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# Annual Report 2007

## Barcelona Fire Brigade

Fire-prevention, Fighting and Rescue Service

### Presentation

The year 2007 once again put to the test the great work capacity of our fire fighters in difficult and complicated times. The training, preparation and spirit of public service of the Fire Brigade, along with the consolidation of the Emergency Management Centre and the updating of equipment and work techniques have contributed to the success and impeccable job performed by our fire fighters. Their work during two fires that occurred in Vall d'Hebrón Hospital or during the city-wide power outage in July are classic examples of the fire department's great capacity.

Likewise, the holding of the ninth edition of the World Rescue Championships in Barcelona was a success in both the organization and participation in the event. This type of event entails many hours of training that subsequently impact in a positive way the education and motivation of the Fire Brigade. In this regard, they help to improve the service that they provide to the city, in this case, the rescue of victims from traffic accidents. In providing more details about fire fighters' training, I wish to point out that the adaptation course for newly hired fire fighters has increased from 378 hours in 2006 to 550 hours in 2007.

We must continue working on this endeavour, improving the technical skills of our fire fighters even more and giving priority to and updating the Security Plans on Civil Protection, with a firm willingness to ensure the highest level of protection to the citizens.

The 175 years of the Barcelona Fire Brigade outline a history of work well done and city pride. A history of professionalism, the ability to be permanently up-to-date to face the future with full assurance and to continue to be one of the services that is most valued by all our citizens.

**Jordi Hereu**, Mayor of Barcelona

## Presentation

The Barcelona Fire Brigade is at a time of change and adaptation of the Service to the reality of a city in constant evolution. In this regard, a mention should be made of the processes of renovation of staff (in 6 years, 120 new fire fighters have joined the Fire Brigade), of enhancing paths for internal promotion, adaptation and updating of the network of stations, and the building of the new Port and Eixample stations, in order to adapt their staff and equipment to the needs of the city.

In the last ten years, we have accomplished a great task, with the participation of all the organization sectors, which has allowed us to renew the whole fleet, adapted to the real needs of the city, to add new and better personal safety equipment, to improve the intervention support equipment, while reasonable amortization terms have been agreed to by all concerned parties.

The work for the formalization of the documentary bases, gathered after many years of experience, both about vehicles and materials, has also been intense and has resulted in the creation of the manual for vehicles and materials of the Barcelona Fire Brigade.

Regarding staff, we are planning a medium-term model that will permit a functional and operative autonomy of stations, within their area of intervention, with a distribution of human resources adapted to the real needs of service in the city.

The 175 years of experience of our Service will provide us singular aspects in comparative assessments with other Services in the European Union and in our country. The equipment and staffing of vehicles and the man count according to type of intervention, as well as distribution of material related to the intervention protocols and procedures draw the “Barcelona Fire Brigade model”, which is guarantee of safety for the citizens and the fire fighters themselves.

People have always been and will be the *raison d'être* of our organisation, in the future we will invest in new technologies in order to improve the managing process of emergencies and aspects of personnel management. Technological improvements will result in significant increases of safety conditions of fire fighters and citizens. Training must also play a significant role which will influence the final result to a great extent.

The Barcelona Fire Brigade wants to keep its position of reference in training regarding fire prevention for our citizens, disseminating information on basic aspects of fire prevention and self-protection in risk situations.

Therefore, we want to side with the citizens and collaborate with the Barcelona City Council to make Barcelona a safer city.

**Joan Pedreny**, Director of the Fire Brigade

## The city, an intervention scenario

The city data provide the criteria of an intervention scenario in constant adaptation. The changes regarding activities show a growth trend of production and industrial processes.

The inclusion of the Civil Protection Service into the Fire Brigade structure can be seen as an improvement of the whole managing process of our Service, specially because of the possibility of having updated data for many of the incidents that occur in our city.

### City data

Linear metres of beach	4,580 m
Port perimeter	20,500 m
Green forest	1,795 ha
Manufacturing industries	13,022
Commercial premises	53,986
Restaurants, bars and hotels	12,598
Cinemas and theatres	245
Clubs and discotheques	149

<b>Total number of buildings</b>	<b>86,744</b>
Residential buildings	75,932
Buildings intended for other uses	10,812
Residential properties	757,928

(Sources: Annual Statistics for the City of Barcelona 2007)

### Basic data in figures

**6** fire stations and a temporary crew based at Vallvidrera

**16,113** emergency-service responses

**786** fire fighting staff members

**4,90** fire fighters per 10,000 population

**7,82** fire fighters per km<sup>2</sup>

### Emergency-response services per district

District	Population	km <sup>2</sup>	Population/km <sup>2</sup>	Services*
Ciutat Vella	113,082	4.41	25,642	1,829
Eixample	263,769	7.46	35,358	3,168
Sants-Montjuïc	178,929	21.35	8,381	2,157
Les Corts	81,834	6.01	13,616	674
Sarrià-Sant Gervasi	141,803	20.09	7,058	1,695
Gràcia	120,601	4.18	25,852	1,046
Horta-Guinardó	168,361	11.95	14,089	1,212
Nou Barris	166,591	8.04	20,720	1,077
Sant Andreu	143,756	6.56	21,914	1,099
Sant Martí	224,452	10.32	21,749	2,121
<b>Barcelona</b>	<b>1,603,178</b>	<b>100.40</b>	<b>15,968</b>	<b>16,078</b>

**Services outside the immediate Barcelona Municipality 35**

**Total number of services 16,113**

\*Number of fire fighting responses per district for 2007

### Performance per station: Number of emergency responses and day/night distribution

Station	Total	% of the total	Day	% of the station	Night	% of the station
Eixample	7,294	38.58	4,349	59,62	2,945	40,38
Sant Andreu	3,023	15.99	1,846	61,07	1,177	38,93
Drassanes	1,869	9.88	1,127	60,30	742	39,70
Llevant	3,346	17.70	2,069	61,84	1,277	38,16
Zona Franca	1,210	6.40	775	64,05	435	35,95
Vallvidrera	290	1.53	271	93,45	19	6,55
Vall d'Hebrón	1,876	9.92	1,183	63,06	693	36,94
<b>Total number of emergency responses</b>	<b>18,908</b>	<b>100</b>	<b>11,620</b>	<b>-</b>	<b>7,288</b>	<b>-</b>

\* A service may need emergency responses from different stations

## Summary of activities for 2007

### Emergency responses: 16,113

Types	Number
Fires and explosions	3,915
Rescues (including 2,006 dealing with medical support)	4,319
Technical support	3,745
Operational prevention*	1,222
False alarms	2,912

\*Inspections, practices, etc.

### Prevention services: 6,266

Types	Number
Technical consultations	3,761
Work projects and activity reports	1,930
Prevention inspections	466
Emergency plans consulted	68
Support to simulations and drills	41

## Civil protection and prevention division

### Civil protection

In 2007, work on the inclusion of municipal civil protection tasks in the Fire Brigade structure that started two years ago has continued. The objective was clearly defined; emergency plans must be easy to implement in urgencies and they must be understood by those involved in their implementation.

We have also worked on the drawing up and updating of different municipal plans mandated by law, which require long administrative procedures. This year, efforts have focused in drawing up, updating, reviewing and/or improving municipal plans related to special

plans of the Generalitat of Catalonia. In this regard, it can be considered that we are in the last phase, its implementation.

In 2008, specific plans that cover risks that were not contemplated in the special plans of the Generalitat of Catalonia will be undertaken, proceeding then to their drawing up and/or updating and, later, to their implementation.

### Status of Municipal Emergency Plans

- Plans that cover seismic, flood and forest fire risks are qualified and in full operation.
- The following plans have been redrafted and/or updated, approved by the Municipal Civil Protection Commission, reported to operational groups through informative sessions, and approved by the City Council:
  - Municipal Emergency Action Plan (PAEM) for dangerous-chemical companies.
  - PAEM for accidents involving dangerous substances.
  - PAEM for situations involving snow and ice.
  - Specific Municipal Emergency Plan (PEEM) for sanitary risk.

These plans will be submitted to the Generalitat for approval at the beginning of 2008.

- A PAEM for accidental contamination of marine waters has been drafted, although the technical direction of the plan is under the responsibility of the Parks and Gardens Municipal Institute. The approval and approval process is still pending.
- Contact details (names and phone numbers) have been updated and summary files of the remaining specific plans corresponding to risks of accidents in railway tunnels, power outages, gas cuts and/or accidents, communication breakdown and accidents outside the harbour.

### **Activation of Municipal Emergency Plans in 2007**

Three plans have been activated this year, which we should describe in order of importance starting with the power outage that took place in the summer.

