

Occupational Health and Safety Management Systems in the Construction Sector in Colombia

Catalina Caicedo Cortes¹, Neydu Magnoly Valdes Pinzón², Luz Asleidy Castillo Parra³, Mauricio Guevara Marín⁴, Leidy Stefanny Camacho Galindo⁵, Luis C. Gutiérrez⁶

Abstract

Due to the high accident rate at work in the construction sector in Colombia, indices provided by control entities, the Colombian Safety Council and the Ministry of Labor. This article aims to raise awareness of the importance of Occupational Health and Safety for companies in the construction sector. In this way, a journey is given from the origin of safety at work, regulatory entities, regulations and accidents in the construction sector.

Keywords: *Colombian Safety Council, Health and Safety Management Systems, Construction Sector.*

Introduction

GENESIS OF SAFETY AT WORK

The moment in which the system of occupational safety and health began worldwide was in the industrial revolution in the 1760s, where a series of economic and social changes emerged. Here, importance was given to the treatment and place that the workers deserved; Similarly, one of the most important issues, during this time, was the high number of accidents and deaths of workers, which were linked to the risks of work in industries, for this reason the need arose to initiate a process of analysis of the causes of the accidents that had been occurring.

Thus, in the first industrial revolution where several changes were caused in the labor market with the invention of artifacts that replaced some of the human labor. An example of this is that manual labor was replaced by different machines, which increased production, this left aside the dependence on human effort. On the other hand, the second industrial revolution allowed mass production using electrical energy. Thanks to this, the machinery became less and less bulky and worked more quickly. (Badri, Boudreau-Trudel, & Saâdeddine Souissi, 2018)

As Yezid Barrero and Carlos Bermúdez, experts in occupational safety, mention in their article: *"The changes brought about by these two revolutions also transformed workplace accidents and a greater number of work-related diseases began to be evidenced due to the alterations in the way of working."* (Barrero & Bermúdez, 2020)

One of the first to be concerned about the employment situation of the workers is Robert Owen Ingles was a pioneer in occupational safety and health at that time, creating and

¹ Fundación de Educación Superior San José, catalina.caicedo@usanjose.edu.co.

² Fundación de Educación Superior San José, neydu.valdes@usanjose.edu.co.

³ Corporación Universitaria Iberoamericana, luz.castillo@ibero.edu.co.

⁴ Institución de Educación Superior ICAFT, mauricio.guevara@icaft.edu.co.

⁵ Fundación de Educación Superior San José, leidy.camacho@usanjose.edu.co.

⁶ Fundación de Educación Superior San José, luis.gutierrez@usanjose.edu.co.

implementing a program for environmental, social and educational improvement, offering improvement in working conditions, reduction of the working day, job training and construction of schools for minors away from difficult trades. (Rendon, 2003)

In 1919, the Treaty of Versailles established the principles for the creation of the International Labour Organization (ILO), with the aim of promoting social justice and peace by improving the working conditions of workers. Since the formation of this organization, multiple studies and proposals have been carried out in all countries, achieving the evolution of legislation, applying technical criteria of industrial hygiene and management of the risks inherent in the performance of labor trades.⁷

In the same way, different organizations have been established to create workplace safety protocols. Likewise, the United States and the European Union have worked to make this area an important part of organizations. Standards such as OHSAS or ISO 18000 and ISO 45000 were created, these present occupational health as a management system that can be established, controlled and measured to guarantee results. This shows progress in this area. (OHSAS Project Group, 2017)

Standards such as ISO 18.001 in Colombia and Spain have become laws of the nation. In this way, companies are obliged to design, implement and audit their occupational safety management systems. The aim is to reduce the number of accidents and occupational diseases.⁸

OCCUPATIONAL SAFETY IN COLOMBIA

In Colombia, the issue of occupational safety was introduced in 1904 by Rafael Uribe In what would later be known as Law 57 of 1915, which deals with occupational accidents and diseases.(Congreso de Colombia, 1915)

Initially, the implementation of the regulations was slow due to the lack of political commitment on the part of the government entity towards workers' rights in the area of occupational safety and the lack of knowledge of the subject in the country with respect to the implementation of process-based production.

