



THE PREVENTIVE MANAGEMENT OF CARBONELL FIGUERAS S.A.

1. Organisations involved

Carbonell Figueras, S.A. ñ Construcciones y proyectos

2. Description of the case

2.1. Introduction

Carbonell Figueras S.A. (CFSA) is a construction company with 511 employees (2009), headquartered in Tarragona, founded in 1973. The experience acquired through years of work permitted the enterprise to broaden its activities into other sectors like automobile industry, hydraulic works, public infrastructure, urban structure, warehouses, chemical industry, transport, litter bins, etc. Nowadays Carbonell Figueras, S.A., carries out all kind of activities in the construction field including combined-cycle power plants, projects, design, and turnkey construction.

Carbonell Figueras SA has its headquarters in Tarragona and two office branches in Almussafes (*Valencia*) and in *Algeciras* (*Cadiz*), in addition to about 30 open workplaces where construction projects are running.

2.2. Aims

The aim was an effective implementation of a prevention system which helped to reduce workplace accidents with absence rates significantly below the average for the construction industry.

The policy of the company regarding occupational health and safety includes the following statement: 'Carbonell Figueras must maintain a safe and healthy working environment. This requires integrating the concepts of security, social responsibility and respect for the environment into the companies's processes'

2.3. What was done, and how?

In the last decade, the organization has grown in size to cover all the control and inspections carried out in different areas. Various measures were implemented by the company in order to control workplace accidents and absence rates: organizational measures, training measures, inspections and workplace visits, accident-related measures, internal services audits and occupational health and safety annual reports.

Organizational measures

The Steering Committee was created as an interdepartmental body chaired by the direction of the company, where various issues including those related to the prevention of occupational risks are dealt with, such as preventive activity planning, internal and external audits, claims data or general review of the system. The organization of the prevention of occupational risks service is represented in Figure 1:

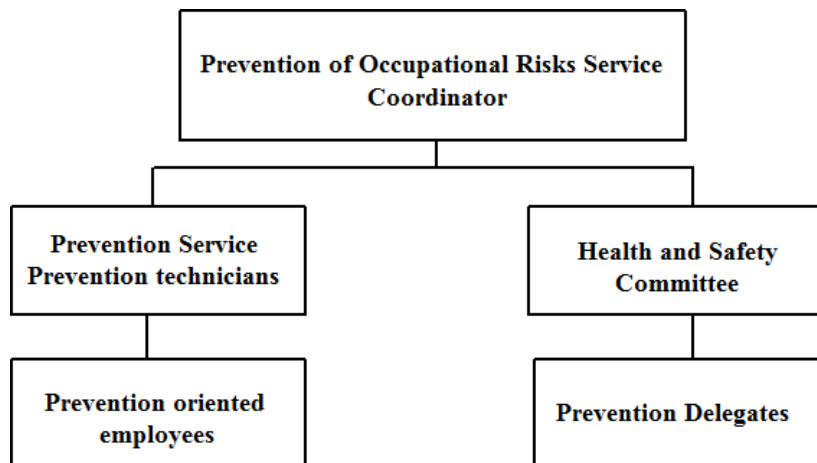


Figure 1. Organization of the Prevention of Occupational Risks Service

Carbonell Figueras SA constituted in 1999 a Prevention Service with ESERMAN S.A. its subsidiary, as established by the Royal Decree 39/1997 on the regulation of prevention services. The Prevention Service has currently 29 Prevention Technicians.

The Health and Safety Committee was constituted in accordance with the provisions of Article 38 of the L.P.R.L. (Spanish prevention of occupational risks law, Law 31/1995) formed by the ‘Delegates of Prevention’ and representatives appointed by the company. The competences and authorities of the Health and Safety Committee are detailed in Section 39 of the L.P.R.L. (Law 31/1995). Also the responsibilities and competences of the prevention representatives are explained in Section 36 of the referred Law. The Committee meets on a quarterly basis and whenever requested by the parties and it deals with topics such as how to reduce accident rates, implement preventive measures, new legislation, etc. At the meetings of the Health and Safety Committee, company representatives and prevention technicians who are not formal members of the Committee may participate, however without formal vote.