1. Activation of the PEEM due to a power outage on Monday 23.07.2007 caused by several incidents in the Collblanc, Sants, Maragall, Les Corts and Urgell substations. In the case of the Maragall substation, there was an actual fire. The users affected on the outset were approximately 458,000. Following the plan protocol, the Technical Director gave the corresponding commands to activate the plan and in less than an hour the Emergency Committee was summoned to the CECOPAL located at the Joint-Command Headquarters. From that moment, the Fire Brigade collaborated with all operational groups to minimize the effects of the power outage coordinated under this emergency plan. Among others, the first main measures taken were:

- A map of the area affected was drawn.
- The vulnerable locations where power was needed with the highest priority were mapped: hospitals, primary assistance centres, nursing homes for the elderly, markets, courts, etc.
- Follow-up of installation of backup power suppliers.
- Telephone and home care to specially vulnerable groups.
- Follow-up of power supply recovery.
- Communicating with utility companies REE and FECSA ENDESA representatives who were of course summoned to all meetings of the emergency committee.

On Thursday July 26, the activation phase of the emergency plan was changed to alert, since power supply was provisionally re-established to all users. Later, the Emergency Committee has held periodic meetings to follow up on incidents,

works, temporary outages, etc. At the end of 2007, the plan remained in alert since the network was not totally reliable until the Maragall substation was rebuilt.

2. Activation of the PAEM for dangerous-chemical companies in alert following the incident at company FORET on 13.04.07. The incident was due to a partial break up of a reactor that produced sodium silicate. This resulted in a cloud with NaOH concentrations high enough to affect the workers of the company next door (TMB bus depot).

3. Activation of the PAEM for floods on October 5 and 27 in alert phase and October 8 in emergency. All of this due to intense rain that exceeded the intake capacity of some street gullies.

### **Simulations and drills**

- This year, the Fire Brigade participated in simulations and drills of dangerous-chemical companies: Quimidroga, CLH, Enagas, Koalagas. In these two latter cases, the activation of the PAEM for dangerous-chemical companies was simulated.
- On June 20, a forest fire was simulated in the area of Serra de Vilana in the Collserola Park. The PAEM for forest fire was activated in emergency phase.
- The Brigade participated in simulated incidents in certain buildings located within the city.

### **Work committees and groups**

- Participation in Barcelona City Council's Environment Committee for compliance with the criteria stipulated by the Environmental Administration's Municipal Bylaw on Integrated Activities and Intervention (known locally by its Spanish/Catalan initials as "OMAIIAA") from the point of view of civil protection.
- Participation in the Civil Protection Commission of Catalonia and in the following

specific work groups and meetings: PROCICAT, INFOCAT, INUNCAT, CAMCAT, NEUCAT.

- Participating in the Mixed Committee set up by the Barcelona Port Authority and Barcelona City Council for following up the Cooperation Agreement.
- Participating in the work group on preventive measures for festival firework displays.

#### **Preventive and operational phase on potentially hazardous actions in the city**

Certain city events need coordination and planning of safety measures for public and the people involved. Civil Protection is involved in the planning and in the operational tasks of setting up coordination centres during events.

The following items should be highlighted:

- The 2007 Mercè festivals (Pl. Catalunya, Fòrum, Moll de la Fusta concerts, Fireworks & Music Displays, Air Show, etc).
- 2007 Carnival in Gran de Gràcia.
- 2007 Cavalcada de Reis (procession of the three wise men).
- 75th Anniversary of the Montjuïc Circuit.
- The 2007 April Fair. Several events in the Forum area.

#### **Implementing the Environmental Administration's Municipal Bylaw on Integrated Activities and Intervention(OMAIIA)**

Regarding this subject, it should be noted that, this year, the Innovation, University and Business Department is asking high degree SEVESO companies for a quantitative analysis of risk. This study is the basis to justify compliance with article 33.3 of OMAIIA. Therefore, we can take this calculation and the assessment submitted by the company as base; performing a parallel study is no longer necessary in many cases. In the cases not covered by the Generalitat of Catalonia, such as low degree Seveso companies and technological risk companies, procedures have not changed. Therefore, a joint audit with CERTEC of European Biofuels 012, SL, has been carried out and, in the case of TURCO, it has been directly assessed by the Fire Brigade.

#### **Other activities**

This year, the Fire Brigade has been working on a protocol that could be added to the Basic Plan, so that we can cope with a prolonged heat wave in summer.

The Self-protection Plan for the Torre Baró district has been drawn up, implemented and approved by the Barcelona City Council.

As occurs every year, there was also participation with the Civil Protection General Directorate of the Generalitat of Catalonia participated in the information campaigns on floods, forest fires, snow-ice, bonfires and firework displays.

Safety reports on firework displays in the city were produced.

### **Prevention**

#### **Regulated prevention**

This section includes all reports and tasks the Fire Brigade has done to verify that buildings and establishments comply with the corresponding fire-protection regulations.

As it was foreseen with the implementation of law 3/1998 on Environmental Administration's Municipal Bylaw on Integrated Activities and Intervention regarding initial control, the function of the Fire Brigade technicians must increasingly focus on supervising and controlling tasks carried out by technicians of the environmental monitoring organisations, who are in charge of verifying on site that the execution of the works matches the project approved by the Administration. That is why, 16% fewer inspections were carried out in 2007 than in the previous year.

As regards reports on projects, 917 records were reviewed and the same level as in 2006 was kept.

Regarding technical support, there is a downward trend, due to the important number of training sessions held on fire protection regulations, which have resulted in a higher awareness of the topic. The number of technical support activities carried out was reduced 8% this year.

On the Municipal Environmental Committee 1,013 licence applications were reviewed, showing an increase of 22% compared to the previous year; however, the number of initial controls analysed has decreased from 407 to 281 in 2007.

#### **Rules and regulations**

We can consider this a year of consolidation of the fire protection regulations. The Industry Ministry, responsible for the Fire Safety Regulations in Industrial Establishments (RSCIEI), has published the announced Technical Guide which sets criteria to facilitate the understanding and implementing of the RSCIEI. Furthermore, the Promotion Ministry, responsible for the Building Technical Code (CTE), has published a decree with small amendments to the CTE and the corresponding Technical Guide for its interpretation.

These publications have made it necessary to modify the contents of the Fire Municipal Bylaw, which is pending City Council approval after passing the process of public information. Some technical records have been drafted in order to clarify interpretation criteria by the Fire Brigade in aspects where the RSCIEI and the CTE are not clearly defined and can prompt different interpretations.

The Fire-Safety Rules Interpretation Board (known locally as "TINSCI") - which includes the professional Colleges of Architecture and Engineering and the respective Fire Brigade Services of Barcelona City Council and the Autonomous Government of Catalonia - continued its work to clear doubts and questions regarding interpretation raised by the technicians and documents based on previous CTE and RSCIEI regulations have been updated.

#### **Fire Prevention Forum**

In this second year of work at the Forum, 2 aspects should be highlighted:

- The consolidation of the "Fire Day", with the important collaboration of Tecnifuego-Aespi; this year, prestigious speakers from the Ministry of Industry and Promotion have participated in the technical lecture "Current situation of fire protection rules and regulations" and almost 400 people attended the lecture, a record attendance.
- The agreement signed with BTV (Barcelona Television) has resulted in the airing of 30 programmes in 2007, which have helped the citizens of Barcelona be aware of the work of the Fire Brigade and have helped disseminate fire prevention and self-protection messages.

The important increase in dissemination of preventive messages in schools should also be mentioned, as well as the 4,154 schoolchildren who visited fire stations; in 2007, a programme of educational preventive talks in schools, in which fire fighters make children aware of the importance of creating behavioural habits to prevent risk situations and to learn what to do in those situations, was launched.



## 6,266 Preventive Services

<b>Support services</b>		<b>3,761</b>
Scheduled visits	1,112	
Consultations by telephone	2,649	
<b>Work-project, activity and event reports</b>		<b>1,930</b>
Mandatory project and consultation reports	917	
Projects reviewed in the Environmental Committee	1,013	
<b>Prevention inspections</b>		<b>466</b>
Night-time inspections of public premises	39	
Inspections of fire-work display projects	104	
Initial controls supervised in the Environmental Committee	281	
Other inspections	42	
<b>Educational preventive talks</b>		
Number of schools that visited us	112	
Number of students who visited us	4,154	
Number of schools we visited	176	
Number students in schools we visited	3,891	
Number of other groups that visited the Fire Brigade	184	
Number of other groups we visited	507	
<b>Emergency plans consulted</b>		<b>68</b>
<b>Support to simulations and drills</b>		<b>41</b>

## Operations division

This was a year of change for the Operations Division: changes in the Management of the Division, change in the structure of Operational Units, changes in the assignment of Areas and generational changes in the operation of stations with the continued incorporation of new fire fighters.

We are thus starting a new cycle all together, ambitious in its objectives, as always in the Barcelona Fire Brigade.

Our collective work has made us become a point of reference for other services in many issues that have become everyday routines for us. Even though we still have a long way to go, we feel proud of the training of our new fire fighters,

of the procedures we have developed and the qualitative improvement of our interventions, of the documentation systems we have acquired; of our vehicles and their adaptation to this city environment; of the paths we have established for collective participation and of the way we have introduced work techniques through participation in specialised international contests and trials, all of this with the only aim of improving our way of helping the citizens of Barcelona.

We are now opening lines of promotion for our organisational structure, so that new fire fighters take the baton from those leaving, maintain the energy to consolidate the accomplished objectives and face new challenges.

