OCCUPATIONAL RISK ASSESSMENT: A COMMITMENT TO CONTINUOUS IMPROVEMENT IN THE COMPANY

OCCUPATIONAL RISK ASSESSMENT: A COMMITMENT TO CONTINUOUS IMPROVEMENT IN THE COMPANY

Cruz Jiménez Regina
National Technological Institute of Mexico/ I.T. De Pachuca https://orcid.org/0009-0006-6068-9104
regina.cj@pachuca.tecnm.mx

Gutiérrez González Erika
National Technological Institute of Mexico/ I.T. De Pachuca https://orcid.org/0009-0004-4359-8070
erika.gg@pachuca.tecnm.mx

Marrón Ramos Domingo Noé
National Technological Institute of Mexico/ I.T. De Pachuca https://orcid.org/0000-0003-1964-6592
domingo.mr@pachuca.tecnm.mx

León Escalante Santos Guadalupe
National Technological Institute of Mexico/I.T. De Pachuca https://orcid.org/0009-0003-1100-391X santos.le@pachuca.tecnm.mx

Olvera Camarillo Víctor
National Technological Institute of Mexico/I.T. De Pachuca https://orcid.org/0009-0009-9810-8821
victor.oc@pachuca.tecnm.mx

DOI: https://doi.org/10.61273/neyart.v4i1.161 | **Received:** 12/03/2025 | **Accepted:** 02/07/2026 | **Published:** 03/11/2026

Abstract-- The results obtained from the occupational risk assessment in the safety culture are presented, which guarantee regulatory compliance and comprehensive protection of human capital. The main objective is to develop continuous improvement actions that allow maintaining and strengthening the levels of regulatory compliance in Occupational Safety and Health (OSH) within the company, in accordance with the applicable Official Mexican Standards and the criteria established by the Occupational Safety and Health Self-Management Program (PASST).

The methodological approach adopted was qualitative and descriptive, as the aim was to understand, interpret, and evaluate the current level of organizational culture in terms of safety. The central theoretical tool used was the Bradley Curve, which allows organizations to be categorized according to their degree of maturity in safety management, from a reactive to an interdependent culture. Dominguez, C. R., Mares, J. I. P., & Hernández, R. G. Z Ramírez (2020) developed a comprehensive diagnosis at a transmission assembly plant, applying the PASST methodology as the guiding principle of the analysis.

His proposal integrated risk management, regulatory compliance, and participatory leadership tools, aligning both national criteria and international best practices. The study population consisted of operational and administrative staff. For data collection, a representative sample of 121 workers was selected and given a diagnostic tool based on a structured survey with a Likert scale, which measured perceptions, attitudes, and behaviors related to occupational safety.

The result was to lay the foundations for the company to move from a reactive compliance culture to preventive and proactive management, consolidating its commitment to continuous improvement, the well-being of its employees, and effective compliance with Occupational Health and Safety regulations.

Keywords-- Risk, health, safety, work.

Abstract-- The results of the occupational risk assessment in the safety culture are presented, ensuring regulatory compliance and the comprehensive protection of human capital. The main objective is to develop continuous improvement actions that allow maintaining and strengthening the levels of regulatory compliance in Occupational Safety and Health (OSH) within the company, in accordance with the applicable Mexican Official Standards and the criteria established by the Self-Management Program in Occupational Safety and Health (PASST).

The methodological approach adopted was qualitative and descriptive, as it sought to understand, interpret, and evaluate the current level of organizational culture regarding safety issues. The central theoretical tool used was the Bradley Curve, which allows organizations to be categorized according to their degree of maturity in safety management, from a reactive culture to an interdependent one. Dominguez, C. R., Mares, J. I. P., & Hernández, R. G. Z Ramírez (2020) developed a comprehensive diagnosis in a transmission assembly plant, applying the PASST methodology as the guiding axis of the analysis.

Their proposal integrated risk management tools, regulatory compliance, and participatory leadership, aligning both national criteria and international best practices. The target population of the study consisted of operational and administrative personnel. For data collection, a representative sample of 121 workers was selected, to whom a diagnostic instrument based on a structured survey with a Likert-type scale was applied, which allowed measuring perceptions, attitudes, and behaviors related to occupational safety.

