viewed thanks to a web browser allowing multi-criteria searches.

Three other phases were also delivered in 2007 for the supply of the automatic inspection system, the management of interference cases, as well as the handling of television viewers claims. The last two phases have been implemented during the first quarter of 2008.

In 2008, other segments will be delivered to allow for the management of inspection campaigns, with special searches possible of all FCS-INFOCENTRE tables for special analysis and processing. An autonomous and "nomadic" version of the application will also be delivered, running on portable microprocessors to provide the on-site inspection teams with all the information necessary in the field.

REGULATORY MANAGEMENT PROCEDURES

IN BRIEF...

448 average weekly rate of new radio stations requests

17,000 new frequency assignments

24,000 assignment requests processed via the FNF application for non-broadcasting terrestrial services

27,000 notifications transmitted to the ITU Radiocommunications Bureau

10,993 foreign assignments were the subject of 18,730 cross-border coordination procedures, including 629 digital terrestrial broadcasting assigments through 729 procedures

11,388 French assigments were the subject of 16,403 cross-border coordination procedures, including 384 digital terrestrial broadcasting assigments through 813 procedures

95 meeting days for frequency coordination with neighbouring countries

18 signed border coordination agreements

1,566 (as against 1,659 in 2006) notifications of placing on the market of class 2 radio terminal equipment

15,025 notifications of radio terminal equipment up to 31 December 2007

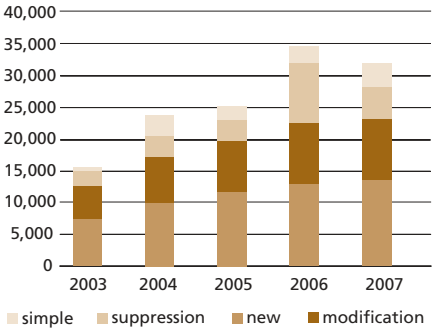
62 terminal equipment sampled in 2007 (40 in 2006) for compliance verification with applicable regulations.

Spectrum regulatory management procedures cover three areas of activities: recording of assigments, processing of coordination requests and management of sites and radio easements. In close cooperation with its working partners, the ministerial departments and regulatory authorities in charge of frequency assignment and the radiocommunication operators, ANFR continuously upgrades the corresponding data processing software for improved management and information of all spectrum stakeholders.

Sites and easements

Activity in 2007 was comparable to that of last year, during which an increase of approximately 15% in agreement requests for new or modified radio-communication stations was observed. The weekly average for files submitted to ANFR approval was 448 (See Figure 1). The analysis of the figures shows a considerable increase (36%) in simple declarations (stations of between 1 and 5 W), an increase in CSA requests generated by the current renewal of sound broadcasting licences in the FM band (2,641 requests). On the other hand, the year was marked by an 18% decrease in the requests relating to UMTS (3,577 new stations) and GSM (3,527 requests). Attention must also be drawn to the current deployment of the WiMAX networks: 366 base stations were recorded in the national master register by the end of the year, with 292 of them approved in 2007.

Figure 1: Number of applications processed by the ANFR



Morover, significant activity (250 applications) was noted in relation to the creation of radio easements for the protection of new networks of the Ministry of the Interior. On a regulatory level, the Commission of Sites et Easements approved the complete revision of document ANFR DR 08, related to the procedure for establishing radio easements.

ANFR is committed to inform the general public of all relevant information through the heading "databases" on the web site *www.anfr.fr* which, for the station data, refers to the public web site *www.cartoradio.fr*, which is presenting on a map approximately 115,000 stations of all types, except those falling within the responsibility of Civil Aviation and the Ministries of Defence and the Interior. This also includes over 10,000 results of electromagnetic field measurements.

Reserved access is also offered to professionals for consulting and extracting information relating to radio easements.

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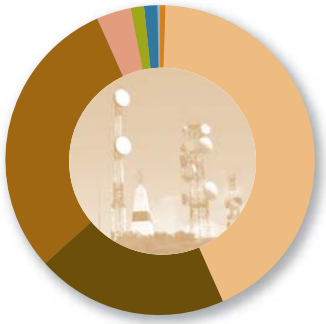
Assigments

On 31 December 2007, 183,961 assigments had been recorded in the national master frequency register (FNF). Figure 2 shows their distribution per ministerial departments and regulatory authorities.

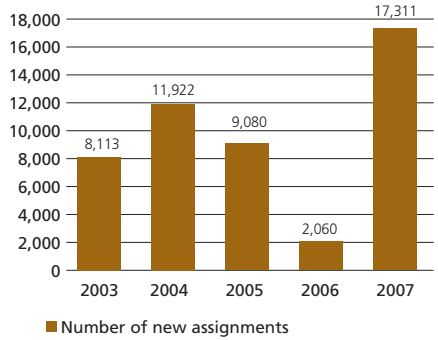
Figure 2: Distribution of assignments in the FNF on 31 December 2007



AC	1,127	INT	6,322
ARCEP	78,829	HCR-TTOM	2,528
CSA	36,808	MTO	303
DEF	55,055	PNM	2,580
ESP	239	RST	170

In 2007 the ANFR recorded 17,311 new assigments in the FNF. As shown in Figure 3, this is the highest number registered in the last five years.

Figure 3: New assignments



Reconrding in the FNF is a prerequisite to record an assignment in the Master International Frequency Register (MIFR), which is a pre-requisite for international recognition of that particular use of a frequency, and enable the user of that assignment to benefit from all the guarantees granted to France as a Member of the International Telecommunications Union (ITU). Such recordings may also be used as a basis for grandfathering existing uses when world radiocommunication conferences discuss changes to the international table of frequency allocations and associated procedures.

In 2007, ANFR notified for recording into the MIFR (creations, modifications and suppressions) 26,669 assignments for terrestrial services and 217 for space services (earth stations). For France, 90,449 assignments were recorded in the MIFR until 31 December 2007 for terrestrial services and 305 assignments for eath stations, placing France in fifth place among the notifying administrations.

A major event of the year 2007 was the full implementation of the FNF data processing software, which became operational on 1 December 2006, providing more efficient frequency assignments management for all terrestrial services except broadcasting. This is the key result of several years of software development, lengthy validation work and data migration process from the previous data base. The FNF application will be progressively extended to broadcasting, mainly to take account of the regulatory developments of the 2006 Geneva Regional radio-communciationn Conference on digital broadcasting, and to space Services.

The FNF software offers a fully electronic exchange procedure for frequency assignment requests. It is an easy and effective means for the ministerial departments and regulatory authorities to consult the national frequency register, as well as the list of recording applications placed on the agenda of a meeting of the Frequency Assignment Committee (CAF).

The FNF software also provides one-stop shopping for recording in the national and international registers, as well as for cross-border coordination. A single application is now sufficient to initiate all these procedures.

The FNF software links the frequency assigments recorded by the CAF, the international coordinations and the stations recored by COMSIS, providing links between the data structures specific to each of the software applications managing the corresponding procedure (i.e. COORDINATIONS and STATIONS). Improved quality and management of data, as well as simplified access to the data, are therefore offered to the ministerial departments and regulatory authorities.

This year, approximately 24,000 files were processed by FNF software. This figure illustrates the excellent transition to the new information system, with ministerial departments and regulatory authorities rapidly catching up the delay registered in 2006. As a result of the collaborative work with ANFR, the further development of the software for the integration of new services is progressing, which may lead to simplifying the current procedures.

Coordinations

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 coordinating between the terrestrial services and the space services.

For broadcasting, the bilateral negotiations continued after RRC-06 to coordinate the frequencies that will be used by DTT in the border areas during the transitory period, at the end of which, on 30 November 2011, analogue television broadcasting will cease. According to the objectives established by the Prime Minister in October 2005, these bilateral negotiations led to the achievement of 85% coverage of the French population by DTT in 2007, by identifying and obtaining the frequencies required in border areas.

All the special agreements signed by France are available on *www.anfr.fr* under the *heading Bases de données/ coordination* (Databases/coordination).

In the case of the fixed services (radio relay links) and mobile services (PMR), the management of the coordination procedures, including the recording of data in a reference database and the compatibility assesment, is carried out using the COORDINATION software. Since December 2006, the implementation of an interface between the FNF and COORDINATION softwares has enabled each of the assigments of terrestrial services, except the broadcasting service, to be analysed reliably and quickly, and the need to apply border coordination procedures to be asserted. Approximately 30,000 assignments were analysed in the course of 2007, which resulted in the identification of 10,928 French assignments that were the subject of 14,846 coordination procedures with foreign administrations. During the same period 10,187 foreign assignments were the subject of 17,362 coordination procedures carried out in collaboration with the ministerial departments and regulatory authorities concerned.

As far as the broadcasting service is concerned, the management of coordination activities consists on the one hand in analysing the publications by the ITU or the European Radiocommunications Office (ERO) containing information on the requests for modifications of the plan(s), on the other hand in processing applications for direct coordination between administrations. In 2007, modifications to the COORDINATION software made it possible to manage the coordination procedures of the analogue sound broadcasting stations, the associated technical studies being carried out using specific tools. In 2007, ANFR received 806 coordination applications for foreign broadcasting stations (of which 629 were for digital terrestrial TV broadcasting), generating 1,368 coordination procedures (729 of which were for digital terrestrial TV broadcasting) conducted in collaboration with the ministerial departments and regulatory authorities. At the same time ANFR coordinated 460 broadcasting assignments (384 of which were for digigtal terrestrial TV broadcasting), generating 1,457 coordination procedures with foreign administrations (813 of which were for digital terrestrial TV broadcasting).

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4 | Market surveillance for radio equipment and electronic communication terminal equipment

Article R20-4 of the French Posts and Electronic Communications Code states that only radio equipment and terminal equipment complying with the essential applicable requirements, whether technical (protection of personal health and safety, protection relating to electromagnetic compatibility, effective use of the spectrum) or administrative (markings to be applied, information to be supplied, possibly notifications to ANFR of placing on the market) may be marketed, connected to a public network, or used. For uses which were not harmonised at a European level, Article R20-11 of the same code and the Decree of 21 March 2005 passed for its application (*JORF* of 2 April 2005) provide for a notification to be submitted to ANFR no later than four weeks before the product is put on the French market. The examination of the notifications also enables ANFR to evaluate market development for radio equipment operating in non-harmonised frequency bands.

For more effective warning of potential interference risks, and for consumer protection, it is necessary to pursue continuous monitoring of the radio products put on the market. This monitoring comprises five elements:

1 | Updating of a database of notifications of equipment using non-harmonised frequencies throughout the European Union (Class 2 equipment). This database is fed by the manufacturers or importers through an electronic form available at *www.anfr.fr*;
2 | Inspection of administrative compliance (marking, leaflet and packing information);
3 | Study of technical documentation for some equipment;
4 | Taking samples to check conformity with the applicable technical essential requirements;
5 | Follow-up observations of non-compliance in letters of formal notice to the distributors and persons responsible for putting on the market the equipment concerned, as well as offences reports issued by the sworn inspectors of the ANFR.

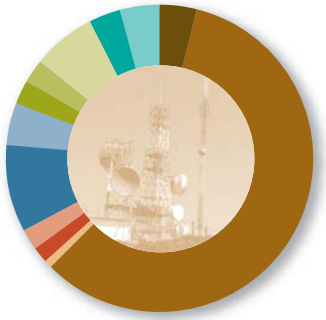
The market surveillance of the radio and terminal equipment was stepped up in 2007 (62 samplings as against 40 in 2006), as a result of the completion in 2006, of the implementation of the R&TTE directive into French law.