Our city and our citizens, who have proved they value us many times over, have high expectations for us. We will cooperate to not only meet their expectations but to excel in our interventions, giving our citizens not only what they expect, but: a professional hand to help them in difficult times, we want to add something more so that behind this hand there is also a person and a professional, who can listen, shelter, counsel and give human warmth when it is most needed.



This is our way of doing things and we want it to continue this way.

#### First emergency-response model

Types	Vehicles	Duty Chief	Officer	Health Expert	Sergeant	Corporal	Fire fighter	Driver
<b>FIRE</b>								
<b>Total: 16 people</b>	Light tank		1			1	3	1
	Heavy tank				1		3	1
	Heavy ladder truck						1	1
	Ambulance			1			1	1
<b>FOREST FIRE</b>								
<b>Total: 9 people</b>	Heavy tank				1		3	1
	Four-wheel-drive land rovers					1	2	1
<b>TRAFFIC ACCIDENT</b>								
<b>Total: 13 people</b>	Light tank		1			1	3	1
	Rescue					1	2	1
	Ambulance			1			1	1
<b>RESCUE</b>								
<b>Total: 7 people</b>	Rescue					1	2	1
	Ambulance			1			1	1
<b>EMERGENCY-RESPONSE SUPPORT VEHICLES</b>								
<b>Total: 15 people</b>	Command	1						1
	Crane					1		2
	Air						1	1
	Foam						1	1
	Underwater equipment					1	2	1
	Shoring						1	1

## Emergency-intervention services: fires or explosions

We carried out 3,915 interventions in fires or explosions in 2007, which amounts to 24.30% of the total of services provided (0.66% more than in 2006). In absolute terms, we performed 190 more services against fire or explosion than we did for the previous year. Of the total number of these interventions, 9 took place outside the municipality.

Out of the 3,915 interventions, 1,991 started in public thoroughfares, a higher number than the 1,924 counted in 2006. The Fire Brigade put out 1,570 building fires, 1,142 of which had started in residential premises and were 40.10% of the total of fire interventions (a slightly lower percent than the 41.10% of 2006).

We put out 97 forest fires compared to 66 in 2006. This kind of intervention represented 2.94% of the fire services, showing an increase of 0.71% compared to 2006.

An analysis of the fire services, broken down along the days of the week, gives us the following information: Wednesdays have the least activity (12.29 %), whereas Saturdays (16.96 %) and Sundays (16.88 %) have the most.

The day-night distribution of fire services provide the following values: 45.34 % of fire services are carried out in the daytime, whereas 54.66 % take place at night (from 8 pm to 8 am).

For 96.33% of the fire-service responses, we reached the emergency site in less than 10 minutes compared to 95.62% for 2006. The result complies with our commitment to the service charter, which stipulates that response units must arrive in less than 10 minutes for at least 90 % of cases. In addition, for 71.14 % of the fire-service responses, units arrived in less than 5 minutes (69.96% in 2006).

For 2007, the average arrival time of a response unit to an emergency site (fire/explosions and emergency rescues) was 4 minutes and 17 seconds, compared to 4 minutes and 39 seconds for 2005.

### Number of fires according to time of day

Time band	Number of services
from 12 am to 4 am	775
from 4 am to 8 am	488
from 8 am to 12 pm	392
from 12 pm to 4 pm	710
from 4 pm to 8 pm	673
from 8 pm to 12 pm	877
<b>Total</b>	<b>3,915</b>

### Arrival times to fire site

Arrival times	Number of services	Accumulated	Accumulated percentage
from 0 to 5 minutes	2,785	2,785	<b>71.14%</b>
from 5 to 10 minutes	986	3,771	<b>96.33%</b>
more than 10 minutes	144		
<b>Total</b>	<b>3,915</b>		

### Time taken to extinguish fire

Extinguishing times	Number of Services	Accumulated	Accumulated percentage
from 0 to 15 minutes	446	446	<b>11.39%</b>
from 15 to 30 minutes	1,873	2,319	<b>59.23%</b>
from 30 to 60 minutes	1,249	2,568	<b>91.13%</b>
more than 60 minutes	347		
<b>Total</b>	<b>3,915</b>		

### Places where fire broke out

Place	Subtotal		Total	
	Number	Percentage	Number	Percentage
<b>Buildings</b>			<b>1,570</b>	<b>40,10 %</b>
private residences	1,142	29.17%		
public residences	27	0.69%		
administrative	66	1.68%		
medical	18	0.46%		
bars, restaurants and meeting places	113	2.88%		
for educational use	18	0.46%		
commercial buildings	143	3.65%		
garages and car parks	43	1.10%		
<b>Public thoroughfares</b>			<b>1,991</b>	<b>50,86 %</b>
vehicles	236	6.03%		
containers	900	22.99%		
others	855	21.84%		
<b>Miscellaneous</b>			<b>354</b>	<b>9,04 %</b>
work in construction	37	0.95%		
factories and warehouses	66	1.69%		
railway facilities	30	0.77%		
building sites	116	2.96%		
forest areas	97	2.48%		
beaches, breakwaters, sea, rivers and lakes	8	0.20%		
<b>Totals</b>	<b>3,915</b>		<b>3,915</b>	

### Number of services against fire or explosions per district\*

District	Number of Services	Percentage
Ciutat Vella	366	9.37%
Eixample	803	20.56%
Sants-Montjuïc	495	12.67%
Les Corts	182	4.66%
Sarrià-Sant Gervasi	354	9.06%
Gràcia	265	6.78%
Horta-Guinardó	309	7.91%
Nou Barris	272	6.96%
Sant Andreu	312	7.99%
Sant Martí	548	14.03%
<b>Total</b>	<b>3,906</b>	

\* 9 services performed outside the immediate municipality.

## Emergency-intervention services: rescues

We carried out 4,319 rescue interventions, a figure representing 26.80% of the total of emergency responses. Of these rescue interventions, 6 were performed outside the immediate municipality. In 2006, 4,217 rescue-service interventions were carried out, representing 28.92% of the emergency responses for that period. There was a slight increase in absolute terms in the number of services, although the percentage compared to the previous year was practically the same. Of the total number of these rescues, 221 were non-urgent.

62.10% of the rescue responses were for assisting and aiding persons, representing 2,682 interventions. 32.79 % were rescues in lifts (1,416 interventions). The rest, correspond to 39 cadaver recoveries and 182 to rescues or captures of live animals.

Of the total number of rescue interventions, medical assistance was provided in 2,006 cases, and our medical teams performed 1,352 transfers to hospitals.

The distribution of rescues along the week shows Wednesdays having least activity (13.50 %), and Fridays with the most emergency services, with 14.82 % of rescues.

Rescue services were improved by more than 6 points according to the service charter commitment, which states as its objective that arrivals should be under 10 minutes for at least 90% of emergency-service response. This was achieved for 96.56% of cases, compared to 94.54% of cases for 2006. In 69.97% of emergency rescues, arrivals took under 5 minutes (66.02% for 2006).

### Number of rescues according to time of day

Time band	Number of Services
from 12 am to 4 am	408
from 4 am to 8 am	300
from 8 am to 12 pm	769
from 12 pm to 4 pm	1,040
from 4 pm to 8 pm	883
from 4 am to 8 am	919
<b>Total</b>	<b>4,319</b>

62.33% of emergency-rescue interventions took place during the day, and 37.67% at night, compared to 64.15% and 35.85% respectively in 2006.

### Arrival times to emergency-rescue sites in the city of Barcelona\*

Arrival times	Number of Services	Accumulated	Accumulated percentage
from 0 to 5 minutes	2,864	2,864	69.97%
from 5 to 10 minutes	1,088	3,952	96.55%
more than 10 minutes	141		
<b>Total</b>	<b>4,093</b>		

\* 220 non-urgent rescues were carried out in 2007 (recovery of cadavers and live animals)

### Typical features for rescues in the city of Barcelona\*

Type of rescue	Number of services	Percentage
Assistance and aid to persons	2,677	62.07%
Lift Rescues	1,416	32.83%
Cadaver recoveries	39	0.90%
Rescue and capture of live animals	181	4.20%
<b>Total</b>	<b>4,313</b>	

\* 6 services performed out of district

#### Number of rescue services per district\*

District services	Number of	Percentage
Ciutat Vella	428	9.92%
Eixample	1,016	23.56%
Sants-Montjuïc	470	10.90%
Les Corts	207	4.80%
Sarrià-Sant Gervasi	388	9.00%
Gràcia	289	6.70%
Horta-Guinardó	309	7.16%
Nou Barris	362	8.39%
Sant Andreu	306	7.10%
Sant Martí	538	12.47%
<b>Total</b>	<b>4313</b>	

\* 6 services performed out of district

#### Emergency-intervention services: technical support

Fire fighters, apart from putting out fires and rescuing persons, animals and property, also perform a variety of other services, described as “technical support”.

3,745 operational technical-support services were performed in 2007, a figure representing 23.24 % of all interventions. Of these, 4 were performed outside the immediate municipality.

3,700 services of this type were performed in 2006, a very similar figure to that of this year.