The result was laying the foundations for the company to transition from a reactive compliance culture to a preventive and proactive management, consolidating its commitment to continuous improvement, the well-being of its employees, and effective compliance with Occupational Health and Safety regulations.

Keywords-- Risk, health, security, work.

INTRODUCTION

Nowadays, organizations are increasingly committed to establishing standards and actions aimed at prevention, protection, and reduction of occupational risks.

The company is classified at risk level V, which corresponds to activities considered highly hazardous, where workers are constantly exposed to extreme working conditions. In recent years, there has been a steady increase in the number of occupational accidents and incidents. The recurrence of these events not only generates significant economic impacts but also damages the company's image, affecting its competitiveness. It is therefore appropriate to implement a continuous improvement approach based on legal requirements and programs that promote a strong organizational culture in this area.

This research seeks to implement actions to strengthen occupational health and safety in metalworking companies by analyzing their organizational culture. Using STPS standards and guidelines, it aims to establish, monitor, and evaluate best practices in occupational health and safety that will improve working conditions for employees in both the short and long term.

It also reviews relevant regulatory aspects, including the Occupational Safety and Health Self-Management Program (PASST).

This research made it possible to detail the actions aimed at continuous improvement within the company. These include measuring the level of organizational culture using the Bradley Curve, identifying the main occupational risks, and strategies for continuous training and induction. These actions will strengthen OSH knowledge and development within the company. As a final result, an action plan is proposed that focuses on increasing the level of organizational culture and ensuring high levels of compliance with current regulations, which will help avoid additional costs. As mentioned by Núñez (2016), working safely exempts us from expenses caused by occupational accidents and illnesses, the cost of which ranges from 2.6% to 8% of GDP, regardless of the type of organization.

% of GDP, regardless of the organization's line of business.

DEVELOPMENT

In response to the growing need to ensure optimal levels of safety in the workplace, this is particularly relevant for the company, since, as an organization operating in a high-risk sector, the safety and well-being of its workers are a necessary priority. (Carbajal, et

al., 2016) investigated the need to carry out analyses in various companies both nationally and internationally, as this has an impact on the population.

Sarmiento Domínguez (2012), in his study conducted at the National Polytechnic Institute, proposed an occupational safety and health system designed under the principles of PASST, aimed especially at micro, small, and medium-sized companies. His proposal includes the creation of diagnostic formats, intervention procedures, and evaluation methods that allow companies with limited resources to structure an efficient management system adapted to their operational reality.

On the other hand, Cabañas García (2019), in a study carried out at the Benemérita Universidad Autónoma de Puebla, documented the application of PASST in a company in the metalworking sector dedicated to the design and manufacture of industrial structures. The research showed how self-management in safety and health can transform working conditions by identifying and correcting deficiencies in regulatory compliance, thereby generating greater organizational awareness and the implementation of sustained preventive policies. This case also highlights the role of leadership as an essential component in achieving organizational maturity in the field of safety.

Within the automotive sector, Ramírez Guadián (2020) developed a comprehensive diagnosis at a transmission assembly plant, applying the PASST methodology as the guiding principle of the analysis. His proposal integrated risk management, regulatory compliance, and participatory leadership tools, aligning both national guidelines and international best practices. The comprehensive approach made it possible to establish strategic actions that directly impacted compliance levels, reducing priority risks and encouraging a culture of self-care among workers.

According to the International Labor Organization (ILO), nearly three million workers die each year due to work-related accidents and illnesses, a figure that underscores the great challenges in safeguarding the health and safety of workers around the world.

At the national level, the manufacturing industry reported a total of 103,419 work-related accidents and 7,292 work-related illnesses, positioning itself as the leading generator of both illnesses and accidents in 2023, according to statistics presented by the Mexican Social Security Institute (IMSS) and the Ministry of Labor and Social Welfare (2023).

Based on the analysis of regulatory compliance, it was determined and shown in Fig. 1 that only 29% of all requirements are fully met. The

54% show partial compliance, indicating that, although progress has been made, it is not sufficient to fully meet the established criteria. On the other hand, the remaining 17% are in a null state, meaning that there is no documentary evidence or formats to support compliance with these requirements.