Survey of notifications of market introduction

In 2007 the ANFR received 1,566 notifications, and its database contained 15,025 entries on 31 December 2007.

As in previous years, the RLAN (WiFi) type applications represent a large proportion of declarations, i.e. 58% of all notifications (a higher proportion than in 2006, despite the harmonisation of some of these applications). 2008 should see a considerable increase in notifications as a result of the single form (OSN: One Shop Notification) launched by the European Commission at the beginning of 2007. From now on applicants will be able to make their notification in most EU Member States via this "one-stop shop".

Figure 4: **Simplified distribution by application type**



- Independent radiocommunication networks **3.96%**
- Rlan-hiperlan **58.56%**
- Local radio loop **0.83%**
- Remote control **1.92%**
- Telemetry **1.98%**
- Other applications **9.2%**
- Wireless audio application **4.47%**
- Bluetooth **2.49%**
- Radiomaritime equipment **2.49%**
- Radio links **6.64%**
- Toy radio control **3.32%**
- Broadcasting **4.15%**

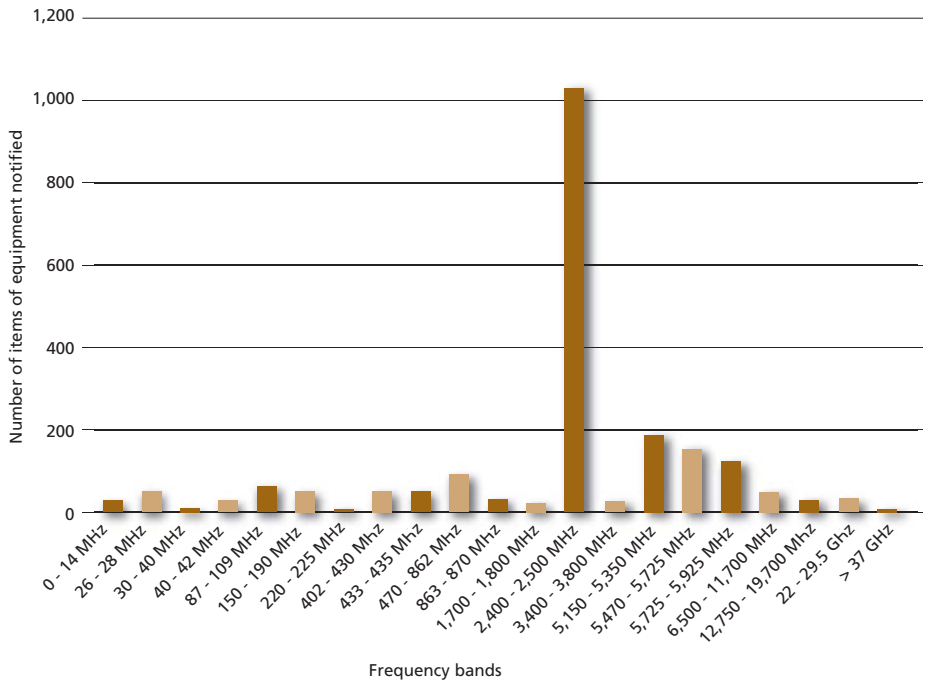
A slight increase in wireless audio applications during 2006 is observed. The number of notifications increased from 65 in 2006 to 70 in 2007 (of which 63 were using the FM band). This increase illustrates consumers interest in FM transmitters intended for use as accessories to MP3 players. These applications allow music to be transmitted from the MP3 player and/or a telephone call to be made from a mobile telephone (via Bluetooth communication) to the car radio. A new application consists in sending navigation commands from a GPS navigator to the car radio speakers. The use of this application is not yet authorised in France and the equipment is therefore in class 2. The marking of the equipment category identifier (the alert sign) and the applicable restrictions must be included in the documentation, as well as on the product and packing.

Because the use of this equipment is authorised in other Member States of the Union, they can be placed on the Community market, including on the French territory, as part of the free circulation of equipment. ANFR has already taken 9 equipment samples for this type of application (as against 3 samples in 2006) to check conformity with the applicable regulatory requirements. Of the 9 FM transmitters tested, only 1 complied with the regulations in force. On certain devices, it was possible to measure a radiated power (p.a.r.) higher than one microwatt, which could represent a source of interference for the reception of FM broadcasting.

The above Table of equipment distribution sorted by non-harmonised frequency bands shows that the 2.4 GHz and 5.15 GHz bands remain the most popular. Since December 2007, notification of the WiFi applications in the 2.4 GHz band is no longer necessary whilst remaining in class 2 (the so-called "alert sign" category indicator remains mandatory). This decision, taken by the Member States at TCAM24, is intended to meet the need for harmonisation of this equipment whilst maintaining local restrictions regarding their usage (i.e. the only remaining restriction is 10mW maximum power for frequencies above 2,454 MHz in France). As the authorization of the 5,470-5,725 MHz band has been official since 22 January 2006 (ARCEP decision 2005-1081 of 13 December 2005, published in *JORF* of 22 January 2006), stabilisation of the number notifications in this band was observed in 2007, i.e. 154 in 2007 compared to 156 notifications in 2006.

In the 3.4-3.8 GHz band, after a very hesitant start in 2005 and 2006, with 26 notifications in 2007, a surge in wireless local loop (BLR) equipment notifications was

Figure 5: **Distribution of R&TTE notifications by frequency band**



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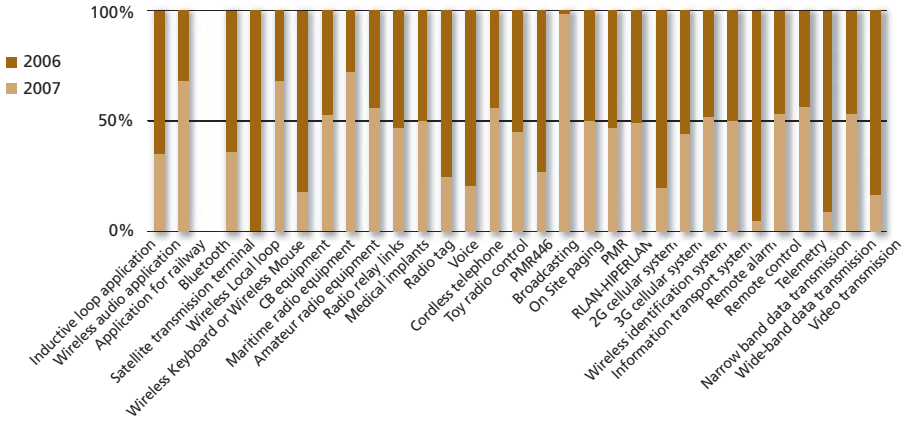
observed (13 BLR declarations in this band that can be associated with WiMAX technology), as against 7 notifications in 2006. This surge results mainly from the arrival on the market of WiMAX technology in PCMCIA card format for portable computers.

As in 2006, the most impressive growth was in broadcasting transmitters. Whilst only 1 notification had been recorded in 2005, followed by 40 in 2006, 65 notifications had been received in 2007. This rise is explained by the increasing number of notifications of new DTT transmitters.

Comparison by application type year n/ n-1



Moreover, a slight reduction was noted for Bluetooth, which was certainly not due to a loss of interest in the market for this technology, but to the conversion of most of the wireless earpieces (with a radiated power lower than 10 mW) to the harmonised system (class 1: i.e. from now on their marketing in France will no longer be the subject of a prior notification to ANFR, and that the so-called "alert sign" marking not any longer needed neither on the product, nor on its packaging and the accompanying documents).

Survey of 2007 samplings

Since the end of 2006, ANFR has launched regular sampling campaigns. 62 radio terminal equipments were therefore sampled in 2007, four of which were the subject of SAR (specific absorption rate) measurements: three GSM telephones and one long range cordless telephone. This campaign was aimed both at equipment for which non-compliance with the essential applicable requirements was likely to occur (as indicated by the advertised technical characteristics or the lack thereof), but also bottom of the range products, FM transmitters, new RLANs using MiMo technology, maritime VHF sets including a distress call system.

Of the 62 units sampled, 55 were tested (some samples related to ancillary equipment required for operating the unit but were not subject to compliance testing), and 28 were found non-compliant with at least one of the applicable essential requirements. The latter were the subject of an offence report and/or letters of formal notice addressed to the distributor and their suppliers as well as the person responsible of the placing on the market. These actions were carried out at the beginning of 2008 by the entitled, sworn agents of ANFR and the reports were transmitted to the competent public prosecutor's office for action.

In addition, ANFR conducted a sampling campaign on RLAN equipment using the 5 GHz band. The inspection of technical documentation and the result of the measurements revealed non-conformities with the essential requirement of the dynamic frequency selection (DFS). More targeted inspections revealed the inefficiency of the DFS function of certain equipment, which was the cause of on-site interference, although this equipment had passed the compliance tests of the harmonised standards in force.

These observations allowed a French contribution to be made to the TCAM, which clearly showed a deficiency in terms of the types of radar signatures defined in the last two harmonised versions (V123 and 131) of the standard EN 301 893 applicable to 5 GHz WAS (Wireless Access System) equipment.

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CONTRACTUAL ACTIVITIES ON BEHALF OF MINISTERIAL DEPARTMENTS AND REGULATORY AUTHORITIES

IN BRIEF...

- Reorganisation of the DCA (CGR), for better implementation of the new mission to protect television reception, for which ANFR has been responsible since October 2006, and rationalisation of the applications process for licences, carried out on behalf of ARCEP.
- Adaptation to the new regulatory provisions relating to spectrum fees payable by holders of licences issued by ARCEP.
- Signing of an agreement with the Ministry of Transport (Civil Aviation) the object of which is to identify the use of VHF frequencies by airlines for communications of a commercial nature in airport areas.
- Continuation of work in collaboration with the Ministry in charge of Maritime Affairs relating to the reform of the leisure boat licence system.

In application of the provisions of Article R20-44-11 11° of the Posts and Electronic Communications Code, ANFR, at the request of the ministerial department and regulatory authorities in charge of frequency assignment, may perform spectrum management and monitoring tasks within the framework of agreements signed with them.

The *Direction des convention avec les affectataires* (DCA, Directorate of contractual actitities with ministerial departments and regulatory authorities) of ANFR coordinates and supervises all actions carried out under the terms of these agreements, and is the sole interface of these departments and authorities in this field. In order to fulfil its tasks, the DCA relies on the *Centre de gestion des radiocommunications* (CGR, Radiocommunications Management Centre), in charge of spectrum management services and set up in the Noiseau and Saint-Dié-des-Vosges sites. CGR also perfoms all the billing work associated with spectrum fees for which the Head of the Technologies and Information Society Department (DGE) and the director general of the ANFR are responsible, and manages the amateur radio service. For spectrum monitoring activities, the DCA is assisted by the regional services of DTCS.

In 2007, all agreements signed in previous years were renewed. Contractual texts were drawn up relating to new fields, involving recent partnerships. In addition to a new agreement with the Civil Aviation Authority relating to the inventory of communication networks of a commercial nature in airport areas, several agreements were signed with companies whose equipment is audited by ANFR to enable them to obtain the approval of the Ministry of Maritime Affairs, for maintenance of radiolocation beacons used for help and rescue activities.