If we then add the 1,222 operational prevention services, preventive measures, manoeuvres and simulations, the figure rises to 4,967, representing 30.83% of the total.

#### Number of technical support responses according to time of day

Time band	Number of Services
from 12 am to 4 am	374
from 4 am to 8 am	247
from 8 am to 12 pm	747
from 12 pm to 4 pm	848
from 4 pm to 8 pm	887
from 8 pm to 12 pm	642
<b>Total</b>	<b>3,745</b>

66.28 % of technical support responses took place during the day while 33.72 % occurred at night.

As for preventive measures, manoeuvres and operational preventions, 82.24 % occurred during the day and 17.76 % at night.

#### Building pathology where incidents arose

Most probable causes	Number of services	Percentage
Lack of maintenance	289	30.91%
Water leakage	140	14.97 %
Defective construction	97	10.37%
Fixing-element rusting	99	10.59%
Land settling	41	4.39%
Inadequate morphology	15	1.60%
Explosion	1	0.11%
Fire	3	0.32%
Traffic accidents	26	2.78%
Works	99	10.59%
Earthquakes	0	0.00%
Wind or rain	71	7.59%
Others	54	5.78%
<b>Total</b>	<b>935</b>	

#### Types of technical support and preventive services, manoeuvres and operational prevention.

Types	Number of services	Percentage
Disconnecting alarms	187	3.76%
Construction surveys	403	8.11%
Building sanitation	507	10.21%
Shoring	28	0.56%
Removing vehicles	168	3.38%
Cooperation with institutions	134	2.70%
Supplying power or light	110	2.21%
Rain storm or water leakage	820	16.51%
Consolidation, removing obj. and trees	761	15.32%
Ladder services	7	0.14%
Examining products	196	3.95%
Gas leakage	284	5.72%
Spillage of liquids	46	0.93%
Cleaning road surfaces	94	1.89%
Preventive activities and manoeuvres	1,205	24.26%
Others	17	0.35%
<b>Total</b>	<b>4,967</b>	

### Places giving rise to technical support and preventive services, manoeuvres and operational prevention

Place	Subtotal		Total	
	Number	Percentage	Number	Percentage
<b>Buildings</b>			<b>2698</b>	<b>54.32%</b>
private residences	2,147	43.23%		
public residences	41	0.83%		
administrative	91	1.83%		
medical	30	0.60%		
bars, restaurants and meeting places	94	1.89%		
for educational use	46	0.93%		
commercial buildings	181	3.64%		
garages and car parks	68	1.37%		
<b>Public thoroughfares</b>	<b>1,071</b>	<b>21.56%</b>	<b>1,071</b>	<b>21.56%</b>
<b>Miscellaneous</b>			<b>1,198</b>	<b>24.12%</b>
work in construction	55	1.11%		
factories and warehouses	403	8.11%		
railway facilities	19	0.39%		
building sites	28	0.56%		
forest areas	285	5.74%		
beaches, breakwaters, sea, rivers and lakes	408	8.21%		
<b>Totales</b>	<b>4,967</b>		<b>4,967</b>	

### Number of technical-support responses per district\*

District	Number of services	Percentage
Ciutat Vella	484	12.94%
Eixample	707	18.90%
Sants-Montjuïc	517	13.82%
Les Corts	153	4.09%
Sarrià-Sant Gervasi	400	10.69%
Gràcia	287	7.67%
Horta-Guinardó	324	8.66%
Nou Barris	211	5.64%
Sant Andreu	244	6.52%
Sant Martí	414	11.07%
<b>Barcelona</b>	<b>3,741</b>	

\* 4 services performed out of district.

## Outstanding services

### January

On the 4th, we received many calls warning of a fire at the Vall d'Hebrón Hospital, between the traumatology and the general buildings, located in the cooling towers. The facility was totally destroyed.

On the 12th, a fire caused alarm at 29-33 Carrer Bartomeu Pi, as people called to warn us there were people in a balcony; the fire was caused by an explosion of a butane heater.

On the 16th, at 66-68 Carrer Llull, two people fell into a ditch where a pneumatic waste hopper was going to be installed and it took two hours of intense work to take them out; one was taken to the Hospital del Mar, unfortunately the other was a mortality.

On the 18th, at 12 Carrer Ribera, a fire was put out in a flat that burnt intensely and filled the staircase with smoke.

On the 25th and 27th, at 7-9 Carrer Plutó and at 8 Carrer Aragó, two explosions, one caused by an accumulation of butane gas and the other by the voluntary piercing of a spray can, also caused alarm among the neighbours.

At the end of this intense month, on the 28th, at 20 Carrer Campreciós, a fire in an apartment took more than two hours to put out and unfortunately there was one mortal victim. There was another alarm at the Restaurant La Oca in Plaça Francesc Macià when the fume extraction system burnt due to an accumulation of grease.

### February

The same trend of fires in apartments continued in this month; on the 6th, at 50 Carrer Indústria, 29 fire fighters with 8 vehicles worked for 3 hours to put out a fire that spread out with strong flames. Four fire fighters suffered 2nd degree burns and 3 neighbours needed medical care.

There was also a mortal victim; the work of the Fire Brigade, however, prevented further damage.

On the 10th, at 1 Avinguda Diagonal, at the Barcelona Princess Hotel, a sauna burnt causing the corresponding alarm.

On the 19th, in Carrer de la Cadena, two young ladies had to be taken out using rescue hoods after a short circuit started a fire in the apartment where they were, forcing them to cry for help from the balcony. There was a fire in room 302, on the third floor of the Catalonia International Putget Hotel, located in Carrer Putget; the hotel had to be evacuated. The Fire Brigade put out the fire in 15 minutes and 3 people affected needed medical care. At the Moll Adossat, a 113-metre-long ship registered under the Jamaican flag, the ACACIA, was listing and it had the Fire Brigade busy for quite a while trying to stabilise it.

### March

On the 6th, in Carrer Santa Rosa, 29 fire fighters with 10 vehicles worked for almost 10 hours after a concrete-mixer truck belonging to the company BEDMAR rolled over on its side while injecting concrete.

On the 10th, a frying pan on the stove triggered panic among the neighbours at 849 Gran Via de les Corts Catalanes; some of them wanted to escape by jumping out of the building.

On the 11th, in Passeig de Sant Joan, high winds dismantled the stalls erected for the Show of Civic Entities, cancelling the event.

On the 13th, at 965 Gran Via de les Corts Catalanes, a faulty connexion with the stove, caused an accumulation of gas and an explosion; the apartment owner suffered first degree burns.

On the 23rd, ADIF requested our services following a leakage of a cistern that contained

15,000 l of nitric acid at the Morrot Station. The operation was complex and 15 fire fighters with 5 vehicles took 4 hours and 10 minutes to neutralise the leakage.

On the 26th and 27th, at 70 Carrer Fabra i Puig and at 29-33 Rambla Guipúscoa, we put out two fires and there were people with minor smoke intoxications in both.

#### **April**

On the 16th, in Carrer Number 5 in Zona Franca, we had to work for more than 4 hours with ERA equipment and chemical protection suits following a spillage of liquids; we had to use a water curtain to prevent expansion of a small cloud that originated in the hot area.

On the 18th, in Ronda del Litoral, three trucks and a car were involved in a traffic accident. The driver of one of the trucks and that of the car were trapped and were successfully rescued. Also on the 18th, at 18 Carrer Riereta, a worker was trapped in a ditch and was rescued with only a broken bone.

On the 26th, at intersection A of Carrer 4 of the Zona Franca, there was a leakage of pentahydrated sodium metasilicate and 11 people in the nearby bus depot suffered mild smoke intoxication.

On the 29th, on the Barceloneta beach the Fire Brigade had some difficulty when they had to urgently rescue a person that was at risk of drowning in the rough sea.

#### **May**

This month was relatively uneventful. There was a spillage of gas oil at Cal Arara (ZAL PRAT) on the 16th and a fire in Avinguda Francesc Cambó that affected a whole apartment on the 23rd.

A thread of smoke - according to the person who telephoned us - turned into a fire that caused panic among the neighbours who were

evacuating the building through the staircase full of smoke when we arrived. This resulted in 5 people needing medical care at 4 Torrent de Can Piquer on the 31st.

#### **June**

On the 5th, a wall tumbled down and caused a fire in a building site in Carrer París. As a consequence, the gas utility company had to cut the supply to the whole area and 50 fire fighters with 12 vehicles took over 6 hours to solve the incident. The water and power supplies also had to be cut in the area for a long while.

On the 11th, at 316 Carrer Pallars, the 5th floor was totally burnt, causing panic among the neighbours.

On the 16th, at 237 Carrer Bailèn, a person tried to commit suicide causing a gas explosion and a fire. The only person affected was the person who caused the gas leak and who had previously ingested bleach. The person was taken to the Vall d'Hebrón Hospital.

On the 18th, in Passeig Torres i Bages, a fire in an apartment spread to other apartments in the same building and it took us almost 3 hours to put it out.

After many emergency responses on Saint John's Eve, on the 24th, we had to rescue 12 people who had been left hanging in Tibidabo on the "Huracan" ride due to a power outage. On the same day, a dog that had fallen into a 25-30-metre-deep well in Carrer Sant Crist had to be rescued.