Prevention technicians play a fundamental role in implementing the prevention of occupational risks system defined by the company. They report directly to the Directorate of Quality, Safety and Environment. The main functions are defined below:

- Application of the company Management System, particularly regarding L.P.R.L.;
- Enforcement and regulations;
- Conducting risk assessments and preventive planning;
- Monitoring and enforcement of the Health and Safety Plan;
- To propose control and risk reduction measures as well as monitoring risk reduction control programs;
- To provide training and general information regarding occupational safety and health;
- To control working activities in the assigned tasks;
- To participate in the preventive activities planning (where applicable);
- To cooperate with the Safety and Health at Work Coordinator;
- To coordinate preventive resources of subcontractor companies;

Carbonell Figueras SA entrusted a large number of employees with prevention tasks. These employees must possess a 50 h minimum credit in occupational risks prevention as well as professional or academic training or experience of not less than two years. These workers carry out their own professional activities and at the same time assume the responsibilities regarding the

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prevention of occupational risks. General supervisors, local supervisors and team leaders are the most appropriate and frequent employees selected for the prevention oriented tasks. Their main functions are the following ones:

- To promote the involvement and cooperation of workers in relation to the prevention of occupational risks;
- To understand the safety plan of the working site;
- To control the safety standards implementation of the client and of the company;
- To check the working conditions regarding environment protection, facilities and maintenance of machines;
- To communicate hazardous situations detected and to propose appropriate control measures;
- To provide first aid to injured employees and to manage emergency situations;
- To collaborate in the investigation of accidents and incidents.

The company collaborates in the areas of industrial hygiene and health monitoring with an external service by MC Prevention. MC Mutual is the entity that assumes the coverage of work accidents and occupational diseases from Social Security. Whenever the company's prevention service cannot carry out a specific action such as laboratory analysis, organizational advice or training material, this is coordinated with an accredited external entity.

The yearly planning of the preventive activities of the company is required by the OHS legislation and by OHSAS 18001. This document describes the actions related to the prevention of occupational hazard undertaken during the year and is a result of the analysis of documents such as risk assessment, accident statistics and non-conformities encountered during the previous years. The objectives are prioritized based on the risks identified and their severity, the allocation of responsibilities and resources applied. On the other hand, the RD 1627/97 of October 24 establishes the obligation to develop a Health and Safety Plan based on a Safety and Health Study. This plan contains the basic management activities aimed to the identification and risk assessment in order to plan the preventive activities.

Training measures

Training and information sessions in prevention of occupational hazards are performed at the time of hiring a new employee (welcome training and information). This initial training is given by a prevention technician from the company Prevention Service with a total of 8 hours training. In the welcome training the worker is informed about the risks inherent to their jobs as well as about personal protective equipment, housekeeping, shoring, collective protections, handling of loads, etc.

The workers who perform activities within the chemical sector companies of Tarragona (Spain), must attend the AEQT (Association of Chemical Companies of Tarragona) - a 8 hours training covering occupational health and safety aspects specific to these companies. The departments of Human Resources, the Quality department and the Safety and Environment department of Carbonell Figueras jointly manage these courses with tools provided by MC MUTUAL, which produces an annual training plan which is an essential support to the company training plan. In the last three years, the following number of workers attended the training: 139 workers in 2007, 129 workers in 2008 and 83 workers in 2009. The increasing number of workers trained in this field in the first two years contrasts with the lower number of workers formed in 2009, because most of the workers had already completed the course in previous years. During 2009 the workers attended the training particularly to deepen their knowledge.

Once at the workplace, employees receive an information session when starting work and various information and discussion sessions during the work period. These sessions are focused on the client's safety requirements and on the safety aspects directly related to the characteristics of the activities. The training sessions also include the subcontractor's employees.

Carbonell Figueras believes in the continuous improvement of the safety system and upgrades its training manuals and brochures distributed by the Safety Technicians at regular intervals. With

specialized topics according to the results of the specific risk assessments of the workplaces, an evaluation test is performed at the end of each training session.

The basic course in occupational health and safety is monitored by the Prevention Service workers and covers risk prevention. In 2003, the direction of the company established that middle managers should be trained in occupational health and safety in order to be recognized as prevention officer in the workplace. This training complies with the Spanish law 54/2003 which refers the need to have a prevention officer in the workplace if the activity is legally considered dangerous.

A prevention course, based on the legislation requirements was developed. Currently the course consists of:

(1) Manuals:

- Basic Course in Occupational Health and Safety
- Specific hazards and preventive measures in the service sector
- Risks and preventive measures in the chemical Industry
- Risks and preventive measures in the construction sector

(2) Specific training sessions / lessons

(3) Theoretical examination

(4) Obtaining a certificate by the Prevention Service

The number of workers who received the certificate was 13 in 2007, 11 in 2008 and 19 workers in 2009.

Inspection and work visit measures

All the construction works performed by Carbonell Figueras SA are controlled by the prevention service of the company. The frequency of work audits depends on the duration of the work, the volume of work, and the specific technical characteristics of the work to be performed. In each audit or periodic workplace visit, an identification and continuous assessment of risks is carried out by the technicians. The assessment is registered in a specific format and the work supervisor is informed in order to carry out the necessary modifications.

The safety technician assigned to control each work is also responsible for keeping a work folder containing the health and safety plan, the guestbook, the subcontractor's book, the assignment of the safety technician and of the prevention officer, the training records registration, the accidents and incidents investigation documents, the authorization for the use of machinery and equipment, the documentation of the company and of the workers, the subcontractors documentation and other legal requirements or other customer requirements.