Since its creation, and in addition to its statutory activities, ANFR, within the framework of agreements, carries out some of the spectrum management activities of the Electronic Communications and Posts Regulatory Authority (ARCEP). Since 1 January 2000, together with the Ministry in charge of Maritime Affairs, it has been involved in an important activity for which an agreement was signed on 16 December 2005. In the framework of activities transferred to ANFR in the overseas communities since 2004, agreements have been signed with the competent High Commissioners for the tasks incumbent upon the latter on behalf of the State.

According 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 an agreement signed with the CSA, ANFR has, since 1 October 2006, processed claims from television viewers throughout the French territory. Moreover, and as in previous years, ANFR carries out for the CSA technical expertise and measurement activities relating to the use of spectrum allocated to broadcasting. In this context, due to the deployment of DTT broadcasting in France and in neighbouring countries and the need to guarantee the continuity of the analogue service, a very large number of measurements were carried out by the ANFR in 2007.

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The agreement signed in July 2006 with the Ministry of the Interior, Overseas Territories and Comunities (MIOCT), was renewed in 2007, to allow the continuation of measurements and inspections of the MIOCT radio networks.

ANFR is in charge of proceeding, on behalf of France, with the notification to the ITU of the frequency assignments of satellite systems, according to the provisions of the Post and Electronic Radio-communications Code. The ITU invoices the ANFR for the costs of carrying out this activity. In this context, Thalès Alenia Space, Astrium and Eutelsat SA signed an agreement with ANFR in 2007 aimed at enabling ANFR to recover the costs relating to this management activity, such as those set by the ITU. An agreement of this type is in the process of being signed with the Ministry of Defence.

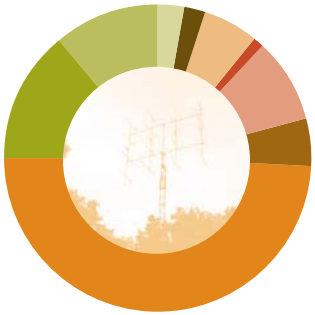
ARCEP

The independent radio networks (RRI, for *réseaux radioélectriques independents*) are managed by ANFR within the framework of an agreement with ARCEP. ANFR carries out the administrative and technical tasks associated to frequency assignement, applies the registration procedures in the stations and frequency registers provided for in 4° and 5° of Article R20-44-11 of the Post and Electronic Communications Code, and prepares the individual or collective licences for frequency use (AUF, *autorisation d'utilisation de fréquence*) which are subject to validation by the ARCEP Board. The same applies to independent radio networks with regional or national coverage (EDF, SNCF, DDE or ONC) as well as to the 1.5 GHz radio links.

Distribution of independent radio networks by professional field

Professional field	Number of networks
Administrations	898
Agriculture	659
Building	1,542
Miscellaneous	335
Industry	2,413
Health	1,405
Services	13,274
Public services	3,735
Transport	3,043
TOTAL	**27,304**

Distribution of independent radio networks by professional field



- Administrations **3%**
- Agriculture **2%**
- Building **6%**
- Miscellaneous **1%**
- Industry **9%**
- Health **5%**
- Services **49%**
- Public services **14%**
- Transports **11%**

On 31 December 2007 there were 27,304 RRI in the terrestrial mobile service. The number of new licences (1,839 AUFs) prepared and submitted to ARCEP in 2007 did not fully compensate for the number of cancellations registered during the same period (2,048 AUFs).

A number of measures taken at a European level, together with the reallocation of bands between ministerial departments and regulatory authorities in charge of frequency assignment, caused the CGR to make a number of frequency changes at the time of the 5-yearly AUF renewals.

DGE/GCM (General Company Management): the amateur radio service

Article R20-44 11 14° of the Post and Electronic Communications Code provides for ANFR to organise, on behalf of the Minister in charge of Electronic Communications, examination sessions for amateur radio operator certificates and to manage the identifications for the international series allocated to the transmitting stations belonging to these services.

In 2007 the amateur radio operator population raised to 15,882, a slight increase from the previous year (15,706). The number of identifications issued in 2007 increased considerably compared to the previous year (553 as opposed to 483), whilst the number of operator certificates granted in the same period remained stable.

Modification of the principles for calculating the radio frequencies usage fees payable by licence (AUF) holders

After five years of joint work between the *Direction générale des entreprises* (DGE) of the ministry of finance and industry, the ministry responsible for the Budget, ARCEP and ANFR, two decrees and one order on the spectrum fees associated to "fixed point-to-point services", "local radio loop (BLR)", "Fixed and mobile satellite services" and "Independent radio networks" were published in the *JORF* on 27 October 2007. These texts, which provide improved clarity and transparency, define two types of fees:

- the management fee;
- the fee for accessing spectrum as a public domain.

Various adjustment factors have been included in the decrees, which can be modified by simple orders. This will facilitate future modifications when required. As far as the independent radio networks are concerned, the calculations take into account:

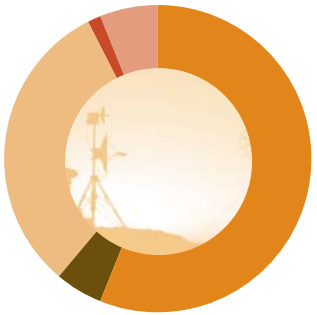
- the number of assignments,
- the allocated frequency bandwidth,
- the frequency band,
- the surface area or sum of surface areas per allocated frequency.

Other fundamental modifications have been made to the previous decree:

- upfront payment of fees for the year to come, as opposed to payment in arrears.
- the calculation prorata temporis to the number of days with a minimum sum fixed for each of the fees,
- a slight change in the sharing of competence in terms of planning of outstanding fees for the networks between ARCEP and ANFR.

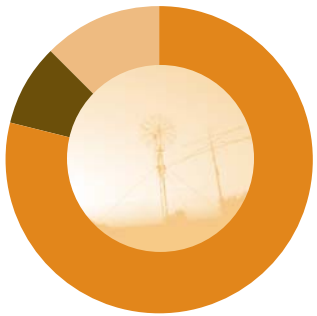
Independent networks, whose fees are calculated and invoiced by ANFR, are now those for which the AUF was granted for allocations in the frequency bands lower than 470 MHz, except public networks. ARCEP will therefore calculate and invoce fees for the independent networks whose frequencies are allocated or fall within bands higher than 470 MHz.

Number of amateur radio operator identifications



- Allocations or reactivations **311**
- Duplicates **28**
- Special identifications **174**
- Radio-clubs **7**
- Repeater stations **33**

The different categories of amateur radio operator certificates



- Certificates after examination **255**
- Duplicates **28**
- Reciprocity **40**
- Conversions **0**

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Planning of fees and taxes

The director general of ANFR has the responsibility, delegated by the minister in change of electronic communications, for calculation and billing of management fees and fees for use of frequencies by the users of independent radio networks. These fees are payable to the Trésorerie générale des créances spéciales du Trésor (TGCST) in Châtellerault.

In 2007, ANFR delivered more than 56,000 payment orders, totalling approximately 35.50 M . These figures, which approximately double those of 2006, result from the publication of the new regulatory texts relating to the fees and associated payment conditions applicable to RRI. Accordingly, ANFR issued invoices for year 2006 in March 2007, and for year 2007 in November 2007. This double invoicing system was implemented to ensure that the AUF holders are invoiced at the beginning of 2009 for the fees corresponding to year 2009, in compliance with the new texts.

Ministry in charge of the Maritime Affairs

Year 2007 saw the renewal of the agreement signed with the Ministry in charge of the Maritime Affairs, for which ANFR has been carrying out radio maritime activities since 2000. This agreement relates to:

- the organisational activities for examinations and delivery of Short Range Certificates, which are now chargeable;
- the attendance to safety committees and the inspection of radio installations on board constrained ships;
- the management of the ship stations licences and ship identities (callsigns and maritime mobile service identities (MMSI));
- the participation in the preparation of international regulations. .

In 2007, two meetings of the Follow-up and Planning Committee were held to report on the tasks carried out and to identify the priorities and objectives together with the *Direction des affaires maritimes* (DAM, Department of Maritime Affairs). At the request of DAM, a quarterly assessment chart was drawn up, detailing in particular the inspections carried out per *Centre de sécurité des navires* (CSN, Ship Safety Centre) for metropolitan France and its overseas territories.

Ship inspections

The number of inspected ships increased significantly in metropolitan France: 4,634 ships (4,471 in 2006) out of a total fleet of 6,962 constrained ships. At the end of 2007, only 10.30% of ships in metropolitan France had never been inspected. In the overseas departments, 482 constrained ships were inspected out of a fleet of 2,249 ships.

DAM, satisfied with this improvement, wishes more efforts to be made to reduce still further the number of uninspected constrained ships.

Table relating to types of ships inspected

Type	Year 2007	Year 2006
Passenger ships	552	569
Cargo ships	1,206	1,086
Fishing vessels	3,226	2,691
Other	109	168

The inspections in metropolitan France are distributed among the four regional services (SR) of ANFR that have a maritime interface. Within the overseas departments, inspections are directly carried out by the agents of the local offices in collaboration with the agents of these four regional services.

Table relating to the distribution of inspections by regional services

Regional services	Fleet of ships in 2007	Number of inspections 2006	Number of inspections 2007	% inspections in relation to fleet
Aix-Marseille	1,839	1,124	1,276	69.39
Donges	3,374	1,494	1,720	50.98
Toulouse	361	272	274	75.90
Villejuif	1,388	1,454	1,364	98.27
Overseas departments	2,249	170	236	10.49

A working group was set up by ANFR, including representatives of the DGE, the *Centre d'études techniques maritimes et fluviales* (CETMEF, centre of technical studies for maritime and inland waterways), the *Direction des transports maritimes, routiers et fluviaux* (DTMRF, department of transports by sea, roads and inland waterways) and DAM to draw up the regulations governing the transmitting stations in the mobile service on inland waterways.

The ship station licences and maritime identities (callsigns and MMSI)

Despite a slight reduction in the applications for new callsigns and MMSIs, the overall activity is developing and 63,566 licences were delivered at the end of the year, i.e. a 5.5% increase over the previous year.

In 2007, 82.4% of the licences sent out related to the leisure sector, 15.3% to commercial ships liable to inspection and 2.3% to inland waterways vessels.

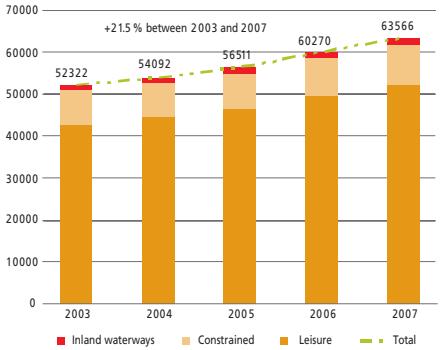
Since the technical information relating to the equipment, as indicated in the licence, is not always easy to understand, some changes were made at the end of the year to specify the nature of the onboard equipment (e.g. handheld VHF, standard C satellite).

The equipment relating to MMSI applications is mostly VHF, with DSC (digital selective calling), but an increasing number of ships are being equipped with COSPAS-SARSAT beacons (an increase of 9.2% in 2007), whose coding and associated data allow a rapid identification via satellite.