In this way, new legal efforts were made to strengthen the occupational safety system in Colombia, such as Law 46 of 1918, which dealt with the issue of hygiene and health of employees and employers, Law 37 of 1921, which constituted group life insurance for employees, Law 10 of 1934, where the provisions pertinent to occupational disease, layoffs, vacations and employment contracts were ordered.(Congreso de Colombia, 1918)(Congreso de Colombia, 1921)(Congreso de Colombia, 1934)

Later, Law 44 of 1939 where the compulsory insurance of compensation for work accidents was conceived, Decree 2350 of 1944 that speaks of the Creation of the substantive labor code. Consequently, Decree 3767 of 1949 formulates industrial safety and hygiene policies for workplaces.(Lizarazoa, Fajardoa, Berrioa, & Quintana, 2018)(Presidente de la Republica , 1944)(Presidente de la Republica de Colombia , 1949)

For all these reasons, all these regulations arose precisely due to the ignorance of private and public companies in not recognizing the need to protect the health and integrity of their employees, being undoubtedly an advance for the Colombian legislation that will provide the regulation of this.

⁷ International Labour Organization, History of the ILO. <https://www.ilo.org/global/about-the-ilo/history/lang--es/index.htm>

⁸ Taken from: A Brief History of Industrial Safety from the Middle Ages to Today <https://www.prysmex.com/blog/breve-historia-de-la-seguridad-industrial-desde-la-edad-media-hasta-hoy>

During the last 40 years, the importance of the role of the worker with respect to safety and health has been evident, all this in accordance with the petitions and pronouncements addressed to all countries by the organizations interested in this issue.

Likewise, in Colombia, it has been based on its updating in the protection of the working sector on models of British and German origin focused on the importance of protection, promotion, and prevention of accidents and occupational diseases. However, despite all these advances, there is still a palpable need to strengthen efforts to implement occupational safety and health systems in all business sectors of the country by requiring compliance with standards aimed at addressing occupational safety and health.

Accident rate in the Construction sector in Colombia

According to the Ministry of Labour, the sectors with the highest levels of accidents are: agriculture, mining and construction. In Colombia, for every 100 employees, seven suffer an accident at work, which is why it is important to implement an occupational health and safety management system (OSHS). (Ministerio de trabajo, 2021)

An analysis of workplace accidents in Colombia by sector reveals a worrying figure: in the first quarter of 2020, a total of 9,998,999 workers were affiliated with Occupational Risk Administrators, but 450,110 accidents were reported in the same period. (Ministerio de trabajo, 2021)

The change from the occupational health program to the occupational health and safety management system, established by Law 1562 of 2012, clearly signals the intention to improve occupational safety. This law defines the Occupational Health and Safety Management System (OSHS) as a logical and progressive process, encompassing policy, organization, planning, application, evaluation, auditing and improvement actions, with the purpose of anticipating, recognizing, evaluating and controlling occupational risks. (Congreso de Colombia, 2012)

Consequently, Colombia is one of the leading countries in Occupational Health and Safety Regulations, constantly seeking to generate controls for the prevention of accidents and occupational diseases, thanks to the guidelines determined by the Ministry of Labor in Colombia, it has been possible to identify that employers implement all the requirements indicated by this control entity.

However, according to the Observatory of Occupational Safety and Health and the Colombian Safety Council, the list of reports on accidents is obtained, which contextualizes the need for monitoring in the sector in terms of Safety and Health at work, results of the accident rate in the city of Bogotá are obtained: (Ministerio de Trabajo, 2021)

- The reporting of occupational diseases for the year 2020 had a percentage increase of 27.1% compared to 2018 and an increase of 145% compared to 2019. The activity "Construction of buildings for residential use" presented the highest number of accumulated occupational diseases, with a total of 328 (37.7%), for 2018 to 2021.
- During 2020, there were 57 construction worker fatalities, with a rate of 6.4 deaths per 100,000 workers. January 2018 had the highest mortality rate in the last three years.
- For the month of October, it presents the highest accident rates in the three consecutive years 2018, 2019 and 2020.