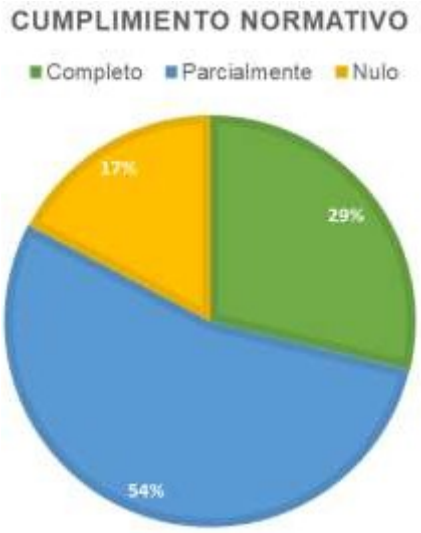

Figure 1. Percentage of regulatory compliance.

Source: *Own elaboration* (2025).

Anaya (2017) points out that, given the challenges posed by sustainable companies with social responsibility, it is important to develop processes based on comprehensive management with measurable results that impact safety, civil protection culture, and environmental care.

OBJECTIVES

General

- Develop a strategic occupational health and safety plan by gradually expanding the Occupational Health and Safety Self-Management Program (PASST), promoting continuous improvement and risk prevention.

Specific

- Measure the company's current safety culture level using the Bradley methodology.
- Identify occupational risks within the company.
- Propose improvements in risk prevention and control focused on critical areas within the company, improving the safe and healthy work environment.

- Design a strategic occupational health and safety plan to increase the adoption of PASST at all levels of the organization, ensuring its proper integration into work processes.

LIMITATIONS

Several limitations were identified during the research.

1. Time constraints, as the research was subject to a pre-established deadline, meaning that any deviation from the schedule could negatively affect the achievement of the objectives.
2. Availability of resources: the lack or delay of human, economic, material, or logistical resources represents a risk factor for effective implementation.
3. Organizational commitment, lack of leadership, or institutional support is a significant barrier to staff participation.

METHODOLOGY/METHOD

Participants

A total of 121 workers participated from the areas of sales, engineering, administration and finance, production, quality control, safety, health and environment, human resources, and maintenance. **Method**

A descriptive, qualitative, and quantitative study was used for this analysis because it sought to investigate the characteristics of the phenomenon under study through interaction (Solorio Pérez, 2014), thanks to the observation and measurement of its elements.

Instrument

A structured survey based on descriptive studies was used to collect quantitative data, based on the behavior of the predictive factors of safety culture, by Ciro Martínez Oropeza and Lázaro V. Cremades (2012). The instrument has 16 items in Likert format with five options, grouped into dimensions:

- Post-incident perception.
- Individual and collective commitment.
- Supervision and leadership.
- Regulatory compliance.
- Peer intervention.
- Training and preventive culture.

Procedure

For this research, a survey was conducted among company employees to identify the hazards in the main activities and their level of risk according to their probability, severity, and exposure.

RESULTS

The results obtained provide insight into staff perceptions of the organizational safety culture, identifying both strengths and areas for improvement in the following areas: post-incident approach, individual commitment, preventive actions, regulatory compliance, peer intervention, perception of leadership, and training programs.

Post-Incident Organizational Approach

42.3% of respondents believe that work errors or incidents are analyzed with the aim of learning from them and preventing their recurrence. This view indicates a learning-oriented approach. However, 19.6% disagreed, suggesting the presence of a perception that errors are still associated with blame and punishment, creating potential barriers to continuous improvement.

Post-Incident Analysis

47.9% of employees indicated that, after an accident, the organization conducts a proper analysis and implements corrective measures to prevent recurrence. However, 20.8% expressed contrary opinions, reflecting a divergent view on the effectiveness of actions following adverse events.

Individual Commitment to Safety

44.3% of workers consider themselves personally committed to safety, while 17.5% adopted a neutral stance. This indicates that, although a significant portion of the workforce recognizes its role in prevention, there is still a relevant proportion with undefined attitudes regarding their individual responsibility.

Prevention through Teamwork

49.5% of participants agree that their team acts preventively in the face of risks, and an additional 7.2% strongly agree. However, there are also less favorable perceptions: 14.4% are neutral and 23.7% express disagreement to varying degrees, which shows heterogeneity in the experience of collective preventive practices.