With the agreement of DAM and *Centre national d'études spatiales* (CNES, National Space Study Centre), ANFR prepared a consultation sheet for the last Paris Boat Show providing pleasure boat owners with information on the installation of a distress beacon, in order to clarify the disctinction between beacons coded with an MMSI and those not specifically dedicated to a maritime usage. At the time of emergency deployment, beacons not coded with an MMSI do not permit the identification of the user because the transmitted information is not recognized by the Administration.

The updating of the contact details of the licence holders is rapidly increasing, 6,739 update applications having been submitted in 2007 in the form of reply coupons or via the Internet.

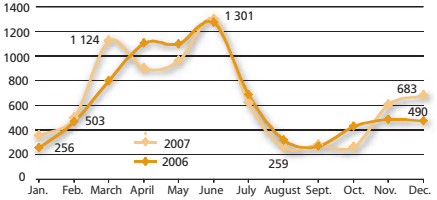
Development of the number of maritime and inland waterways licences



The Short Range Certificate (SRC)

In 2007 1,015 examination sessions were organised and, of the 8,321 candidates who took the examination, 7,862 obtained their certificate, i.e. an increase of 2.5% upon 2006. The overall examination success rate was 94.5%.

Candidates received for the examination



Since December 2007 the SRC has been delivered on smaller PVC cards. This new stiff, waterproof card should guarantee a greater longevity and resistance to weather and the maritime environment.

The optional SRC examination, during tests on the new "driving licence" for motor leisure boats, was finally postponed pending a recommendation from the *Conseil supérieur de la navigation de plaisance et des sports nautiques* (CSNPSN, High Council for Leisure Boating and Nautical Sports).
Despite the partnership between the ANFR and the DTMF, in collaboration with the relevant *prefectures*, the procedures relating to the signing of the inland waterways operator's certificate have not been finalized yet. The inland waterways operator's certificate cannot be proposed yet to inland waterways pleasure boat owners and shipping professionals, who are therefore obliged to pass the maritime SRC.

Ministry of the Interior, of Overseas Territories and Collectivities (MIOCT)

Signed on 11 July 2006, for a period of five years, this agreement provides, on the basis of a provisional programme and of applications for works, for various inspection and management assistance services for the frequency bands in which MIOCT is in charge of frequency assignment. The following services were carried out or ordered in the course of 2007:

- notification of interference in the ACROPOL networks on the Le Mans site as well as the SDIS site in the Essonne;
- a spectral analysis campaign in Corsica;
- field calculations in the border departments with Spain using the harmonised calculation method (HCM) to determine the frequency plan to be implemented to deploy the base stations of the ACROPOL network according to the 2001 Agreement;

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- the recording in the national frequency file of the allocations corresponding to the 300 stations of the fixed service of the ACROPOL infrastructure network and application of the cross-border coordination procedure;
- initialisation of recording in the FNF (National Frequency File) of the 585 base stations in the ACROPOL network;
- eight campaigns for training in the implementation of the measurement protocol for electromagnetic fields;
- definition of a service for making MIOCT decision-makers aware of the challenges of frequency management.

Protection of television reception (PRTV/PTR)

According to Article 22 of Law no. 86-1067 of 30 September 1986, as amended by Article 433 of Law no. 2006-961 of 1 August 2006, ANFR, together with CSA and within the framework of an agreement, processes claims from television viewers throughout the French territory. Because of the deployment of DTT broadcasting in France and in neighbouring countries, and the need to guarantee the continuity of the analogue service, the CSA has also requested ANFR to carry out a very large number of measurements in 2007. In this context ANFR is responsible for:

- receiving claims by telephone, letter and e-mail;
- evaluating their receivability;
- characterising the origin of interference;
- taking the necessary measures to eliminate interference:
  - by referring installation faults back to installers
  - by initiating a site inquiry through the relevant ANFR regional service in cases of interference,
  - by referring the problem to the relevant program providers/multiplex operators/broadcasting operators when there is a broadcasting fault;
- improving knowledge of the difficulties associated with planning of digital terrestrial broadcasting, particularly in the sensitive area of the iso-frequency networks.

In close collaboration with CSA, antenna installers, program providers and broadcasting operators, an information leaflet was prepared to provide more information on the procedures implemented to perform this activity satisfactorily. A guide intended for antenna fitters was also drafted to assist them during this critical period of deployment of DTT before analogue switchoff.

The audiovisual world is currently going through major changes with the deployment of DTT. This revolution will continue with the advent of high definition television (HDTV) and personal mobile television (PMT). To meet expectations, ANFR has considerably increased its activity in this field in the last two years. This development has given rise to the creation, in December 2007, of a Broadcasting Department within the DCA/CGR. This department provides technical support for cross-border coordination, on-site measurement campaigns and frequency planning for the CSA in order to accelerate the deployment of DTT.

Agreements with the operators of satellite systems

Submission of satellite systems frequency assignments by ANFR to the ITU, on behalf of satellite system operators, is conditional upon payment of a fee to the ANFR, calculated on the basis of the tariff listed in the Decree of 11 August 2006 issued in application of Article R52-3-16 of the Post and Electronic Communications Code. To ensure timely transmission to the ITU, the operators signed agreements with ANFR to ensure that it has the necessary funds, at any time, to pay invoices issued by the ITU. The agreements signed at the end of 2006 with Eutelsat SA and Thalès Alenia Space were renewed for years 2007-2008.

Civil Aviation

An agreement relating to the inventory and description of the VHF band frequencies used by airlines for commercial communications, was signed between the *Direction des services de la navigation aérienne* (DSNA) and the ANFR. This agreement will enable the usages as well as those of the DSNA databases to be updated.

Overseas

Besides its Offices in French Polynesia and New Caledonia, whose activities include the continuation of all the actions implemented at national level, ANFR is also established on the Isle of la Reunion and, since December 2007, in the Carribean-Guyana area (Guadeloupe).

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Reunion and Mayotte Office

In the course of 2007, the Office strengthened its position in the field of radiocommunications in its area of responsibility (Reunion and Mayotte, the French Southern and Antarctic Territories). It carried out inspections both as part of its own missions and under the terms of the agreements. It monitors the consultations submitted to COMSIS, thereby monitoring progress, proceeding with regularisation of declarations by operators, and organising future inspections.

The employment of a new staff member in September 2007 and the addition of a measurement laboratory vehicle will substantially increase its inspection and analysis capability, thus reinforcing the actions already taken, with particular consideration given to the radio equipment marketing controls.

Management and inspection

As part of its own tasks, the office:

- inspected the radio site of Pointe des Galets au Port (TDF and FT pylons);
- dealt with three cases of interference (two relating to frequencies of the Ministry of the Interior and one relating to Civil Aviation frequencies);
- updated the geographical coordinates of the stations in major networks (EDF, DDE, vulcanology observatories, etc.);
- organised two amateur radio operator examination sessions;
- carried out an expert appraisal for the *préfecture* as part of an exercise simulating a crisis situation;
- detected, during spectrum monitoring, eight unauthorised transmissions, including one in Mayotte;
- followed up COMSIS consultations presented (298 files for the Reunion and 28 for Mayotte);
- organised a consultation meeting between the local representatives of the frequency assignment authorities.

Agreements

Agreement with ARCEP

The Office inspected 62 networks of the 2RP type and one network of the 3RP type, which gave rise to the notification of a non-conformity tax (Article 45 of the 1987 Finance Act, as amended). Since 1 January 2008 the Mayotte radio networks have been subject to a management fee and a fee for accessing radio frequencies (Decree no. 2007-1532 of 24 October 2007).

Agreement with the CSA

For the purpose of protecting television reception, the Office has put in place additional technical resources.

Agreement with the *Direction des Affaires Maritimes* (DAM)

The Office organised six SRC examination sessions for 76 candidates, attended six regional security committee meetings and inspected 159 ships (18 commissioning inspections or GMDSS conversion inspections), and 23 ships were subjected to an inspection abroad. This part of its activity expanded in 2007 with the commissioning of six new fishing vessels in a Chinese dockyard (Fuzhou). New commissioning operations have now been scheduled for China in 2008.

Regarding the number of French tuna boats present in the Seychelles, this has now stabilised (nineteen boats).

Types of ships/boats	Inspections carried out
Cargo ships	25
Fishing boats	114
Passenger ships	10
Foreign ships	4
Boats for public use	10
TOTAL	**159**
Of which inspected in Mayotte	30
Of which inspected abroad	23

Cooperation campaigns

The geographical location of the office in la Reunion allows close relationships to be established with ANFR counterparts on the islands of the Indian Ocean and facilitates the processing of interference cases and the exchange of experience.

An initial cooperation campaign took place on 29 May 2007 as part of the inspection of a French ship in Port Louis (island of Mauritius). In the course of that day, an ICTA officer attended the radio inspection of a ship. A working meeting was then organised to discuss coordination of the FM band between Mauritius and la Reunion, initial training of officers in the inspection of ships, spectrum monitoring tools and terrestrial and maritime regulations in force in the various States of the region. Following this first day, the signing of a cooperation agreement was proposed.

In July 2007 the Office established a plan for international cooperation. With the support of the French embassy, it contacted the Ministry of Information and Communication Technologies of the Seychelles for an initial discussion scheduled for January 2008. From the beginning of 2008 a similar action will be conducted with our counterparts at the Malagasy Office for telecommunication studies and regulations (OMERT).

New Caledonia Office

In New Caledonia and in the Islands of Wallis and Futuna, ANFR has competency within the framework of its own missions (Articles L43 and R20-44-25 and following of the Post and Electronic Communications Code) and carries out other missions, in accordance with an agreement, on behalf of the High Commissioner of the French Republic (HCR) and the Superior Administrator of the Wallis and Futuna Islands respectively.

Activities carried out by agreement on behalf of the HCR

ANFR Office issues the administrative import licences (AAI) for radio equipment not connected to a public network. This sector underwent considerable increase in 2006: the number of files processed increased from 179 to 275, i.e. an increase of 53%. This trend was confirmed in 2007 with 456 files processed, i.e. a 65% increase over the previous year.

These results are explained by the dynamism of the Caledonian economy, the increased vigilance of the customs service, a net growth in products complying with WiFi and Bluetooth standards, as well as the increasing trends of directly ordering on the Internet.

ANFR Office also issues general import licences to importers of cars, motor cycles or sea scooters, for remote "anti-theft" control devices or shipped products using the Bluetooth standard.

The number of candidates for the SRC examination increased by 31% between 2005 and 2006 (354 for 270), whilst it remained stable in 2007 with 356 candidates and an identical number of 32 sessions, organised both on the mainland and on the islands. The interest of candidates in taking this examination is maintained by information campaigns in the field of maritime safety, regularly relayed by the Caledonian press and the training schools for the various boat licences.

The people responsible for maritime affairs and the Navy, as well as the local representatives, await the regulatory amendment which will integrate the concepts relating to the global maritime distress and safety system (GMDSS) into the examination.

The commission for planning and monitoring of the agreement with the Ministry in charge of Maritime Affairs of 28 November 2007, entrusted ANFR with setting up a working group to develop the SRC in the overseas communities, to integrate the GMDSS section whilst keeping the use of the SSB (Single-side band) possible.