On the 27th, at 64 Carrer Capità Arenas, a person with Diogenes syndrome (senile squalor) caused a fire that affected one of the ground floor apartments and caused neighbours to evacuate the building, although this was not necessary.

The collapse of a building crane at Encarnació/Lepant damaged two nearby houses and 9 vehicles parked in the area. That happened on the 28th and 15 fire fighters were kept busy for 2 hours and 15 minutes.

### **July**

On the 2nd, after putting out a fire in a chimney of the restaurant “Mi Burrito y Yo” in Carrer Ferran, we had to go to the treasurer department of the Social Security in Carrer Indústria to rescue a window cleaner whose suspended platform broke down when he was 12 metres high and the intervention of the E-21 was needed to take him down.

On the 4th, in Carrer Aiguablava, many telephone calls warned of a forest fire. Thirty-four fire fighters with 8 vehicles had to work for more than three hours due to the steep terrain and the high sirocco (south-easterly) wind. They were supported by 3 helitanks and 4 heavy tankers (BRP) from the Generalitat of Catalonia Fire Brigade.

There were several alarms in the Zona Franca; on the 6th, in Carrer Josep Carner, a leakage of hydrofluoric acid from a 20,000 litre tank mounted on a train carriage caused a small cloud of gas. This is a toxic and corrosive product that forced us to work wearing NBQ costumes that had to be decontaminated later. The alert phase of the Municipal Emergency Plan for Accidents of Transport of Hazardous Materials was activated, and the CECAT activated the PLASEQCAT.

On the 10th, twenty-one fire fighters worked hard for almost 3 hours following a leakage of hydrochloric acid from a three-axle semi trailer.

A curious anecdote occurred on the 21st of this month in Carrer Uldecona when a monkey was caught after an important chase in the same street.

On the 23rd, the famous power outage affected 458,000 users in Barcelona. The collapse of a high tension cable (220,000 volts) at the Collblanc station triggered a chain reaction that resulted in failure of other substations and two fires in the FECSA-ENDESA facilities at Entença and Passeig Maragall. The Barcelona City Council quickly activated the PEEM (Municipal Specific Emergency Plan) and under the technical management of the head of the SPEIS we did our best to alleviate the effects of the power outage. Seventy trapped people had to be rescued from lifts and we had to help countless people in need to climb up to and down from their apartments. One of the services consisted of taking 10 people up to their bedrooms in a nursing home located in Carrer Varsòvia.

### **August**

On the 3rd of his month when people usually take their holidays, there was a fire in Carrer Tamarit that the Fire Brigade took 5 hours to put out. Our decided and quick intervention prevented the spread of the fire; some of the residents were evacuating the building and putting themselves in danger when we arrived. The flames enveloping the façade wrapped the higher floors and endangered the two high floors; during the inspection of the building after the fire, we found three corpses, a couple and their son. On the same day, we went to help the Generalitat of Catalonia Fire Brigade to take 600 people out of a broken-down train at the Santa Eulàlia Metro Station.

The collapse of about 250 m<sup>2</sup> of a false ceiling at the Maritim Sports Centre in Passeig Maritim, in an area where there were two Jacuzzi bathtubs, resulted in 10 people needing medical care for minor injuries. On the same day, the 13th, in Carrer D'Argençola, a pool located in the patio of a residence where children were playing collapsed; the collapsed wall killed a six-year-old girl and caused minor injuries to three other children.

## **September**

The list of services started on the 9th with a car-park in Carrer Mestre Serradesanferm and continued on the same day with a fire in an industrial building, where homeless people had been squatting, located at the intersection of Carrer Pere IV and Carrer Fluvià. Our activity was complete as we had to take the squatters' belongings and vehicles out.

There are also occasions to alleviate stress; on the 12th, Mr Alain Robert climbed up the façade of the AGBAR Tower located at 209-211 Avinguda Diagonal and we went to the location just in case an incident occurred. Earlier that day, the Generalitat of Catalonia Fire Brigade asked our collaboration to put out a fire in a chocolate factory that burnt down completely in the town of Vallirana.

The fire that had the biggest impact, however, both for its complexities and the damage it could have caused, occurred on the 21st; it happened at the Vall d'Hebrón Hospital again. A big explosion followed by several minor ones woke up the patients. It took the Fire Brigade three minutes to get there after receiving the warning, but flames and a column of smoke were already rising from the building roof. The arrival of reinforcements allowed us to fight the fire from all four sides, but almost 1,000 patients and more than 1,400 visitors suffered the effects of the power outage, because the fire originated in the power station building of the hospital.

On the 26th, in Carrer Cantera, a brushwood fire fanned by strong wind forced us to use aerial means and a tanker lent by the Generalitat of Catalonia Fire Brigade. The fire took 3 hours to extinguish and 4 Ha were burnt.

## **October**

On the 2nd, three cars burnt in the car park located at 8 Carrer Cendra. The car park had 4 floors and the vehicles were parked on the second floor.

On the 25th, we were informed again of a fire at the Gran Teatre del Liceu (the Opera House). It was only some paper rolls burning, but as they produced a lot of smoke we were asked for help.

On the 19th, in Carrer Oliana, and on the 27th, in Passeig Fabra i Puig, there were two important fires in residential properties, but our quick intervention prevented people from being harmed and the spread of the fires. This latter fire caused a serious fright because it happened in a nursing home. The good sectoring of the building with stairs protected above and below the ground level and discontinued on the ground floor prevented the smoke from affecting the higher floors above. There was also a fire in an apartment at 240 Via Augusta on the 27th, where after 90 minutes of work, a 102-year-old man needed medical care for minor injuries.

## **November**

Due to an explosion at 9 Carrer Entença, on the 5th, twenty fire fighters had to work for 4 hours to rescue an affected person who was in the residential property and who had to be taken out with a turnable ladder and taken in an ambulance; because of the explosion, not only the affected apartment but the down pipe and the drinking water supply pipe were also damaged and some neighbours needed help from the Social Emergencies Services. A computer was the origin of a fire on the same day at 70 Gran Via de les Corts Catalanes; when we arrived, flames could be seen wrapping the façade with extreme intensity at the height of the first floor; the fire was controlled and it did not spread.

On the 8th, at 33 Carrer Longitudinal, four people who were working on a false ceiling fell from a height of 4 metres and had to be taken to hospital.

On the 21st, two traffic accidents needed our help; in the first one, at 187 Carrer Balmes, a pedestrian was trapped and had to be rescued

with pneumatic cushions and taken to hospital. The other was a rollover after a bus crashed with a car and, although no one was badly hurt, the bus was loaded with passengers and people were frightened.

As often occurs, a candle was the origin of a fire at 17 Carrer Roig on the 22nd, fifteen fire fighters worked for an hour to put it out, but the apartment was badly damaged. On the 22nd, at 22 Carrer Aneto, a fire in a car parked in a car park filled the premises of a CAP (Primary Care Centre) with smoke; the premises had to be ventilated to get rid of the smoke but nothing serious happened.

On the 23rd, there was a fire in the laboratory of the Faculty of Pharmacy at 23 Carrer Joan XXIII and the swift intervention of the wardens with BIEs prevented the fire from spreading to other rooms and help us to completely extinguish the fire.

Frying pans are other common origin of fires, like the one that started at 166-168 Carrer Marina and that fire fighters equipped with ERA took 30 minutes to put out; it affected other apartments in different degrees and as it also affected the supply of essential utilities such as gas and water, the help of the City Council Social Services was needed.

On the 29th, in Escolapi Càncer, a truck driver was trapped inside the truck cabin and had no way to get out after the load he was carrying rolled over; it took us 4 hours and 30 minutes to perform a complex rescue procedure with the adequate tools.

Finally, on the 30th, there was a fire in a launderette at 5 Carrer Blanqueria that frightened the neighbours and we had to wear TEMPEX clothing to clear out the smoke. A lot of clothes were burnt and the smoke affected the whole establishment.

## **December**

On the 1st, there was a shooting at 415 Mare de Déu del Port. A team of fire fighters coming back from a service heard the gunshots. Although the reasons for the shooting were unknown, some neighbours reported there had been a fight between a couple and some men who escaped in a car. Our medical assistant selected the affected people and they were taken in a SEM ambulance, because our ambulance was busy from the previous service.

On the 3rd, when we arrived at 1150 Gran Via de les Corts Catalanes, we were informed that there could be people inside the apartment on the 10th floor that was burning; while we extinguished the fire and the small secondary fires where it had spread to, one person was taken to the Red Cross Hospital.

The Port Police informed us of a leakage of ammonia from the company INTERFRISA at the Sant Bertran Quay. We localised and neutralised the leakage equipped with level 1 costumes.