Review of Safety Procedures

37.1% agree that security procedures are reviewed regularly, and 5.2% strongly agree. On the other hand, 32% are neutral, while 25.8% disagree, suggesting an ambiguous or unsatisfactory perception of the monitoring and updating of these procedures.

Compliance by Conviction

51.5% of employees stated that they comply with safety regulations out of personal conviction, while 21.6% do so to a large extent. This adds up to 73.1% of affirmative responses. Fifteen point five percent maintain a neutral stance, and 7.2% disagree with this statement, indicating the need to further instill safety values in certain segments of the workforce.

Leadership Oversight

Only 39.2% of respondents perceive frequent supervision of compliance with standards by their leaders. 23.7% maintain a neutral stance and 20.6% disagree, highlighting scattered perceptions regarding leadership involvement in monitoring and reinforcing a culture of prevention.

Perception of Safety Training

63.5% of workers consider safety training to be a priority within the company. However, 19.8% adopted a neutral stance, reflecting possible doubts about the effectiveness, relevance, or communication of the training programs implemented.

Individual Responsibility for Safety

46.4% agreed that they felt responsible for their own safety, and 33.0% strongly agreed, totaling 79.1% of positive responses. The rest of the respondents did not share this view with the same clarity, which opens up space to continue reinforcing the sense of individual responsibility as a pillar of risk prevention.

Attitude toward Unsafe Conditions

40.2% of employees say they would act on an unsafe condition, even if it does not directly affect them, and an additional 21.6% express a constant commitment in these situations. The neutrality of 18.6% indicates an opportunity to strengthen empowerment and a sense of shared responsibility in the workplace.

Intervention in the Face of Unsafe Behaviors

52.6% of participants agree with intervening in unsafe behavior by a coworker, while 23.7% strongly agree. The rest remain neutral or disagree, suggesting the existence of cultural or personal barriers to intervening in situations of risk to others.

Participation in Continuous Improvement

58.7% of workers say they propose ideas or initiatives to improve safety conditions. 27.8% are neutral and only 8.2% say they make proposals with complete confidence. This reveals significant room for improvement in encouraging participation in improvement processes.

Mutual Care Among Colleagues

47.4% perceive that there is mutual care among colleagues with regard to safety. 26.8% are neutral, while 16.5% disagree. These data reflect that, although there are collaborative practices, they are not yet fully ingrained in all teams.

Safety as a Core Value

53% of respondents believe that safety is promoted as a core value within the organization. 20.6% are neutral, and 12.4% do not perceive such promotion, suggesting areas where communication and visibility of these values could be more effective.

Recognition in Safety

29.9% express satisfaction with the recognition they receive for their safety actions, while another 29.9% maintain a neutral stance. 35% express disagreement, which shows that current recognition mechanisms do not reach all employees in an equitable or visible manner.

Influence of Team Behavior

54.6% of employees believe that their team's behavior has a positive influence on their own safety behavior. 19.6% adopted a neutral stance and 13.4% emphatically highlight this influence, reflecting the importance of the collective environment as a catalyst for safe practices.

Table 1 presents an overview of the survey data, reflecting a reactive stage according to the cultural maturity curve. This implies a culture that responds to incidents rather than anticipating them

them. In addition, there is evidence of a favorable foundation of individual awareness, but with deficiencies in visible leadership, participation, and feedback channels.

Table 1. *Overall survey data results*.