ANFR Office also organises examination sessions for amateur radio operator certificates and manages the amateur radio licences. There are one hundred and twenty two amateur radio operators. The licences produced for the 2007-2009 period were distributed in February 2008.

The composition of the commission for the approval of radiocommunication installers requires the publication of a new territorial decree.

Agreement with the Islands of Wallis and Futuna

An agreement was signed on 8 June 2007 with the Chief Administrator of the Wallis and Futuna Islands. It establishes the framework for intervention by ANFR on its territory. As a result, a first task force was sent in August 2007, whose activities consisted in:

- providing specific information to the departments of the State and the representatives of the ministerial deparments and authorities in chage of frequency assignment, on ANFR's role and missions;
- making an inventory of all the radio sites of Wallis and Futuna;
- organising, for the first time, five SRC examination sessions, which attracted 80 registered candidates. The community of Wallis and Futuna takes a particular interest in the activities carried out to ensure safety on the lagoon.

Management and inspection

The administrative and technical tasks in the radio maritime field are a main part of the Office's activity, which, in particular, manages licences relating to the Licence Department of Dié-des-Vosges. The Office has its own database as well as the associated administrative files. 1,034 licences, 328 of which with MMSI, were issued in December 2007.

Type of Ships/Boats	Number of licences
Pleasure	832
Fishing	76
Passengers	18
Cargo	77
NUC	25
Miscellaneous	16
TOTAL	**1 044**

Among the 171 ships subject to compulsory safety inspections (professional and NUC), 70 were identified as priority ships during an inspection visit. Due to a lack of preparation on the part of some ship owners, one or more re-tests were necessary for some ships. As well as these inspections, the office also attended two regional safety committees.

The New Caledonian shipping fleet is being modernised. The New Caledonian Office was therefore requested on four occasions to carry out site inspections outside the territory. This figure should increase in 2008.

As far as spectrum monitoring is concerned, the Office carried out, in September 2007, an inspection of the sites of Mount Koffyn and PK5, as well as the French terrestrial radio cable station. It worked with a team sent by DTCS. It also took part in a second inspection of the installations on the Port Boisé Oungone site and the port area of the independent port of Nouméa. These inspections also allowed the SHF band to be measured for radio relays used on the various sites, using special equipment brought over from metropolitan France.

Moreover, it was demonstrated that the interference affecting the police network was caused by structural intermodulation products on the Montravel Tower. The recommendations for improving the quality of the HCR network were communicated to the frequency assignment authority and to the owner of the site, with assistance in the adjustment of devices for protecting reception.

The Office, which organised two meetings with frequency assignment authorities, assists them in making their COMSIS and CAF declarations, particularly the HCR, so that they can register their assignments and stations, hence ensure their protection against interference.

In order to meet the expectations in New Caledonia and on Wallis and Futuna islands, ANFR Office staff was increased by one person in 2007.

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French Polynesia Office

ANFR is represented in French Polynesia by its Office in Papeete. Its competencies in French Polynesia result from Articles L43, R209-44.25 and R20-44.26 of the Post and Electronic Communications Code. Moreover, under the terms of an agreement signed on 18 May 2004, the High Commissioner of the Republic (HCR) entrusted ANFR with a number of tasks according to the Organic Law no. 2004-192 of 27 February 2004 setting out the statutes for the autonomy of French Polynesia.

Activities carried out by agreement on behalf of the HCR

ANFR Office issues administrative import licences (AAI) for radio equipment not connected to a public network. Within this framework the office processed 779 application files (nine rejected) for importing 48,608 units (as against 47,994 in 2006). The imported equipment falls largely within the category of radio-controlled toys, terrestrial or maritime radio equipment, remote control systems, WiFis (growing exponentially), amateur radio equipment (including twenty two applications for temporary licences).

Regarding the amateur radio operators, 230 residents are currently registered. Eleven temporary licences were issued to foreigners, and nine licences were issued for CB radios.

As part of its radio maritime activity, ANFR Office organised 75 examination sessions for short range certificates (SRC) held in the five archipelagos of French Polynesia, which resulted in the awarding of 587 certificates.

French Polynesia (Government and Territorial departments) wishes the Decree of 18 May 2005 – which integrates the concepts relating to the global maritime distress and safety system (GMDSS) into the RRC examination programme – to be applicable in 2008, taking account of the local characteristics, particularly the use of SSB.

Management and inspection

The administrative and technical tasks in the maritime field are a main part of the Office's activity, particularly for the inspection of radio installations on board ships (which are performed only at the request of the Maritime Affairs). In this context it also attended the two regional safety committees as well as the Regional Maritime Conference.

Type of ships inspected	Number
Ships > 160 t	49
Ships < 160 t	89
of commissioning inspections	7
Total	**138**

** 20 of them underwent a re-test*

Since the Law of Autonomy of French Polynesia came into force (2004), inspection of ships of less than 160 register tons has been within the power of the local government. Through its agreement with Maritime Affairs, ANFR carries out the inspection of radio stations on this type of ship within the framework of the agreement linking French Polynesia and DAM. This situation is to be reviewed after the transfer of resources between the State and French Polynesia. This activity may be subject to direct agreement with ANFR.

In 2007, the Office issued 1,044 licences, 342 of which are associated with the MMSI number, i.e. one third of the radio installations on board licensed ships.

At the request of the local maritime affairs, appraisals were carried out in collaboration with the sea rescue centre of Papeete and the Mahina Radio coastal station, in order to assess the knowledge of captains and owners on the handling of radio equipment. Siginificant improvement was noticed in the use of these tools by the interested parties.

Moreover, the Office carried out an inspection of the Pic Rouge radio site located above Papeete. With the assistance of a team from DTCS, it also inspected the radio sites of the independent port of Papeete. Finally, in this context, and at the request of French Polynesia, a search for illegal networks in the 3.5 GHz band was organised. It enabled the identification of an unauthorised network in Papeete and the resolution of an interference case affecting Radio 1 programs.

ANFR also attended meetings initiated by the High Commissioner, in particular for the establishment of rescue companies in French Polynesia, shore VHF licensing, the State/OPT agreement on maritime radio monitoring and video monitoring.

The Office continued its campaign to raise awareness on the compliance with the COMSIS procedure (by the HCR and TTOM frequency assignment authorities). In cooperation with the local Radio Technical Committee (CTR) of the CSA, it carried out a technical survey of the broadcasting stations in the FM band. Finally it organised several meetings to issue temporary frequency licences and to coordinate the use of radio equipment for major events: Billabong (world surfing competition), Hawaiki Nui outrigger canoe race, American and Ukrainian military and scientific missions, visits by international politicians, the presence of warships (Mexican, Chinese, Korean) and preparation for the Clipperton Island amateur radio expedition.

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GENERAL ADMINISTRATION

On 1 January 2006, ANFR implemented the provisions of the framework law on finance Acts no. 2001-692 of 1 August 2001 (LOLF) according to the Circular of 23 August 2005, relating to budget preparation. In this context the principal rules of management, particularly on the justification of expenses "from the first euro", control of salary expenses and development of cost accounting, became more important.

ANFR created a second distinct activity relating to the Digitisation Support Fund (FAN) which received a State subsidy amounting to 15 M at the beginning of 2006. This fund was created in accordance with Article 13 of the revised Finance Act 2005-1720 of 30 December 2005, to contribute to financing domestic digital receiving equipment (DTT broadcasting, cable, satellite or ADSL) in areas where the continuity of analog television broadcasting would be affected by spectrum scarcity as a result of DTT broadcasting deployment. The amount of this fund decreased to 13 M to finance the television reception protection activity (PRTV) with 2 M , entrusted to ANFR by Law no. 2006-961 of 1 August 2006, jointly with the CSA.

In 2007, ANFR budget was affected by a 1,351,346, i.e. 4.1%, cancellation in application of Article 51 4° of the public finance law. Another important aspect of the 2007 management activity was the introduction of the new activity relating to PRTV. At the end of 2006, the ANFR received a contribution from the CSA amounting to 680,000 to finance the initial investments within the framework of the CSA-ANFR agreement defining the responsibilities of each of the parties regarding PRTV.

Finally, a quality approach was implemented for all ANFR services. This allowed for an accurate description of all the processes used to carry out its missions, of the detailed activities carried out as part of these processes and of their interactions (see box). This approach made it possible to rationalise the activities carried out under agreement with the ministerial departments and regulatory authorities in charge of frequency assignments, including the complete restructuring of the Noiseau radiocommunications management Centre.

Budgetary and financial matters

For the second budget prepared in LOLF mode, the operating subsidy was paid in full by the *Direction générale des enterprises*, net of the reserve amount entered in the initial budget (32,472,000).

Management control

The implementation of ANFR's budget was marked, in particular, by:

- the invitation of the Frequency Management (FM) Group of the CEPT in Nice in May, the preparatory meeting for the World Radiocommunications Conference (WRC-07) and WRC-07 itself;
- the creation of the Antilles-Guyane Office in Guadeloupe
- the use of the Digitization Support Fund (FAN), with project management delegated by agreement to GIE Fréquences, according to the provisions of Decree 2007-957 of 15 May 2007;
- the performance, for the first time for a full year, of television reception protection activity (PRTV).

In terms of expenditure, the 2007 budget, except for the FRS and FAN, and not including depreciation, was of 35,171,286, i.e. 96% of the opened line of credits.

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The expenses, except for allocated expenses, increased by 3.5% during 2006. The payroll expenses, 100% implemented, increased by 6.3% due to, in particular, the recruitment of additional staff members for the new PRTV activity and the increase in contribution by the ANFR to the special civil pension allocation account. The operating expenses, not including the payroll, reduced by 3% due to savings on computer maintenance and telecommunications.

In terms of investment, the acquisition of equipment for spectrum monitoring (laboratory vehicles, control stations), increased by over 25%, particularly for the PRTV mission.

Financial products were comparable to that of 2006 (1,598,883), due to the very gradual use of the FAN in 2007.

On 31 December 2007 the budget was balanced by a withdrawal of 563,907 from the working capital. The board of directors authorised a withdrawal of 2 M for financing the new PRTV mission.

10,290,000 of the Spectrum Reallocation Fund (FRS) were spent. DTT program providers repaid 9,266,000 to the FRS for the analogue frequencies changes operations.

The Digitisation Support Fund (FAN), with an initial contribution of 13 M , was implemented as soon as Decree no. 2007-957 of 15 May 2007, which contained the conditions for its use, was published. The very first lump sum subsidies, provided for in the decree to contribute to the continuity of reception of television services in the areas affected by interference from foreign transmitters, were paid according to the amounts established by ANFR board of directors.

Administration accounting

The quality of service of accounting administration remained highly satisfactory, with a 1.7% rejection rate, for a production slightly higher than in 2006. The new functionalities of the management software were implemented progressively, the objective being to carry out an accurate recording of the documents showing expenditure (contracts, asset data sheets) to ensure a greater security for budgetary and accounting data.

The settlement of ITU invoices for processing frequency assignment requests for satellite networks generated payments amounting to 186,800 based on three assigned resource agreements signed with the satellite network operators.