According to the above information, since 2020 the reports according to the observatory of the Colombian Safety Council the rates of accidents and occupational diseases in Bogotá continue to increase rapidly and labor informality in the Construction guild is also a problem since events with personal injuries during the execution of activities. (Consejo Colombiano de Seguridad, 2021)

During 2020, there were a total of 984 accidents in the construction sector, with a rate of 6.4 accidents per 100 workers, this being the highest rate of 4.4 accidents per 100 workers. Taking into account the above, it could be inferred that on average there were 156 occupational accidents per day in the construction sector during that year. (Consejo Colombiano de Seguridad, 2021)

Occupational health and safety system

According to the Ministry of Labour, the occupational health and safety management system is defined as: "*The OSH-SG is the development of a logical and staged process, based on continuous improvement, with the aim of anticipating, recognizing, evaluating and controlling risks that may affect occupational safety and health*". (Presidente de la Republica , 2015)

Consequently, the Ministry of Labour, committed to policies for the protection of Colombian workers and in the development of international standards and conventions, established the Occupational Health and Safety Management System (OSHS), which must be implemented by all employers and consists of the development of a logical and staged process. based on continuous improvement, which includes policy, organization, planning, implementation, evaluation, auditing and improvement actions with the aim of anticipating, recognizing, evaluating and controlling risks that may affect health and safety in the workplace.(Presidente de la Republica , 2015)

However, the management system applies to all public and private employers, dependent and independent workers, cooperative workers, workers on mission, contractors under civil, commercial or administrative contracts, solidarity economy organizations and the cooperative sector, temporary service companies, unions or associations that affiliate independent workers to the social security system integral; occupational risk managers; the National Police, with regard to its non-uniformed personnel and the civilian personnel of the Armed Forces.⁹

In addition, its general objective is to facilitate the implementation process by employers and contractors, ensuring compliance with the minimum standards established by the general system of occupational risks for the protection of the integrity of the personnel who perform the work, work or activity, with the identification of practices, processes, dangerous situations and intervention actions in the risks inherent to economic activity.

The occupational safety and health system comprises a variety of programmes which aim to ensure the protection of workers' conditions in the workplace. In addition, there are different service providers to attend to the development of implementation and execution. These companies offer their services to employers, who are obliged to guarantee adequate occupational health and safety conditions to their employees, through different types of contracting, which include compulsory affiliations in accordance with the current legal regime and contracts that are freely available to the employer.

Likewise, the companies providing services of the occupational health and safety system are made up of various economic agents that range from those that require a specific authorization, such as the IPS providers of the health service, the ARLs that manage occupational risks, to providers that do not require any type of authorization according to the specific activity they carry out, such as training service companies, manufacturers of signage materials, among others.

As stated by Macías, in his article on the importance of implementing the OSH-SG, "*In the context of the national productive dynamics, where occupational health and safety, as well as quality management, are established as crucial components, the emergence of*

⁹ Taken from Occupational Health and Safety Management System, Ministry of Labour, <https://www.mintrabajo.gov.co/web/guest/relaciones-laborales/riesgos-laborales/sistema-de-gestion-de-seguridad-y-salud-en-el-trabajo>

consulting firms specialized in addressing these areas, in accordance with current regulations, has been observed. These companies play a fundamental role in offering advice to their clients, ensuring compliance with relevant regulations and laws to prevent possible infringements arising from omissions or ignorance". (Macias, 2022)

On the other hand, Colombia is a country that guarantees health for all citizens and regardless of the economic level or their activity must be protected by a social rule of law, thanks to this declaration worldwide is generating multidisciplinary support through entities called consulting companies, its meaning, business outreach and input, to help complement the implementation of such a management system.

Conclusions

Despite the fact that Colombia stands out as a leader in occupational health and safety regulations, it is a country that still has weaknesses in the processes and controls that allow safe work environments and more so in the construction sector, it is in this aspect that the development of this occupational health and safety management system becomes important. It allows us to identify the main factors for the existence of occupational accidents and diseases.