Etapa	Pregunta	Muy en desacuerdo (1)	En desacuerdo (2)	Neutral (3)	De acuerdo (4)	Muy de acuerdo (5)		
Reactivo	Después de un accidente o incidente, en mi área se busca aprender, no culpar.	8	12	12	47	22	-1.44655	Reactivo
Reactivo	Los errores relacionados con la seguridad se analizan en lugar de castigarse.	9	19	15	44	14	-1.99624	Reactivo
Reactivo	Todos en mi área asumimos la responsabilidad de mantener la seguridad.	7	15	18	45	16	-1.89111	Reactivo
Reactivo	En mi equipo se actúa preventivamente ante riesgos, no solo cuando ocurren.	7	17	14	50	13	-2.19594	Reactivo
Dependiente	Los procedimientos de seguridad se revisan con regularidad.	3	24	32	37	6	-2.87733	Reactivo
Dependiente	Cumplo con las normas de seguridad porque creo en su importancia.	4	7	16	53	21	-1.71139	Reactivo
Dependiente	Los líderes supervisan con frecuencia el cumplimiento de las normas de seguridad.	7	22	34	29	9	-3.31958	Reactivo
Dependiente	La capacitación en seguridad es una prioridad en mi área de trabajo.	8	18	19	43	21	-2.9099	Reactivo
Independiente	Me considero responsable de mi propia seguridad en el trabajo.	8	2	10	49	32	3.94059	Independiente
Independiente	Si veo una condición insegura, actúo aunque no me afecte directamente.	7	12	20	41	21	2.56436	Independiente
Independiente	Corrijo respetuosamente a un compañero si detecto un comportamiento inseguro.	7	5	13	52	24	3.88198	Independiente
Independiente	Propongo ideas o mejoras relacionadas con la seguridad cuando lo considero necesario.	8	7	29	51	8	3.47525	Independiente
Interdependiente	Mis compañeros suelen cuidarse mutuamente en temas de seguridad.	7	18	35	49	9	3.43474	Independiente
Interdependiente	En mi equipo se promueve abiertamente la seguridad como un valor fundamental.	5	12	31	55	8	3.48511	Independiente
Interdependiente	Se celebran los logros relacionados con la seguridad en mi lugar de trabajo.	10	25	31	30	5	2.90535	Dependiente
Interdependiente	El comportamiento de mi equipo influye positivamente en mi forma de trabajar seguro.	5	7	19	56	14	3.68235	Independiente
		6.75	12.875	19.9375	48.3125	15.125		

Source: *Own elaboration* (2025).

Based on the analysis of the evaluation averages corresponding to each of the stages of the cultural maturity model, it was determined that the company is currently at a reactive level within the Bradley curve.

The Bradley curve illustrates the relationship between accidents and corporate culture, and also provides a way to assess your own safety culture. It does this by representing four distinct stages, as shown in Fig. 2; companies with frequent accidents are in the first stage, and in the fourth stage are companies where accidents do not occur frequently or do not occur at all. (G&F Corporate Development, 2024).

Figure 2. *Stages of the Bradley Curve*.

Source: *G&F Corporate Development*.

This classification was obtained by identifying an average value of 0.79022, which clearly falls within the range defined for the reactive stage (≤ 2.0). As illustrated in Figure 3, this curve allows us to graphically visualize the degree of cultural maturity of the organization in relation to its occupational safety and health (OSH) management.

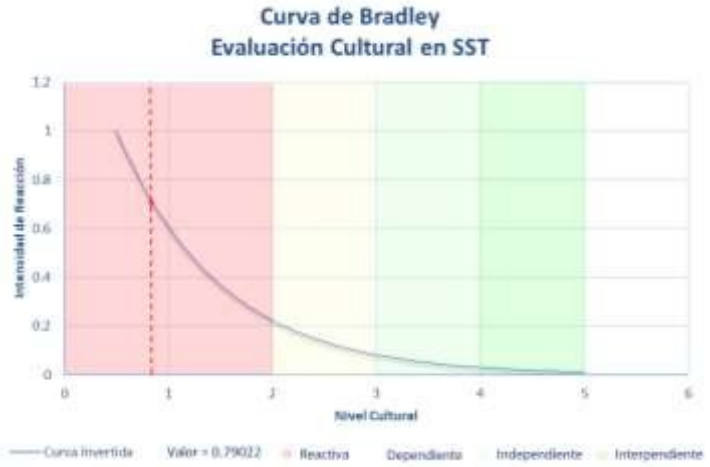

Figure 3. *Gantt chart*.

Source: *Own elaboration* (2025).

This result shows that the company maintains a predominantly reactive approach to occupational risks, i.e., OSH actions tend to be implemented mainly in response to incidents, rather than in anticipation of them. Recognizing this position on the curve is not only useful for describing the current situation, but also serves as a starting point for devising strategies to move towards more proactive stages, such as cultural dependence, independence, and interdependence.

Root cause analysis

As part of the situational diagnosis of occupational safety and health (OSH), an Ishikawa diagram was developed, as shown in Fig. 4, in order to identify the main causes contributing to a poor safety culture within the organization.