On the 9th, we were informed by the Mossos d'Esquadra that there was smoke in the facilities of the DIA supermarket at 55 Rambla del Poblenou. We had to fight the flames while 3 families from the floors above were preventively evacuated. These residents were able to go back to their apartments once the fire was extinguished. We had to work for almost 6 hours, because of the wind, to rehabilitate the glazed metal structure of the closure of the main façade of the Estació de França and the station had to be vacated. That happened on the 9th and on the same day, a suicide attempt put us in danger, as before opening the entrance door to the apartment 2-1, there was a first deflagration and opening the door triggered the second. There were several 12-kilo butane cylinders and a small torch made of rags and paper next to them. Apart from the affected person, we found an unconscious woman lying in bed with a rope round her neck while the mattress was in flames.

On the 10th, at the intersection of Cantàbria/Menorca, 12 cars were affected by an actionable fire that spread helped by the many leaves that were in the street; three tanks were needed to put it out.

On the 15th, at 528-530 Carrer Sardenya, a building with ground floor and 9 stories, another frying pan fell to the floor and caught fire; the fire was fanned by the draught and fed by plenty of flammable material kept by the lodger who suffered from Diogenes syndrome. We had to work for 4 hours and 10 minutes to extinguish the fire and fortunately no one was hurt.

A large-sized rock cut the traffic on the off-ramp 6 of the Ronda de Dalt after a landslide. It prevented cars from entering the Rondas and we had to work for quite a while but no one was hurt.

On the 18th, there was a fire at the OPENCOR supermarket at 138 Passeig de Sant Joan that could have been important if it had not been for our efficacious and decided intervention; the supermarket was completely destroyed, though. During the intervention, a team of our fire fighters went through the building's staircase and told the residents to calm down and stay in their apartments. After 45 minutes of intense work the fire was put out and we had to clear the accumulated smoke with the means we had. The metal structure was protected with fireproof cement and was only slightly affected by the fire.

On the 26th and on the 30th, there were to apartment fires. At 398 Carrer Roselló and at 389 Carrer Cartagena respectively; nothing worth mentioning happened and they were the last incidents of the year.

## Operating procedures

The operating procedures are documents that describe the set of activities or processes to perform in order to obtain a result.

For fire fighters, they are tools aimed at guaranteeing the maximum of safety, efficacy and efficiency when carrying out our interventions.

Regarding Prevention of Occupational Risks, these are organisational resources aimed mainly at minimizing the risks associated with our interventions.

In 2007, two new procedures have been published and two that were already effective were revised.

- PROCOP 1.13 - Intervention in high buildings (new)
- PROCOP 1.14 - Loading and offloading hazardous materials in the Port (new)
- PROCOP 1.07 - Interventions involving hazardous materials (revision)
- PROCOP 2.01 - Reporting services (revision)

The operating procedures previously published are the following:

- PROCOP 0.01 - Reference document for procedures
- PROCOP 1.01 - Rescuing people trapped in lifts
- PROCOP 1.02 - Gas-powered buses
- PROCOP 1.03 - Command levels
- PROCOP 1.04 - Coping with great emergencies
- PROCOP 1.05 - Intervention control
- PROCOP 1.06 - Operating information
- PROCOP 1.08 - Rescuing live animals

- PROCOP 1.09 - Traffic accidents: Rescuing trapped persons
- PROCOP 1.10 - Intervention in building pathologies
- PROCOP 1.11 - Cutting timber
- PROCOP 1.12 - Prevention of falls from heights
- PROCOP 2.02 - Follow-up of vehicle incidents
- PROCOP 2.04 - Insect pest control
- PROCOP 2.06 - Cleaning intervention clothing
- PROCOP 2.07 - Vehicle and material revision procedure
- PROCOP 2.08 - Cleaning and repairing the protection jacket and trousers
- PROCOP 2.09 - What to do in case of accidental exposure to biological hazards



## Human Resources

SPEIS staff are the main assets of the Service, as their main mission is to deal with risk situations and/or emergencies in which Barcelona citizens, the Service's *raison d'être*, might be involved.

In this regard, the Barcelona Fire Brigade was made up of 786 men and women, of whom 727 were fire fighters, the rest being management and support staff.

The distribution of staff was as follows:

	Number	Subtotal	Total
<b>Staff</b>			<b>786</b>
<b>Staff with administration, technical and management duties</b>		<b>59</b>	
Senior technicians	10		
Middle-ranking technicians	26		
Management	19		
Others	4		
<b>Operational staff</b>			<b>727</b>
Heads of station	22		
Medical assistants	21		
Sergeants	26		
Corporals	77		
Fire fighters	581		

In 2007, the SPEIS presented a positive balance, as 46 people \_ 45 fire fighters and one clerk \_ joined the organisation and 23 people left it \_ 19 retired and 4 changed service.

With these 45 new fire fighters, a total of 210 people have joined the Service in the last 6 years, representing a staff renewal of 28.9%. This is also related to one of the objectives of our mission statement: renewal of staff, whose average age has been gradually lowering; the current age average of SPEIS staff is 45 years old.

At the same time as the incorporation of new fire fighters, internal promotion processes started \_ 10 places at the rank of corporal, 10 at the rank of sergeant and 4 for subofficials \_ with the aim of renewing staff and giving promotion opportunities to the Barcelona Fire Brigade staff.

Last, it is worth mentioning the implementation of a new information system for managing human resources: the COOPER. In 2007, we have been consolidating and converting an important tool of the Service, especially for managers, whose interest and effort to incorporate technology to everyday management should be appreciated.

## Training

In order to render a good service, not only is it necessary to have the human resources but it is also necessary to have them well prepared both to serve the citizens and to reduce risk situations in which they may be involved in their interventions. That is why, an ambitious and detailed Training Plan for fire fighters was designed and agreed on with the unions in 2007. The current regulations mandate 540 training hours, but the members of the latest recruitment campaign will have summed up 900 hours at the end of their training process. The most important elements of this training boost can be described as follows:

- 1.Improvement in acquisition of basic instrumental knowledge such as building and electricity.
- 2.Reinforcement in the number of hours of practice in core subjects such as rescuing and medical assistance, as well as in accidents involving hazardous materials.
- 3.Expansion of training modules aimed at getting to know the city.

Once the contents of training for new fire fighters were defined, the Service put forward a new training proposal for fire fighters who had joined the Service earlier so that all of them received the same training. In 2008, we will define the necessary training for senior officers.

Some of the training activities carried out were the following:

- completing the training for the latest internal promotion corporals (2006).
- thorough revision of the knowledge of Service vehicles (BULL and BP), as well as newly acquired vehicles.
- learning recently approved procedures for their implementation.
- training of divers in order to validate their certifications.
- progressively covering training in occupational risk prevention and access to closed spaces (opening doors) started in 2006.

Following are the times the organisation dedicated to training:

Types	Number
Persons attending internal training courses	651
Total number of hours spent by persons attending internal training courses	5,001
Persons attending courses for new fire fighters	90
Total number of hours spent by persons attending courses for new fire fighters	28,170
Persons attending external training courses	1,628
Total number of hours spent by persons attending external training courses	6,326
Number of persons attending open classes	2,096

Training for other SPEIS professionals was the following:

1.The Prevention experts in the Service have participated in training courses delivered by the Col·legi d'Aparelladors i Arquitectes Tècnics de Barcelona (College of Master Builders and Technical Architects of Barcelona), in the part of the building Technical Code corresponding to the general conditions: project, construction and building, as well as specifications set by the CTE.

2.The medical assistants have participated in specific training activities in order to help them develop their professional duties in the best conditions for them, for the Service and for the citizens.

The table below summarises these training activities, including the number of persons who attended them and the total number of study hours.



The most relevant training contents were the following:

<b>Training activities in 2007</b>	<b>Number Activities</b>	<b>Number Persons attending</b>	<b>Total number hours</b>
“Opening doors” course	5	63	567
“Supplying oxygen” DAN course	4	46	230
Basic vital support	4	44	220
Use and knowledge of B-208 vehicle	5	45	180
Use and knowledge of BULL/BP vehicles	2	16	320
Building for commanders, aimed at P.I. corporals	1	17	255
Writing reports, aimed at P.I. corporals	1	18	90
Investigation of origins and causes of fires	1	3	150
Development of the CGE management	1	10	250
Basic vital support and DEA, advanced for medical assistants	4	39	446
Rescuing trapped persons	2	22	330
Fire extinguishing in interiors	2	12	180
Fire extinguishing in maritime vessels at the “Centro Jovellanos”	1	14	490
Procedures for loading and offloading hazardous materials in the Port	12	160	320
Occupational Health. Occupational Risk Prevention	10	91	364
Legal advice in interventions	1	14	70
Euroclassification according to the reaction to fire	1	9	45
Handling forklift trucks	1	8	56
Shoring (CAATB)	1	1	9
Endurance, stability and competency for service Activities in building (DB SE and DB SE-AE)	1	1	25
Building technical code CAATB	2	4	
Managing and extinguishing forest fires (Civil Protection School of Madrid)	1	1	21
Generating PDF files in Acrobat 4.0	1	1	15
Techniques to control stressful situations	1	1	28
4th Biennial Conference on Fire Protection Engineering: “Performance Based Design in Building, Industry & Transport”	1	1	21
1st National Conference on Planning and Implementing Civil Protection Plans	1	3	16
Congress on Protection for Medical Assistants	1	3	18
Course on Occupational Risk Prevention, especially individual hygiene and ergonomics	1	1	250
Technical Conference	2	3	21
<b>Total</b>	<b>71</b>	<b>651</b>	<b>5,001</b>

## Open class

For the time band between 4 pm and 8 pm, and in the presence of support staff, utilisation is indicated in the following table, compared to the previous year (2006).