Figure 1: ANFR budget 2007 (in Euros)

Profit and loss account

	BUDGET HEADINGS	2 007
C64	Payroll costs	19 443 868
C631, C633	Taxes, duties and similar payments on salaries	1 744 396
	Staff	**21 188 264**
C60	Purchases	780 405
C61	External services	3 831 532
C62	Other external services	3 674 067
C635, C637	Other taxes, duties and similar payments	9 640
C65	Other running management costs*	209 896
C66	Financial expenses	0
C67	Extraordinary charges	27 871
	Operation	**8 533 411**
C68	Depreciation allowances and provisions	4 362 307
	Total charges	34 083 981
	Estimated result (profit)	**996 205**
	Balance	35 080 187

**of which allocated resources*

	BUDGET HEADINGS	2 007
C741	Operating subsidy (GCM/General Company Management)	28 601 684
C748	Incomes from allocated resources	186 790
C70	Provision of services	248 628
C75	Other running management incomes	0
C76	Financial incomes	1 598 883
C77	Extraordinary incomes:	4 444 202
of which C775	*incomes from asset disposals*	*16 747*
of which C778	*other extraordinary incomes*	*82 148*
of which C776	*neutralisation of depreciations*	*559 223*
of which C777	*share of investment subsidy paid to*	*3 786 084*
	Total incomes	35 080 187
	Estimated result (loss)	
	Balance	35 080 187

Cash flow

	Estimated result (profit)	996 205
C68	Depreciation allowances and provisions	4 362 307
C675	Book value of assets disposed of	0
	TOTAL	5 358 512
	Cash flow	**996 459**

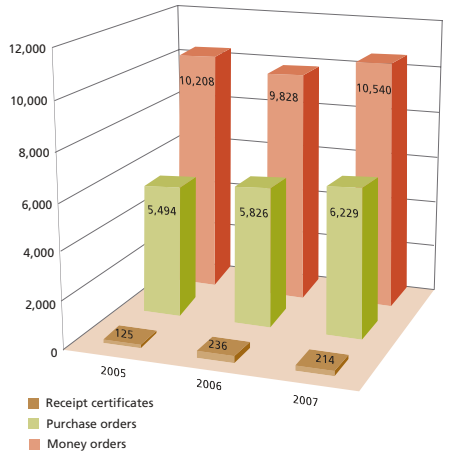
	Estimated result (loss)	
C776	Neutralisation of depreciations	559 223
C777	Share of investment subsidy	3 786 084
C775	Incomes from asset disposals	16 647
	TOTAL	4 362 053
	Cash deficiency	

Statement of source and application of funds

	Cash deficiency	0
C20, C21, C23	Fixed assets	5 449 123
C27	Other capital assets	488
	Total assets	5 449 612
	Contribution to working capital	
	Balance	5 449 612

	Cash flow	996 459
C131	Investment subsidy (GCM)	3 870 400
C27	Other capital assets	2 100
C775	Incomes from asset disposals	16 747
	Total resources	4 885 705
	Reduction in working capital	**563 906**
	Balance	5 449 612

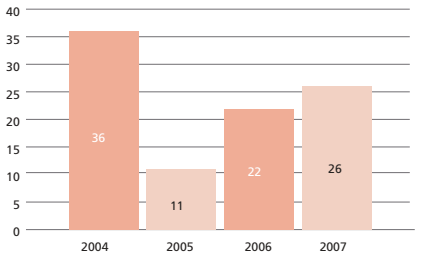
Figure 2: Production of administrative accounts



Contracts

On 31 December 2007 the number of ANFR contracts in force was 96. The expenses incurred in 2007 on these contracts amounted to 9.1 M .

Figure 3: Annual number of contracts notified on calls for tender

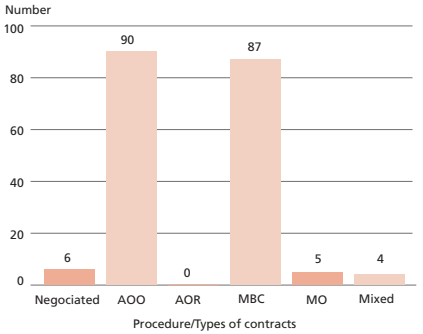


Nine contracts were signed, one of them relating to the new requirement for the verification of spectrum measuring equipment.

These procedures resulted in the notification of 26 contracts, as against 22 notified in 2006. Six of these 2007 contracts related to veririfcation of measuring equipment; 88 batches in total.

In the spirit of the Public Contracts Code, ANFR generalised the open call for tender procedure to favour competition. It is continuing the grouping in the form of batches relating to the requirements for supplies and services having similar technical characteristics.

Figure 4: Current contracts according to procedures for signing and type of contract



The supplies and services contracts still represent the vast majority.

In 2007, ANFR signed 85 contacts using a specific procedure (MAPA) after having consulted 223 candidates. The ANFR was able to make a gain of 118,000 excl. taxes on purchases through an effective competitive call procedure and following a procedure of negotiation with the bidders.

Human resources

Forecasting and planning of jobs, employees and skills

In 2007 the human resource management policy concentrated mainly on the control of payroll expenditure by adapting skills management to new activities such as the processing of television viewer complaints (PRTV).

The actual amount of payroll costs was 20,190,000 for an original budget of 20,470,000.

The payroll forecasting tool, introduced in 2006, provided accurate payroll figures and forecasting based on regular comparison with actual expenditure. The establishment of a recruitment plan, initiated in 2006, allowed a recruitment strategy to be drawn up on the basis of accurate prospective budgetary vision.

In 2007, ANFR employed a workforce of 317.65 ETPT (full-time equivalents, not including staff made available by the Ministry of Defence). It endeavoured to adopt a prospective vision of retirements. It continued its policy

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of reducing the number of fixed term contracts (CDD), with a recution of 26 in 2005 to 15 in 2007. Reduced use of temporary labour had the effect of reducing the amount of unemployment benefit payments at the end of the contract, i.e. 8,975 in 2007 as against 18,854 in 2006.

Social action policy

ANFR continued to develop its activities relating to staff catering, which constitutes the largest budgetary item of all the social actions of the establishment. Two new agreements were signed with a service provider for la Reunion and New Caledonia sites.

ANFR maintained all the social action services in compliance with Public Function Circulars nos. 2024 of 27 December 2004, no. 2025 and no. 2B-2257 of 19 June 2002. Moreover, the signing in 2006 of an agreement with EPAF allowed children to be sent to holiday camp in 2007. ANFR established the Universal Service Job Cheque (CESU) for the care of children below the age of 3, and continued its assistance in issuing the holiday cheques.

Social relationships

The elections of staff representatives appointed to chair the Joint Advisory Committees (CCP) were held on 7 June 2007, and renewed the mandate of the contractual staff representative members of the CCP.

Social relationships were strengthened thanks to meetings with staff representatives in the consultation committees and working groups.

- The Social Action Committee met on 26 April 2007. The subjects discussed related to the establishment of the CESU ticket, services during the Christmas holidays, catering, holiday cheques and accommodation.
- The Joint Technical Committtee (CTP) met on 6 June 2007 to discuss the following points: assessment of the work carried out by the working group for the career development of staff under contract, the project to create the Antilles-Guyane office, the creation of a Donges SR office in Brest, the reorganisation of the CCI, the training plan for 2007, the establishment of a financial aid structure and the development of CDD management rules. The CTP met again on 5 October 2007 to adopt an opinion for a modification of the ANFR organisational chart concerning the DCA/CGR, on a reorganisation of the activities related to the application of the R&TTE directive, on the social audit for year 2006, on the draft decree relating to military staff assigned to the ANFR, and the work of the global remuneration working group as well as other miscellaneous points.
- The Health and Safety Committee met on 13 March and 3 December 2007 to discuss the evaluation of the actions carried out as well as future projects: security equipment, preventive medicine and action point in case pandemia.

Logistics

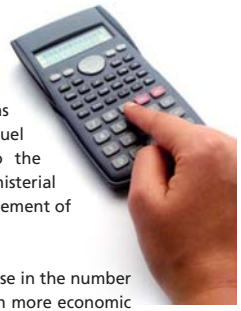
Asset management

As part of the 3-year plan for building work, year 2007 was particularly marked by the completion of the retrofit of elevators on the Maisons-Alfort site and by the commencement of the construction of a garage for the regional service in Toulouse.

ANFR buildings require regular maintenance work (terraces, paintwork, heating, electricity, etc.) and the replacement of obsolete technical installations, as well as the updating of the anti-burglary security systems.

The establishment of an Antilles-Guyane Office in Guadeloupe led to a search for suitable premises in the area. Once the choice had been approved by the board of directors, the fitting work was coordinated by the logistics department to allow the office to be opened by the end of 2007.

The physical and accounting inventory of all movable and IT property was completed. The management procedures were operational and the inspections could be carried out. The physical inventory of the spectrum monitoring equipment was completed in the regional services and the inventory of about ten transportable stations remains to be carried out.



Rigorous management enabled ANFR to reduce the management costs of its fleet of vehicles. At the end of 2007 a reduction of over 20% in management costs was recorded as compared to 2004 (based on 2004 fuel prices). This reduction conforms to the directives issued in 2004 by the Interministerial Mission for Modernisation and Management of the Government Car Fleet.

This reduction is the result of a decrease in the number of vehicles and their replacement with more economic and less polluting models, despite an overall increase in the mileage due to an increase in missions, particularly those relating to the processing of television viewer complaints. The drafting of log books, following recommendation by the *Cour des comptes*, allows closer monitoring of the use of vehicles.

Missions

The year 2007 was marked by the migration onto new software of the IT tool for the management and calculation of mission costs. After an acceptance phase in the first six months, the tool was put into production on 10 September 2007.

The GFD software is interfaced with the SIREP@NET accounting software, with the automatic generation of orders by certification of forecasting calculations and manual generation of order settlement for the final mission calculations.

In 2007 3,318 missions were carried out, of which:
- 2,482 missions were in metropolitan French territory (75%), mainly missions for inspecting the shore and maritime radio installations;
- 62 overseas missions (1.8%) with the same objectives, 25 relating to officers posted abroad;
- 774 missions abroad (23.2%), mainly relating to the ANFR's participation in international negotiations.

The total corresponding expenditure amounted to 1,456,440 (654,600 of which was for transport costs).

Data processing

Three objectives were set for the year 2007.
The IT system has been made available to the frequency assignment authorities and ministerial deparments:
- The FCS (Spectrum Monitoring File) Information Centre, which includes the notarial data of the *ANFR*, is made accessible to the ARCEP (pilot site) by Extranet
- Specific dedicated Web applications have been developed such as: the FAN application for GIE-Fréquences and the PRTV-Consult application for the CSA.
- The blueprint for the 2007-2009 IT system proposed by the IT Department was examined by a working group attached to the board of directors, consisting of representatives of the frequency assignment authorities and ministerial deparments and approved by the board.
- An assessment was carried out on the "One-Stop Frequency Shop" (GUF), supervised by DGNF, the purpose of which is to simplify the exchanges and declarations (CAF, COMSIS, etc.) by providing a single interface with ANFR, based on the professional applications. An opportunity study and a feasibility study enabled two possible scenarios to be outlined for 2015, "the single intelligent interface" or the "extended Process".