Figure 4. *Root cause analysis*.

Source: *Own elaboration* (2025).

This analysis tool made it possible to categorize and organize the potential causes into six key factors associated with the company's operating environment:

Workforce: It was found that some staff members lack ongoing training in occupational health and safety, as well as having low risk awareness and engaging in repetitive unsafe behaviors. These factors reflect a weak preventive culture and the need to strengthen human resource competencies in occupational safety.

Measurement: The company does not have effective systems for monitoring and tracking key safety indicators. The absence of objective data and reactive risk management prevent evidence-based decision-making and hinder continuous improvement.

Materials: The use of outdated or low-quality personal protective equipment (PPE) was identified, as well as problems with the availability and replacement of critical PPE. This situation represents a direct risk to the physical integrity of workers exposed to mechanical, thermal, or chemical hazards.

Machinery: There are recurring technical failures that are not reported, as well as machinery without the proper safety certification. In addition, there was evidence of a non-existent or outdated maintenance plan, which increases the likelihood of workplace accidents due to technical failures.

Methods: Work procedures have deficiencies such as the omission of operating instructions, outdated protocols, and the absence of effective prevention plans. This variability in execution creates unsafe working conditions.

Environment: With regard to the physical environment, inadequate disposal of hazardous waste and insufficient order and cleanliness in operational areas were observed, aspects that directly influence the perception and reality of a safe working environment.

Operational risk assessment

Through risk analysis, the different types and levels of risk present within the organization can be systematically identified, assessed, quantified, and managed. This process is a fundamental tool within the occupational health and safety management system, as it allows for the anticipation of possible events that could affect the physical integrity of workers, operational continuity, or regulatory compliance. Through structured hazard detection and assessment techniques, risk analysis provides an objective basis for preventive decision-making, control prioritization, and efficient resource allocation.

Classification and Assessment by Area

The risk analysis presents activities with a high level of risk, as can be seen in Table 2. Routine cutting and grinding activities carried out by sheet metal workers have been identified as posing a significant potential risk associated with the use of hand tools such as angle grinders. These tools, which are essential for finishing and shaping metal materials, involve inherent hazards such as cuts, lacerations, friction burns, and muscle spasms resulting from improper posture or repetitive movements.

Table 2. *Routine activities with high risk value.*

Source: *Own elaboration* (2025).

Other risks identified in Table 3 are based on welders working in confined spaces, where exposure to fumes can cause respiratory diseases in workers due to prolonged exposure.

Potato farmers are exposed to this risk, but there is also another significant risk during their welding, product part fixing, and other activities due to the welding process, with the risk of causing permanent eye damage to workers.

General assistants are exposed to a high level of risk during a non-routine but present activity, cleaning material (carbon and stainless steel) due to the use of hazardous chemicals, encountering a chemical hazard that causes respiratory diseases in employees due to exposure.

Table 3. *Routine activities with high risk value*.

Source: *Own elaboration* (2025).

During the application of paint, as shown in Table 4, painters are exposed to a hazard involving the application of paint in areas that are difficult to access, creating an ergonomic hazard. They are also exposed to the use and handling of hazardous chemicals. 4, painters are exposed to a hazard when applying paint in areas that are difficult to access, creating an ergonomic hazard. They are also exposed to the use and handling of hazardous chemicals, which create a chemical hazard and may lead to poisoning. Working in confined spaces represents another hazard for painters due to the need to enter tanks to paint the interior, which may cause respiratory diseases.

Personnel responsible for sandblasting face a risk of poisoning when using the pressure pot containing the abrasive material. Likewise, when handling silica sand for

cleaning the material, there is a risk of developing respiratory diseases. These activities, considered routine for sandblasters, present a risk level of 36.

Table 4. *Routine activities with a high risk value.*

Source: *Own elaboration* (2025).

By analyzing the risks within the organization and classifying them according to severity and impact levels, we were able to accurately identify the areas most exposed to risk using a risk map, as shown in Fig. 5. In this visual representation, each colored dot indicates the level of risk identified in different areas of the plant:

Red: Corresponds to the Red Zone, which represents critical risk levels (values from 26 to 25). These areas require immediate action, including the shutdown of operations until the risk level is reduced.