	N.º usuarios	N.º hours
2007	2,096	2,253
2006	1,921	1,765

If we divide up attendance according to function of the different professional categories, we find:

Fire fighters	2,045
Corporals	28
Sergeants	5
Subofficials	6
Others	12
<b>Total</b>	<b>2,096</b>

## Class resources

We shall group these into six different categories:

- Internet
- Interpersonal Relations
- Office
- Technical Documentation
- Own CD

This last year, according to our data, we can observe that there has been an increase in the number of persons attending and in the number of hours of use. This year, the class resource with the highest use has been the Internet service. The classroom has also been used in many occasions as a meeting point, promoting interpersonal relations.

## External training in companies and institutions

In 2006, training was carried out in a total of 69 entities, among which the following stand out:

**Institutions:** Provincial Council Network of Municipalities, Management Agency for University Support and Research, Auditorium of Barcelona, Generalitat of Catalonia, Higher Council of Scientific Research, Generalitat of Catalonia Fire Brigade, Port of Barcelona.

**On municipal or local level:** Barcelona City Council: Municipal Building Emergency Plans, Barcelona's Parks and Gardens, Barcelona Serveis Municipals S.A. (Barcelona Municipal Services), Hospitalet City Council,

**Companies:** Col·legi d'Enginyers Industrials, Col·legi d'Enginyers Tècnics Dronas 2002 SLU, Vidriera Rovira SL., Cadbury Schweppes B.E.S.A., Abertis Infraestructuras S.A. and Azucarera Ebro, SL.

In total, 1,628 persons were trained, with a total of 6,326 hours of training, as shown in the following table:

External training in companies or institutions	Number
Basic course programmes on extinguishing techniques	142
Intermediate course programmes on extinguishing techniques	8
Advanced course programmes on extinguishing techniques	5
Rescue technique sessions	8
Company training programmes for preventing fires	6
Total number of programmes	169
Total number of students	1,628
Total number of student hours	6,326
Companies and institutions	69

## The selection

The Barcelona City Council, following a SPEIS request, has started changes in the bases of the different calls for competition. In the case of the Public Offer, the Council suppressed the trade test due to the lack of young people with trade skills and therefore these contents were incorporated into the fire fighter basic training. Regarding internal promotion, a first job description for the commanders that the SPEIS needs was drawn up and, therefore, the calls for competition (for corporal, sergeant and subofficial) now include new tests that assess commanding skills better.

## Professional development

The changes in training and in the selection processes are an indicator of the SPEIS effort towards staff development, a key concept on which we will continue working this coming year

## Recursos materiales

### Vehicles

Average age of intervention vehicles: 7.37 years

Average age of auxiliary vehicles: 8.82 years

- Paid for by the biennial 2006-2007 budget
  - Three light, pumper truck vehicles: B-119; B-120; B-121. Cost € 319,574
  - (Total cost of the three vehicles: € 479,574)
- Paid for by the 2007 budget
  - Two ambulances. Cost € 240,000

The cost of purchasing new vehicles bought in 2006, paid for in the municipal budget, was € 559,574.

STATION VEHICLES	Vehicle type	Subtotal	Total
Pumper truck	B-100 light (1000 l.)	11	24
	B-200 all purpose (2500 l.)	5	
	B-300 heavy (3000 l)	6	
	B-400 large fire (5000 l)	2	
Ladder and crane truck	E, > 30 m	6	8
	E, > 20 m	2	
Rescue	C (Charlie)		5
Ambulancias	S (Sierra)		5
Intervention-support vehicles (crane, air, foam, gas-oil tank, underwater, shoring, hose, container)	J (Julliet), G (Golf)		9
Auxiliary vehicles	headquarters	8	32
	department	4	
	inspection	7	
	general station support	8	
	transport vans	5	
	<b>Total fleet of vehicles</b>		<b>83</b>
Contenedores especiales y de carga	NBC Interventions	1	5
	Interventions in serious accidents	1	
	Advanced Command	1	
	Cargo	2	
	<b>Total containers</b>		<b>5</b>
	<b>Rescue ships</b>		<b>5</b>

## Vehicle maintenance

Roadworthiness test (many of the vehicles must take it twice)	103
Preventive maintenance revisions (vehicles)	83
Preventive maintenance revisions (equipments)	41
Discrete repairs (corrective maintenance, body, paint, mechanics, electricity)	1.018
Large repairs (body, paint and tool support) vehicles B-405 and B406	2
Conversion of G.U. cars into fire brigade vehicles	4
Conversion of G.U. van into fire brigade vehicle	1

## Clothing

The tender, adjudication and delivery of the new protection set (jacket and trousers) have been carried out.

This equipment far exceeds compliance with the standards set by the EN 469:2006, it is a class III EPI that substitutes the previous protection gear.

All the safety belts have also been changed.

## Individual protection equipment

<b>Cylinders</b>	
Annual revisions	11
Three-yearly revisions	328
Fibre cylinder fills	3,355
Steel cylinder fills	328

## Operational material

Resources were provided for guaranteeing replacement and maintenance of operational service material.

The most important intervention materials acquired in 2007 were:

- 12 (25-diameter) Diffusers
- 30 (25mm-diameter) Hoses
- 8 Chainsaws
- 3 Blowtorch welding and cutting equipment
- 30 Telescopic props
- 24 Safety torches
- 6 Shoring props
- 2 Smoke extraction fans

## Maintenance and work

Regarding the maintenance of the seven fire fighting stations, in 2007 a total of 614 work orders were performed in order to carry out preventive and corrective maintenance tasks (maintenance of buildings, facilities, extinguishers, backup power suppliers, lifts, alarms, etc.).

Among all the work carried out at the different stations, the following stand out:

### Example Station

Rehabilitation Practice Tower.

Painting Prevention and Civil Protection premises.

Replacement of Thermo-Accumulator Tunnel locker room.

Installing Air Conditioning in Ibercom room.

Installing Air Conditioning in UPS room.

### Sant Andreu Station

Replacement of ACS boiler.

Installing smoke extractor tools room.

Refurbishing new training class room.

### **Zona Franca Station**

Standardisation of opening door controls with other stations.

Replacement of Air Conditioning unit in first floor dormitory.

Extracting oil residues.

### **Vall d'Hebron Station**

Replacement of air conditioning unit.

### **Llevant Station**

Replacement of station main door.

### **Vallvidrera Station**

Rehabilitation of station after being closed for months.

## **IT Systems**

In the realm of IT management and maintenance systems, in 2007 some 511 different assistance services were provided for IT equipment and applications at the different stations.

We shall highlight the following activities too:

- Monitoring intervention material.
- Monitoring maintenance incidents.
- Monitoring Emergency Management Centre incidents.
- Improving application for storage.
- Service data statistics.

## **Cleaning**

In 2007 the following cleaning services in SPEIS were managed:

- Building Cleaning Service
- Breathing Apparatus Equipment Cleaning Service
- Vehicle Cleaning and Ambulance Disinfection Service.

Regarding the Vehicle Cleaning and Ambulance Disinfection Service, all requests for cleaning

have been delivered, coordinating the services with the needs of the Service and availability of vehicles. The kind of dirt was also taken into account and the most environmentally friendly method was chosen.

As for the Cleaning Service for Breathing Apparatus Equipment used in interventions, the work was supervised and managed by a senior officer at SPEIS and carried out by staff "accredited by an EC- standard company". This year the cleaning of stall bars used in fire practice has been expanded.

Regarding the Building Cleaning Service, a communication system between the stations, General Services and CLECE, S.A. has been implemented so that the SPEIS is constantly informed about the personnel working daily in each station, as well as about their working hours.

It should also be highlighted that the contract with the company ECA in charge of auditing building cleaning quality has been extended.



# Evolution of activities 2003-2007

Comparative table 2003-2007

	2003	2004	2005	2006	2007
<b>Preventive activities</b>					
Project reports, inspections and consulted emergency plans	1,808	1,897	1,919	2,520	2,464
<b>Attending to citizens</b>					
Technical office consultations	1,123	1,084	1,060	1,018	1,112
Technical consultations by telephone	4,798	4,259	3,489	3,051	2,649
<b>Interventions</b>					
Fire or explosion, rescue, technical support, false alarm	15,003	14,099	16,020	15,758	16,113
<b>Internal training</b>					
Total number of programmes	145	104	119	112	72
Total number of persons attending	1,633	1,001	1,029	967	696
Total number of hours	33,911	21,397	20,750	42,488	33,171
<b>External training</b>					
Total number of programmes	190	222	177	136	142
Total number of students	1,715	2,159	1,775	1,297	1,628
Total number of hours	6,125	6,544	5,348	5,836	6,326
Companies and institutions	66	51	60	54	69

From the table above, regarding the last five-year period, we can highlight the following points:

In prevention, after last year's increment due to the supervision of records of the Environmental Committee, the same trend as that of 2006 is maintained. In attending to citizens, there is a decrease of consultations by telephone in our Service due to the training activities implemented for different technical groups.