A concrete approach toward products for the open market was initiated:
- The applications STATIONS, FCS, PERSONNEL, COMPTABILITE, INVENTAIRE and MISSIONS were installed for open operating systems of the type Linux, REDHAT or FEDORA.
- The database management system MySql was used whenever possible. This was the case for the FNF-PORTABLE application and all applications accessible via ANFR.FR (RTTE, MMSI, CRR, AMATEUR, etc).
- Tools for internal use, originating from the "open market", were installed:
  - MANTIS for the management of anomalies;
  - NAGIOS, NTOP and CATI for management and supervision of infrastructures;
  - TWIKI for management of technical documents;
  - OCS INVENTORY for automated inventory of workstations.
- VPN access to Linux was developed for the STATIONS and FNF Extranet.

The strengthening of IT security on the ANFR system has been a priority. To protect ANFR against the risks associated with flood or fire, the first steps of an activity resumption plan (PRA) were implemented.

In this context the initial decisions taken were as follows:

- the Noiseau CGR was retained as a special backup site;
- the links to the network interconnection between Maisons-Alfort and Noiseau were equipped with an optical fibre installation;
- the list of actions was defined to make a first configuration of the PRA operational in March 2008.

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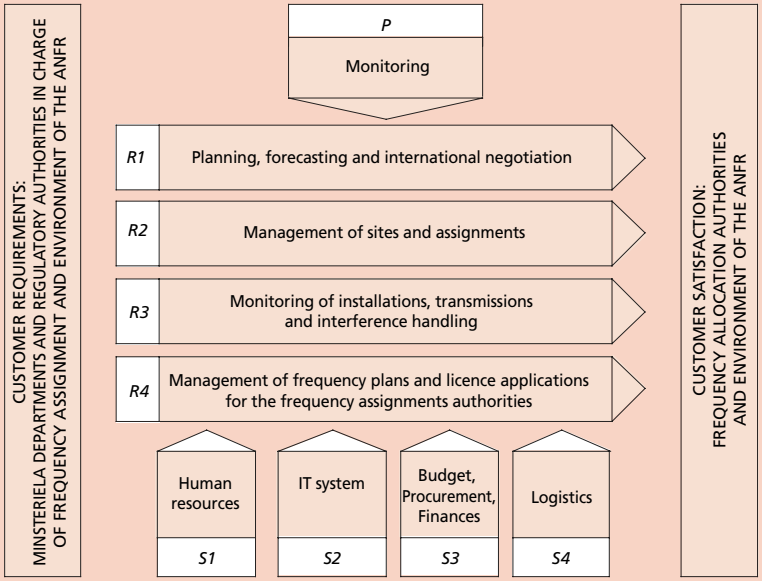
The quality approach at the ANFR: The process approach

The quality approach is aimed at continuous quality improvement for services provided by ANFR through continuous joint assessment. It is based on the active participation of all staff.

The year 2007 enabled ANFR to complete the first implementation stage of the quality approach. This stage made it possible, in particular:

- to identify the ministerial departments and regulatory authorities in charge of frequency assignments as the main beneficiaries of ANFR services and therefore as its "customers",
- to establish a map of the processes implemented by the ANFR and their connections,
- to establish, within the context of the general strategy of ANFR, a consistent set of objectives and indicators linked to these processes.

In 2008 the quality approach will be deployed throughout the ANFR. This second stage began on 9 January. This approach provides an illustration of ANFR efficiency in carrying out its missions.



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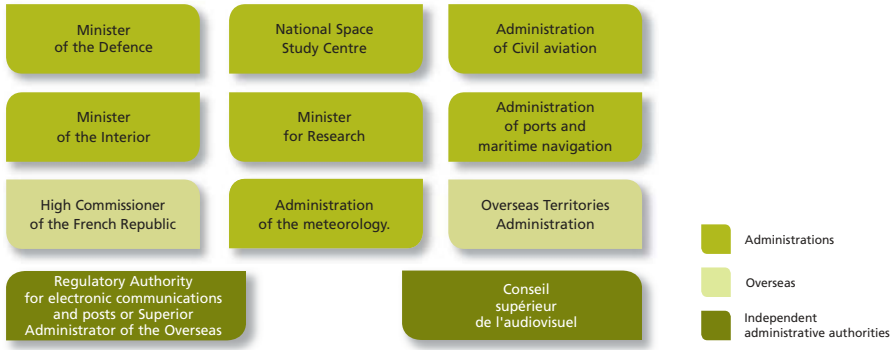
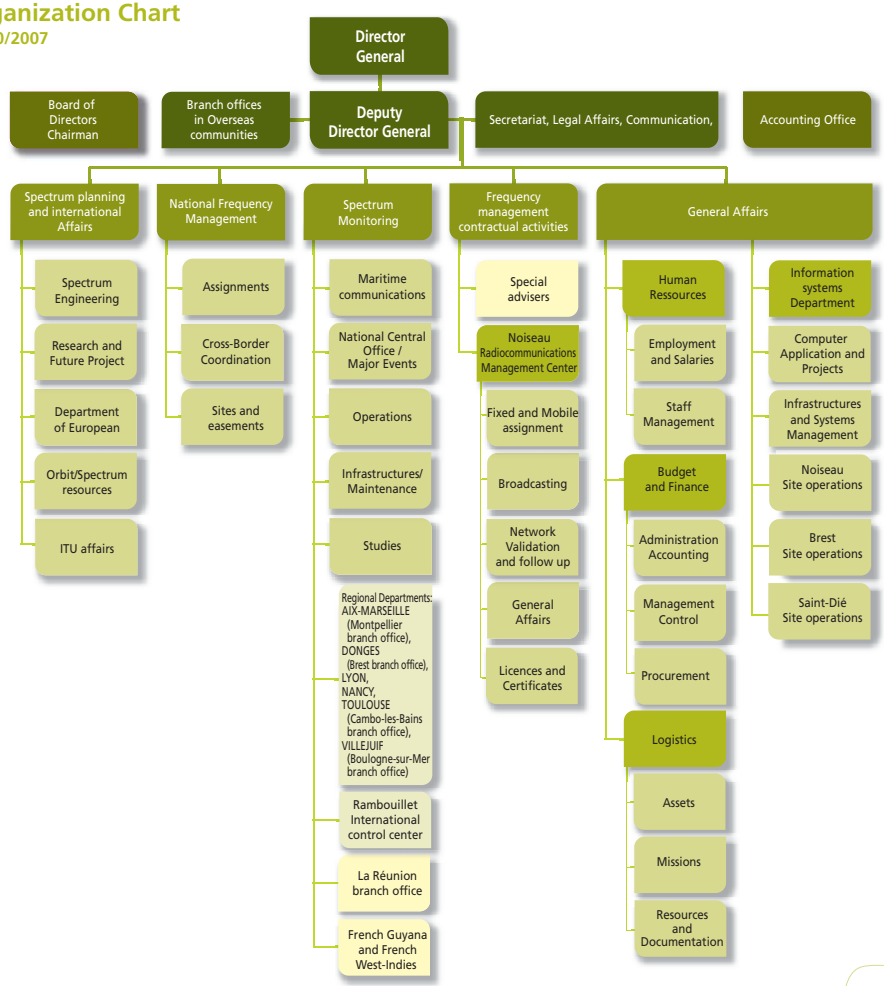
Regulatory authorities



Organization Chart

19/10/2007



Board of Directors of the Agence nationale des fréquences (20/03/08)

Persons selected because of their skills

M. Arnaud MIQUEL	ingénieur général de l'armement, Chairman
Mme Marie-Hélène MITJAVILE	State Counsellor
Mme Pascale SOURISSE	CEO, THALES ALENIA SPACE
M. Arnaud LUCAUSSY	SFR, Director, regulation and economic studies
M. Jean-Marc NASR	EADS Secure Networks Manager
M. Daniel SAUVET-GOICHON	

Minister representatives

M. Alain SILVY	representative of the Defence Secretary, Head of National Military Frequency Office
M. Reynald BOUY	representative of the Minister of the Interior, deputy director for information and communications systems
Mme Sylvie BERMANN	representative of the Foreign Secretary, directorate of the United Nations and international organisations
M. Christophe RAVIER	representative of the Minister in Charge of electronic communications, assistant Director for electronic communications regulations and long term studies
M. Marc BELLOEIL	representative of the Minister for Space, DGR/A1 – aeronautics and European Space Affairs
M. Jean SOUQUET	representative of the Minister for transport, general civil aviation inspection
M. Attila BASKURT	representative of the Minister for Research
M. Benoît TAICLET	representative of the Minister for the Budget
M. Jean-Louis LAPERLE	representative of the Minister for overseas
Mme Cécile DUBARRY	representative of the Minister for culture and communication, assistant director for media development and the information society

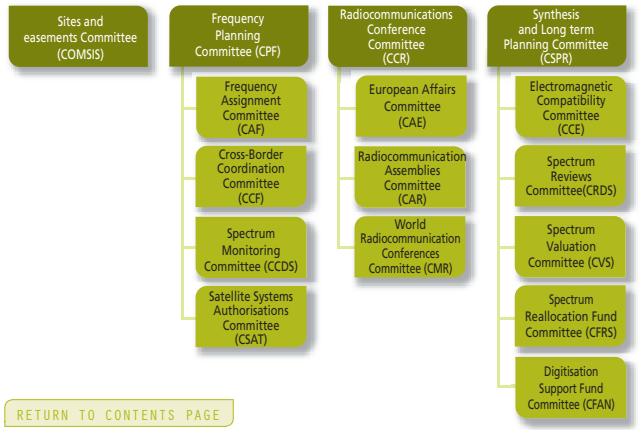
Representatives of independent administrative authorities

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

M. François RANCY	Director general, ANFR
M. Bernard BACHELLERIE	Department of Budgetary Control and Ministerial Accounts, Head of the Budgetary Control Department
M. Gilles MOYA	accounting officier of the ANFR

The advisory committees with the Agence nationale des fréquences



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Geographical map

ANFR's head office
78, avenue du Général-de-Gaulle
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Radiocommunications Management Center
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94370 Noiseau
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Tel.: 01 49 58 31 00
Fax: 01 47 26 55 22

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Fax: 02 40 91 01 37

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88108 Saint-Dié-des-Vosges cedex
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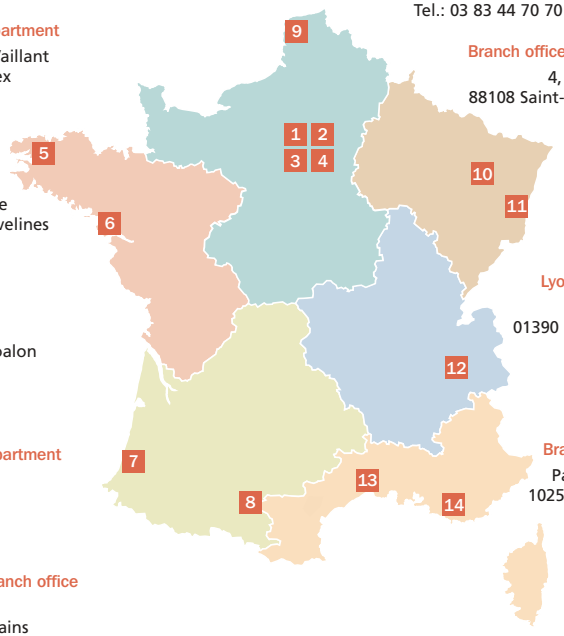
Fax: 03 29 42 20 10



Lyon regional department 12
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Fax: 04 72 26 42 34