Orange: Identifies the Orange Zone, with medium-high risk levels (values from 13 to 25), where corrective action is required to reduce the risk to acceptable levels.

Yellow: Represents the Yellow Zone, where the risk is moderate (values from 6 to 12) and constant evaluation and monitoring are recommended to prevent it from worsening.

Green: Indicates the Green Zone, with low risk (values from 1 to 5), where current controls should be maintained and continuous compliance ensured.

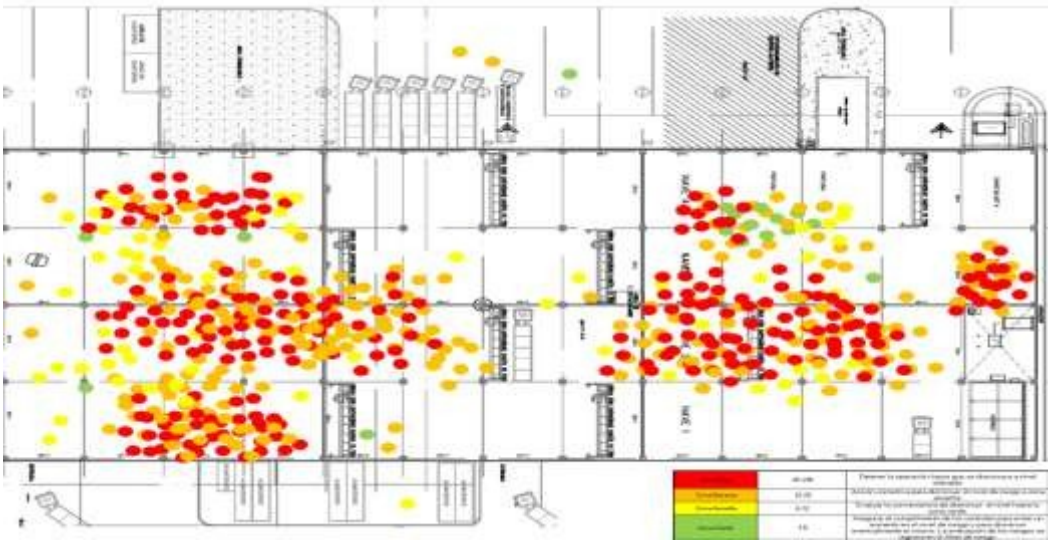

Figure 5. *Risk map*.

Source: *Own elaboration* (2025).

Risk map

The distribution of points allows critical areas within the plant to be clearly visualized, identifying specific areas with a high concentration of risks, which facilitates the prioritization of interventions, improvements in operational controls, and reinforces decision-making in occupational health and safety matters, as shown in Figure 19. This type of tool is essential for implementing an effective preventive management system and ensuring safe working conditions for staff.

CONCLUSIONS

The development of this research made it possible to identify, structure, and implement a series of strategic actions aimed at strengthening the company's Occupational Health and Safety Management System (OHSMS), based on the guidelines established by the applicable Official Mexican Standards and the criteria of the Occupational Health and Safety Self-Management Program (PASST).

Throughout the process, there was significant progress in regulatory compliance. By analyzing each regulation and implementing specific action plans, it was possible to reduce the number of requirements that were only partially compliant and increase the number of fully compliant requirements by 5%, reflecting a sustained institutional commitment to legality, occupational risk prevention, and continuous improvement.

Among the main achievements were the updating of operating procedures, the integration of internal brigades, the implementation of preventive programs, the dissemination of personal protection measures, and the systematic assessment of risks by activity, which provided objective evidence of progress in compliance with regulations. Each of these actions was designed and implemented according to the specific needs of the organization, strengthening its response capacity and alignment with regulatory standards. Identifying staff training needs by position and creating an annual program will reinforce the minimum knowledge necessary to perform activities with a higher level of safety.

Finally, this research lays the foundation for the company to move toward its goal of being officially recognized as a "Safe Company." The work carried out sets the tone for the organization to continue working and positioning itself at a higher level of technical and organizational maturity, strengthening its reputation with customers, employees, and stakeholders, and reaffirming its social responsibility and commitment to a safe, healthy, and sustainable work environment.