This year, there is a slight increase in intervention services, especially in fires and rescues; there is stability in technical support responses.

A decrease in training hours for new fire fighters is shown; but that is because the training for the new fire fighters of class 2005 was carried out in 2006, as well as a part of the training

corresponding to class 2006. In the 2007 annual report, only the adaptation course for class 2006 and the basic course for class 2007 are included.

Regarding internal promotion, there is a decrease in the number of programmes of the different courses (26%); the reason was that there was a need to carry out a study of needs and that deferred the start of training activities.

## Cooperation with entities and other activities

### Collaborative agreements

- The collaborative agreement between Barcelona City Council and the Barcelona Port Authority, when exercising their respective jurisdictions in the event of civil protection, fire- prevention and extinguishing and rescue. The aim of this collaborative agreement is to regulate collaboration between the Barcelona City Council and the Barcelona Port Authority, when exercising their respective responsibilities in the event of civil protection, fire prevention and extinguishing and rescue.

### Humanitarian aid

The Barcelona Fire Brigade continued to collaborate with different fire fighting NGOs and with the 2007 Solidarity Caravan in west Africa, from 23 November to 19 December, organised by Barcelona Acció Solidària (Barcelona Solidarity Action).

- We have collaborated with material and human resources to the Solidarity Caravan. We distributed medical, hygiene-related and first aid material. The Caravan transported 90 tons of medical, educational, agricultural and IT material. This facilitates the continuity of 81 projects run by 33 NGOs.

### Donation

The B-111 pumper truck that was removed from service was delivered to El Catllar Town Council.

### Third internal rescue championship

On the 18th and 19th of April, the Barcelona Fire Brigade Third Internal Rescue Championship was held at the Llevant Station. Teams from different stations and shifts participated and the winner was the team made up by medical assistant Assumpta Siscart (Eixample A), and corporals Vicens Badia (Eixample D), Pere Martínez (Sant Andreu A), Enric Abad (Llevant D) David Ortega (Llevant A) and David Quintanar (Llevant A). Also, the best team leader was Vicens Badia (Eixample D) and the best medical assistant was Núria Molina (Llevant A). The winning team represented the Barcelona Fire Brigade at the *“Third National Meeting on Rescue from Traffic Accidents”*.

### Second national rescue championship

From the 9th to the 11th of May the *“Third National Meeting on Rescue from Traffic Accidents”* organised by the Rescue from Traffic Accidents Professional Association (APRAT) was held in Elx. This event was the third of its kind in Spain. The success of the meeting was evident, as the twenty available places were filled in a few weeks. Teams from Valencia, Catalonia, Murcia, Andalusia, Extremadura, Galicia, La Rioja, Navarra, Madrid, Castilla La Mancha and the Canary Islands took part.

In the overall category for teams, the participating team from Valencia received the most marks. The Barcelona Fire Brigade team won fourth place in the general classification and came first in *“limited manoeuvres”*.

In the special classification for medical staff, the most valued professional was the medical assistant from the *Barcelona Fire Brigade team*, Assumpta Siscart.

## **Barcelona 2007 world rescue challenge**

From the 15th to the 19th of October, this Service together with the Prevention, Safety and Mobility Area organised the BARCELONA 2007 WORLD RESCUE CHALLENGE at the Forum space.

This was the first time the event was held in Spain. The first World Challenge was held in Australia in 1999 and it has been held yearly in important cities around the world.

A total of 20 teams from Africa, Europe, America and Oceania participated in this 9th edition. It was a resounding success, with an historically high number of participants as well as achieving organizational goals without precedent.

The team representing the Barcelona Fire Brigade played an important role in the Challenge debuting for the first time in the Complex Manoeuvre competition. This competition has the highest level of realism and technical complexity of all the competitions in the Rescue Challenge. Our colleagues from the Generalitat of Catalonia Fire Brigade won the 3rd place in the Complex Manoeuvre classification. Among the 30 teams, there were two teams representing the Barcelona Fire Brigade that had already participated in international and national challenges respectively.

Throughout the entire Challenge, the technical skills are put to the test as the competitions are highly realistic and very difficult. The exercises presented very complex situations, in which the participants' stamina, endurance and attention to detail were tested.

The development of vehicle safety systems, hybrid models or the new rescue tools present new challenges for rescue teams. Thus, one of the main goals of the Challenge is that it becomes a valuable training activity for fire fighters. This kind of international challenges requires fire fighters to train hard in order to participate as well as offering new experiences that can later be applied to real life situations.

The organisation of all Challenge events counted

on the technical collaboration of the Rescue from Traffic Accidents Professional Association. Participants concluded that the level of difficulty was higher than in previous years. They also praised the effort made by the event organisers to prevent unexpected incidents.

## **Shooting of the film “REC”**

On the 23rd of November, the film “REC” premiered. The film was directed by Jaume Balagueró and Paco Plaza; some sequences were filmed in the Eixample Station and fire fighters from our Service participated in the film. This horror film received very good reviews in the Venice and Sitges Film Festivals.

## **Fahrenheit 451 magazine**

Publication of this internal communication tool continued, with four new issues being produced.

In this regard, a monograph titled “The faces of the Corps”, in which all the Service staff was included, was produced.

## **Publishing of the book “Barcelona fire fighters”**

This year, a new revised edition of the book “Barcelona Fire fighters” incorporating new material on the recent history of our Service was published.

## **Sport participation**

### **IX Barcelona Fire Brigade Race**

On Sunday, April 1, 2007 the IX Barcelona Fire Brigade Race was held, in a 10 kilometre urban circuit starting from Avinguda Marquès de l'Argentera and finishing in Passeig de Picasso.

This year's event beat a new participation record, with over 13,000 persons having signed up for it.

The fastest among the Barcelona Fire Brigade representatives were in this order: Fèlix Pérez Sánchez, Lluís López Cuadradas and Mario Bodas Martínez.

#### **2007 World Police & Fire Games - Adelaide 2007**

A team of 21 fire fighters representing the Barcelona Fire Brigade participated in the 2007 World Police & Fire Games held in Adelaide, Australia, from the 13th to the 25th of March. Our athletes won twenty-four medals and excelled in swimming, track and field, tennis, gun shooting and stair race.

### **Barcelona fire brigade's cultural and sporting association: Outstanding activities**

#### **Culture and Leisure**

##### **Festa de Reis (festival of the three wise men).**

In January the Festa de Reis was celebrated as an "open-door day" at the Eixample Station. The yard was filled with children enjoying the occasion. The best moment was when the Magi of the Orient arrived, which was what all the children had eagerly been waiting for. It should be mentioned that a large number of residents from the quarter took part, bringing their children and grand-children to the party.

**Ski trip.** In January the traditional ski trip to the Vall d'Aran took place and 350 people participated. The meeting of officials from several Administrations and the snow contributed to the success.

**Habanera Concert.** On 13 July and for the fourth time, the Llevant Station held an Habanera concert, in which a large number of fire fighters and residents from the Sant Martí quarter took part.

**Frontennis Championship.** On December 17, 18 and 19 the first championship was held in the Eixample Station. The National Police, the Mossos d'Esquadra Police, the Guardia Urbana Police and the Barcelona Fire Brigade participated. Attendance was high.

**Sections.** All sport sections of the Association continued in 2007, participating in different competitions and achieving good sporting results in all sections: **underwater sports, mountain climbing, football, swimming, golf, volley-ball, athletics, cycling, archery, fishing and power lifting.** The creation of two new sections should be mentioned: tennis and bikers.

### **Cau del jubilat activities**

**Prevention talks:** The following lecture was held:

15th of May

**FiraGran, 9th Saló de la Gent Gran de Barcelona**  
Moll de la Barceloneta  
(Barceloneta Quay)

**Visits:** A group of elderly people from the Francesc Layret Nursing Home of Barcelona visited our social club and the Eixample Station premises.

**Excursions and cultural visits:** We have organised monthly bus trips, subsidised according to our possibilities by members (retired fire fighters), beneficiaries (widows) and collaborators:

5 February

General Assembly at Castell de l'Oliver (Sant Vicenç Montalt)

28 February

Calçotada in l'Espluga de Francolí

24 March

Monestir de Sant Pere de Casserres

18 April	Palau Novella (Garraf Massif)	The Assembly held in February has become a festive social gathering eagerly awaited every year. The 8-day trip to the Austrian Tyrol should be highlighted: the bus was full, the weather splendid and the guides helped us enjoy the beauty of this alpine region.
15 May	Roses (with the Roses Fire Brigade and the Fishermen's Association)	
6 June	With the Roses Fire Brigade	
4 to 11 June	Tyrol	
26 September	Castell de Tamarit	
27 de octubre	Aragonese Pyrenees (week-end)	
21 November	Canal d'Urgell and Estany d'Ivars	
20 December	Prenadal at Núria	



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