Branch office Montpellier 13
Parc club du millénaire
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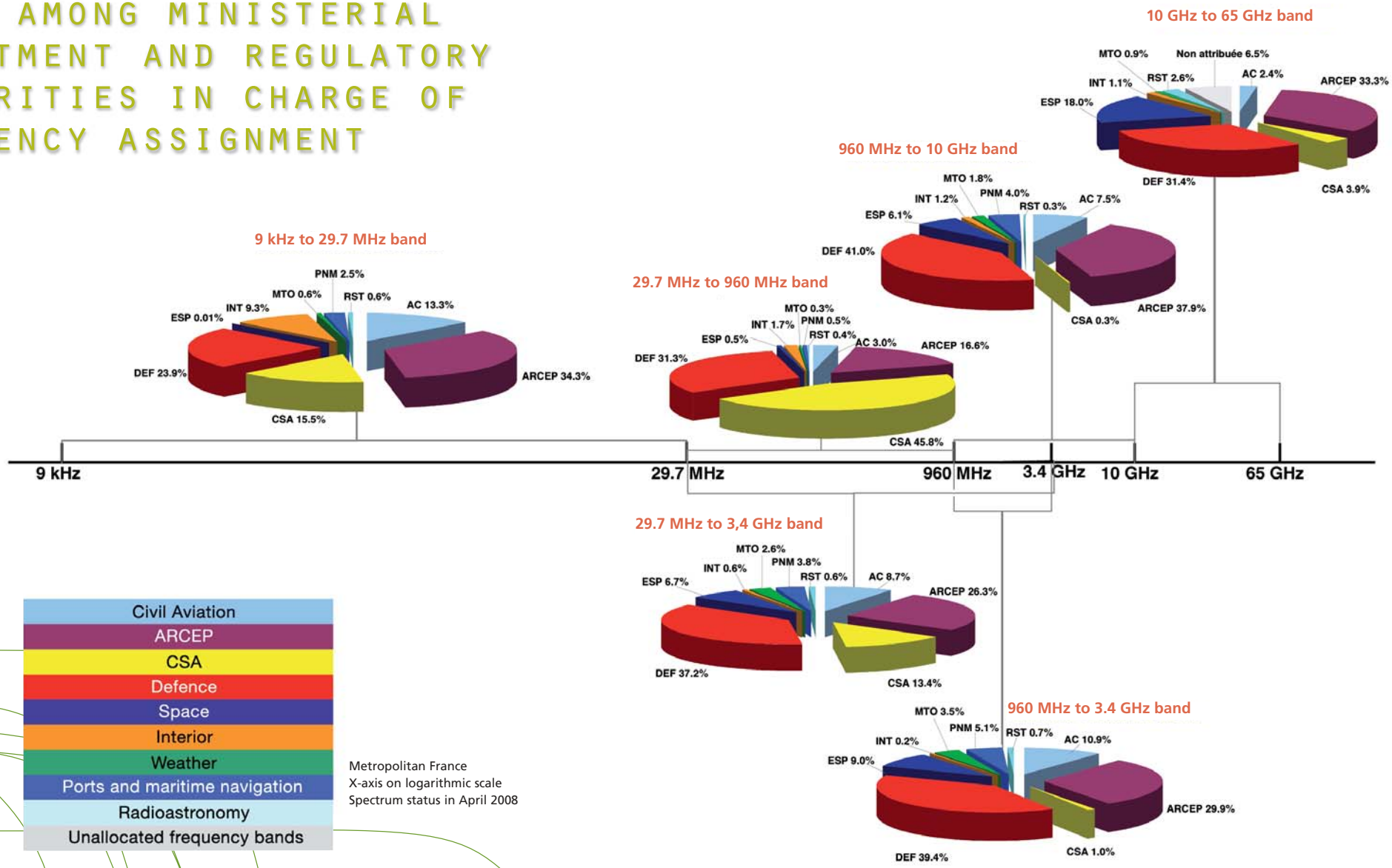
BP 115
98713 Papeete
Tahiti
Tel.: 00 689 506062
Fax: 00 689 506063

DISTRIBUTION OF FREQUENCY BANDS AMONG MINISTERIAL DEPARTMENT AND REGULATORY AUTHORITIES IN CHARGE OF FREQUENCY ASSIGNMENT



Metropolitan France
X-axis on logarithmic scale
Spectrum status in April 2008

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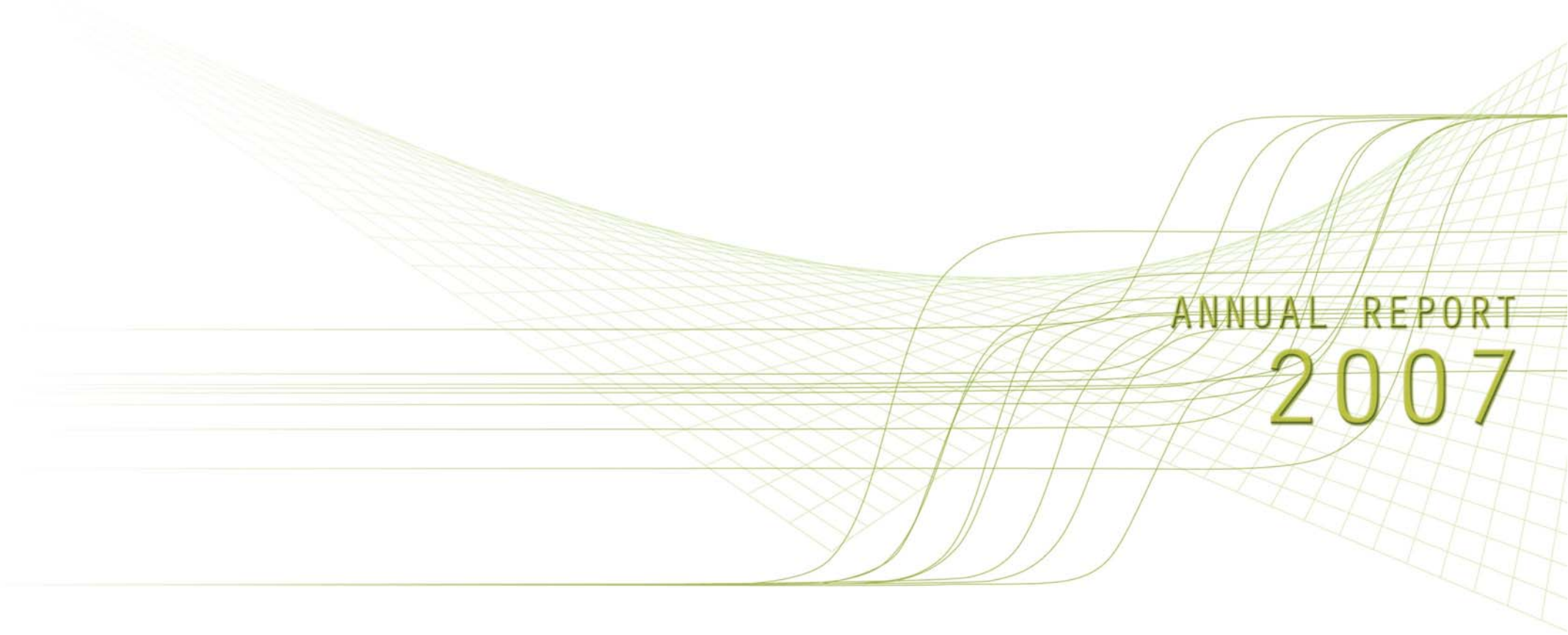

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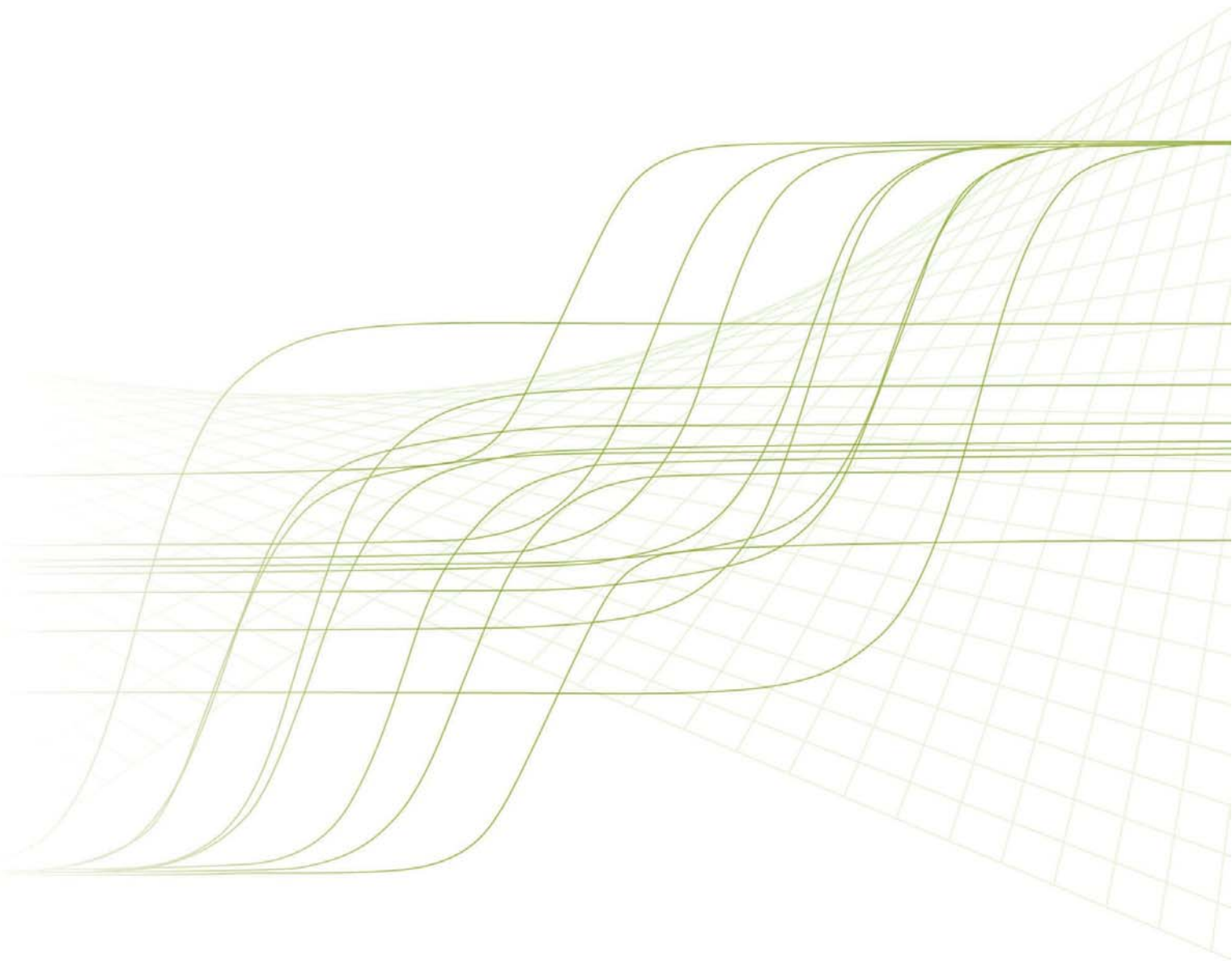

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