FUTURE WORK

For future research, it will be essential to establish a comprehensive approach to safety management. This involves a study to strengthen existing controls and the design and implementation of new preventive measures adapted to the specific conditions of critical areas of the company.

REFERENCES

Domínguez, C. R., Mares, J. I. P., & Hernández, R. G. Z. 2020. Hazard identification and analysis in work areas within the Manufacturing Sector through the HAZID methodology. Process Safety and Environmental Protection, 145, 23-38.

Nuñes, (2016). General aspects of occupational safety and health (OSH). https://oshwiki.eu/wiki/Aspectos_generales_de_seguridad_y_salud_en_el_trabajo_(SST)

Carbajal Suárez, Y., Almonte, L. D. J., & Mejía Reyes, P. (2016). Manufacturing and industry in four regions of Mexico. An analysis of their growth dynamics, 1980-2014. Economics: theory and practice, (45), 39-66

G&F Corporate Development. (2024, 10 7). Bradley/Dupont curve. G&F Corporate Development: https://www.gfdesarrollo.com/2024/10/07/como-llevar-la-cultura-de-seguridad-al-siguiente-nivel-con-la-curva-de-bradley/

Ministry of Labor and Social Welfare, (2017) Information on national occupational accidents and illnesses 2005-2017. https://autogestionsst.stps.gob.mx/Proyecto/Content/pdf/Estadisticas/Nacional.pdf

Ministry of Labor and Social Welfare, (2017) Occupational Safety and Health Self-Management Program, General Guidelines General for Operation. http://autogestionsst.stps.gob.mx/Proyecto/Content/doctos/LineamientosGenerales.pdf

DOF, (2014) Federal Occupational Safety and Health Regulations. Mexico.

Anaya-Velasco, A. (2017). Occupational Health and Safety Model with Comprehensive Management for Organizational Sustainability (SSeTGIS). Science & Work, 19(59), 95-104.

Solorio Pérez, C. D. (2014). Towards a theory of the reception of the object of study in social research. Omnia, 20(1), 159-170. http://www.redalyc.org/articulo.oa?id=73731653012

Martínez Oropesa, C., & Cremades, L. V. (2012). Leadership and culture in safety: their influence on workers' safe work behaviors. Workers' Health, 20(2), 179-192.

Aubert, A. C. (2001). Biological risks and recommended personal protective equipment in healthcare centers. Poster. XII National Congress on Occupational Safety and Health, Valencia.

Cañas, J. (2015). Ergonomics in Spain before and after the Occupational Risk Prevention Act. In 20 years of the Occupational Risk Prevention Act, 293-316

Moreno, B. (2011). Psychosocial factors and occupational risks: Conceptualization, history, and current changes. Occupational Medicine and Safety, 57, (Supplement 1), 4-19.

International Labor Organization. (November 26, 2023). Occupational Safety and Health. https://www.ilo.org/es/resource/news/casi-3-millones-de-personas-mueren-por-accidentes-y-enfermedades

Ministry of Health. (April 28, 2018). Government of Mexico. Occupational health and safety. https://www.gob.mx/salud/articulos/salud-y-seguridad-en-el-trabajo

Ministry of Labor and Social Welfare. (2023). Risk rate by economic activity. Occupational risks registered with the IMSS. https://www.stps.gob.mx/gobmx/estadisticas/riesgos.htm

COLLABORATIVE WORK TABLE

Role	Author(s)

Conceptualization	Cruz Jiménez Regina, Olvera Camarillo Victor
Method	Cruz Jiménez Regina, Gutiérrez González Erika,
Validation	Cruz Jiménez Regina, Olvera Camarillo Victor
Formal Analysis	Marrón Ramos Domingo Noé, León Escalante Santos Guadalupe
Research	Cruz Jiménez Regina, Marrón Ramos Domingo Noé
Resources	Marrón Ramos Domingo Noé, Olvera Camarillo Victor
Data curation	Erika Gutiérrez González, Guadalupe León Escalante Santos
Writing - Preparation of the original draft	Cruz Jiménez Regina, Olvera Camarillo Victor
Writing - Review and editing	León Escalante Santos Guadalupe, Gutiérrez González Erika
Visualization	Erika Gutiérrez González, Guadalupe León Escalante Santos
Supervision	Marrón Ramos Domingo Noé