However, there are explicit regulations for the activities classified by the Ministry of Labor as high-risk tasks, taking into account the controls in occupational risk prevention and engineering controls, exposed by international experts, but the accident indicators continue to increase and the acts by employees continue to be unsafe and without self-care. bringing deadly and disabling consequences to the sector's indicators.

In this way, in Colombia in the construction guild it is of vital importance the implementation of the occupational health and safety management system, this has managed to contribute greatly to the prevention and reduction of accidents and disabling injuries. On the other hand, new technologies have been incorporated so that the construction industry can control risks more efficiently.

References

- Badri, A., Boudreau-Trudel, B., & Saâdeddine Souissi, A. (2018). Occupational health and safety in the industry 4.0 era: A cause for major concern? *Safety Science*, 109, 403–411. Retrieved from <https://doi.org/10.1016/j.ssci.2018.06.012>
- Barrero, Y. F., & Bermúdez, C. (November - December 2020). The Industrial Revolution 4.0 and Occupational Health and Safety: Origin and Evolution. *Journal of the Colombian Council of Security, Protection & Security*(400).
- Rendón, M. S. (2003). ROBERT OWEN, ENTREPRENEUR. *Revista empresa y Humanismo*, 179 - 198.
- Ministry of Labour. (2021). The Ministry of Labor supports the general risk system.
- Congress of Colombia. (2012, July 11). Ministry of Health. Retrieved from <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/DE/DIJ/Ley-1562-de-2012.pdf>
- OHSAS Project Group. (July 2017). Online Browsing Platform (OBP). Retrieved from <https://www.iso.org/obp/ui/#iso:std:iso:45001:ed-1:v1:es>
- Congress of Colombia. (November 15, 1915). GOV.CO. Retrieved from <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=12998>
- Congress of Colombia. (November 19, 1918). Civil service. Retrieved from GOV.CO: <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=86147#:~:text=Es%20prohibido%20arrendar%20para%20habitaciones,condiciones%20higi%C3%A9nicas%20necesarias%20al%20efecto.>

- Congress of Colombia. (November 19, 1921). Single Regulatory Information System. Retrieved from <https://www.suin-juriscol.gov.co/viewDocument.asp?id=1592694>
- Congress of Colombia. (November 20, 1934). Civil Service . Retrieved from <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=86139>
- Lizarazoa, C. G., Fajardoa, J., Berrioa, S., & Quintana, L. (2018, November). Ibero-American Social Security Organization. Retrieved from https://www.oiss.org/wp-content/uploads/2018/11/2-Breve_historia_sobre_la_salud_ocupacional_en_Colombia1.pdf
- President of the Republic of Colombia . (December 17, 1949). Single Information System. Retrieved from [https://www.suin-juriscol.gov.co/viewDocument.asp?id=1536392#:~:text=DECRETO%203767%20DE%201949&text=\(November%2029\)-,by%20the%20which%20the%20the%20the%20the%20Law%2077%20of%201948,and%20se%20dictate%20other%20provisions](https://www.suin-juriscol.gov.co/viewDocument.asp?id=1536392#:~:text=DECRETO%203767%20DE%201949&text=(November%2029)-,by%20the%20which%20the%20the%20the%20the%20Law%2077%20of%201948,and%20se%20dictate%20other%20provisions).
- Macias, D. (2022, May 10). Importance of implementing the OSH-SG. Obtained from Preventive Measures for Risk Prevention: <https://venaycia.com/importancia-implementar-sg-sst/>
- President of the Republic . (October 27, 1944). Single Regulatory Information System. Retrieved from <https://www.suin-juriscol.gov.co/viewDocument.asp?id=1872277>
- Ministry of Labour. (2021, March 16). Ministry of Labour. Retrieved from <https://www.mintrabajo.gov.co/prensa/comunicados/2021/marzo/el-ministerio-del-trabajo-apoya-al-sistema-general-de-riesgos-laborales-para-la-reduccion-de-la-accidentalidad>
- Colombian Security Council. (2021, March 16). Colombian Security Council. Retrieved from <https://ccs.org.co/portfolio/como-ha-estado-la-siniestralidad-laboral-en-el-sector-de-la-construccion/>
- President of the Republic . (2015, May 26). Regulatory Manager. Retrieved from <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=72173>