One of the basic objectives of the management systems is to avoid non-conforming elements, actions or services. When a non-conforming material, tool or equipment is detected in the workplace, the information is immediately communicated to the work supervisor. In the case of a non-compliant action or procedure, the local supervisor is informed and the general work supervisor may also be informed. Instructions are given to eliminate the action or procedure or to substitute it by a safer procedure.

Accidents related measures

The health and safety technicians assigned to the activity where an accident occurred, is responsible for conducting the investigation in collaboration with the local supervisor.

All accidents that caused harm to workers, important material losses or business interruption, that had serious consequences, were related to unsafe actions that local supervisor or safe technician may have considered adequate have to be documented. This also applies to work of subcontractors. Based on the outcome of the investigations, the root causes of the accidents are identified. Preventive measures are established to avoid repetition of incidents/accidents, corrective measures are identified to control unsafe actions and all actions necessary are implemented in order to control

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the causes of the accident. The accidents investigation is always directed to clarifying the causes and circumstances of the accidents and never aim to find the "guilty."

Statistics are made to calculate customer satisfaction indicators, compliance of the system with the norms and legislation applicable and detailed studies of workplace accidents are produced. When planning preventive activities, accident data is analyzed every half year and yearly summarized. These data support yearly safety plans and the preparation of preventive planning for the next year.

Internal services audits

Since 2002, Carbonell Figueras SA has a monitoring process according to OHSAS 18001 certification system in place carried out by an external accredited entity. According to the Spanish RD 604/2006, the audit of the preventive system is performed on a bi-annual basis.

In 1997, Carbonell Figueras SA was certified according to the Quality System ISO 9002:1994. Later in 2006 the company was certified according to ISO 9001:2000. An internal audit is carried out yearly by the quality, safety and environment department. An external audit is performed in order to check compliance and improvement of the quality management system.

Occupational health and safety annual report

In the end of the planning period, the occupational health and safety annual report of the company is written. This report is conducted in order to analyze and to assess the degree of accomplishment of the implemented actions and to identify and characterize new risks or modifications in the severity of risks already detected, due to changes in working conditions. Based on this information, the company establishes a new action plan to the next year.

2.4. What was achieved

The data below shows that the number of accidents reported in 2009 was lower than in 2008 and this despite of a significant increase in exposed workers and in staff hours.

Regarding the accidents indicators for the years 2007, 2008 and 2009, a significant decrease in the frequency index, the gravity index and the duration index was observed. In conclusion, the analysis of the accidents indicators reveals a downward trend which started in 2002, demonstrating the high level of mainstreaming of occupational health and safety into all activities of the organization.

Year	Average number of employees	Number of working hours	Frequency Index (If)	Incidence index (x1.000)	Gravity Index	Duration Index	Number of accidents with working days lost	Number of lost working days
2007	466	817555	46,48	7,83	0,94	20,13	38	765
2008	495	878217	43,27	6,39	0,68	15,79	38	600
2009	511	925163	24,04	3,57	0,41	13,54	28	379

Frequency Index: Number of accidents with days lost / Number of working hours x 10^6

Gravity Index: Number of lost working days / Number of working hours x 10^3

Incidence Index: Number of accidents with days lost/Number of workers x 10^3

Duration Index: Number of lost working days / Number of accidents with days lost

2.5. Success factors

Carbonell Figueras SA, is committed to fostering safety and health in all his projects and workplaces.

The organization applies its safety guidelines to all suppliers and contractors with whom it works. Its preventive management was recognized with an Award MC MUTUAL "Antonio Baró" in its seventh edition.

2.6. Further information

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2.7. Transferability

The preventive measures and systems presented in the Case Study are transferable to medium-to-large companies in the construction sector.

3. References, resources:

[1] Carbonell Figueras SA: <http://www.carbonellfigueras.com/laempresa.php?id=eng>

[2] MC MUTUAL premia la apuesta por la Prevención de Riesgos de ocho organizaciones de Tarragona. Mutual Midat Cyclops, Mutua de Accidentes de Trabajo y Enfermedades Profesionales de la Seguridad Social nº 1.

http://www.mc-mutual.com/contenidos/opencms/webpublica/SaladePrensa/nota24022010_1.html

[3] IX edición de los Premios MC MUTUAL óAntonio Baróôa la Prevención de Riesgos Laborales
<https://extranet.amat.es/uploads/noticias/docs/be3c824b273bc79cb05da7a7b7e65ff1831ddbda.pdf>

[4] VII Edición de los Premios MC MUTUAL óANTONIO BARÓôa la Prevención de Riesgos Laborales.

http://www.mc-mutual.com/contenidos/export/sites/default/webpublica/Publicaciones/McSaludLaboral/resources/11/baro_08.pdf