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TEMA:

**"PROPOSAL FOR THE DESIGN OF THE QUALITY MANAGEMENT SYSTEM IN THE
COMPANY SEGURIDAD Y CONFIABILIDAD C.E.S.E.P CÍA. LTDA. BASED ON ISO 9001: 2015
STANDARD"**

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"PROPOSAL FOR THE DESIGN OF THE QUALITY MANAGEMENT SYSTEM IN THE COMPANY SEGURIDAD Y CONFIABILIDAD C.E.S.E.P CÍA. LTDA. BASED ON ISO 9001: 2015 STANDARD"

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Summary. *The evolution of the human species has always been marked by the desire for continuous improvement, which has led to the development of technological strategies and knowledge to solve their needs, creating a highly competitive environment. This inquiry continues to do things better and better, it is oriented towards quality in the daily work, particularly in the action of business organizations.*

Following this concept was developed the research in the company Seguridad y Confiabilidad C.E.S.E.P Cía. Ltda., Where it is intended to establish a Quality Management System design based on the requirements of the ISO 9001: 2015 standard, which allows it to establish a management with a process approach and in the medium term (5 years) to implement and reach obtain a quality certification, making the organization manage a philosophy of satisfying the needs of customers and continuous improvement in order to maintain and improve their competitive position in the market. For that, a situational analysis is based on which the documentary structure is elaborated: Procedures Manual, Corporate Risk Management Manual, Quality Manual, Documentation Formats and / or Registers, Process Characterization Cards according to the needs of the organization.

At the end, a comparative analysis is performed between the results obtained before and after the QMS, according to the fulfillment of the requirements of ISO 9001: 2015, improving this indicator from 9.22% to 46.15%. It also establishes an improvement plan that complements the work of quality management.

Keywords:

Continuous Improvement, Technological Strategies, ISO 9001: 2015, Quality Management System (QMS).

Resumen. *La evolución de la especie humana ha estado marcada desde siempre por el deseo de un mejoramiento continuo, lo que ha llevado al desarrollo de estrategias tecnológicas y de saberes para la solución de sus necesidades, creando así un entorno altamente competitivo. Esta indagación continua por hacer las cosas cada vez mejor, se encuentra orientada hacia la calidad en el quehacer cotidiano, muy particularmente en la acción de las organizaciones empresariales.*

Siguiendo este concepto se desarrolló la investigación en la empresa Seguridad y Confiabilidad C.E.S.E.P Cía. Ltda., donde se pretende establecer un diseño del Sistema de Gestión de Calidad basado en los requisitos de la norma ISO 9001:2015, que le permita establecer una gestión con un enfoque en procesos y a mediano plazo (5 años) pueda implementar y llegar a obtener una certificación de calidad, haciendo que la organización maneje una filosofía de satisfacción de las necesidades de los clientes y en la mejora continua para poder mantener y mejorar su posicionamiento competitivo en el mercado. Para lo cual se parte de un análisis situacional en función del cual se elabora la estructura documental: Manual de procedimientos, Manual de gestión de riesgos corporativos, Manual de calidad, Formatos de documentación y/o registros, Fichas de caracterización de procesos acorde a las necesidades de la organización.

Al final se realiza un análisis comparativo entre los resultados obtenidos antes y después del SGC en función del cumplimiento de los requisitos de la norma ISO 9001:2015 mejorando este indicador desde el 9,22% al 46,15%. También se establece un Plan de mejora que complementa el trabajo de la gestión de calidad.

Palabras Claves:

Mejoramiento Continuo, Estrategias Tecnológicas, Norma ISO 9001:2015, Sistema de Gestión de Calidad (SGC).

1 Introduction

Inquiry continues to do things better and better, it is oriented towards quality in the daily business, particularly in the action of business organizations (Vesga, 2013).

Elaborating a product or service with higher quality and at a lower price is the best current competitive strategy (Sanjay, Matthew & Damodar, 1996), understood as quality to the degree that a set of inherent characteristics of a product meets the requirements of the customer (ISO, 2015), this drift as a result of the new global economic and business schemes, quality ceases to have the context of boom or fashion to become a tool for making decisions of mandatory management in any organization that seeks to ensure their sustainability over time (Cubillos & Rozo, 2009).

Based on this, the ISO methodology promotes the adoption of a process-based approach that helps the development, implementation and improvement of the quality management system (QMS), emphasizing the importance of its implementation, presenting it as a strategic decision for an organization, because it contributes to improving overall performance and provides a solid foundation for sustainable development initiatives (ISO, 2015). The QMS should be based on the design of a unique system for the organization, with documentary support to guarantee quality, but should concentrate on creating only the necessary documents, leaving aside the excesses that may lead to confusion and loss of quality weather.

The Magna Carta recognizes the various forms of organization of production in the national economy, production in any form, must be subject to principles and standards of quality, sustainability, systemic productivity, valuation of work and economic and social efficiency (Asamblea Nacional, 2008).

The National Institute of Statistics and Censuses (INEC) publishes the Directory of Companies and Establishments (DIEE), this tool shows data for 2012 out of a total of 704,556 companies in the country; the first version contained information from 2011 of only 179,830 companies, so coverage grew almost four times nationally (INEN & SENPLADES, 2014). The Executive Director of INEC indicated that 89.6% of the companies that comprise this version of the DIEE are microenterprises; 8.2% small; 1.7% medium, and 0.5% large companies. The Under -

Secretary of Industries and Productivity states that only 987 companies nationwide are certified by the International Organization for Standardization ISO - 9001 until 2013 (Cox, 2013).

The most predominant economic sectors are trade with 39% of the total (274,566 companies), followed by services that represented 38.4% (270,781) and agriculture, livestock, forestry and fisheries with 14.7% (103,324). In relation to sales, trade is again the most important, with 40.5% of the total value, but the manufacturing industry, despite being the fourth in number, ranks second to sales, with 27, 4% of the total; the services sector occupies the third place, with 24.3% of the total of \$ 145.133 million of sales. Agriculture (4.7%) and mining and quarrying (3.1%) are the most relegated in terms of sales (INEN & SENPLADES, 2014).

In Ecuador, service companies, commercial or industrial, have developed and adopted quality processes in their products (CEPAL, 2013). Considering the product as a result of an activity, it can be classified into two groups: manufactured products and services, all these products are characterized by responding to a need that must be governed by principles of quality and customer satisfaction (Sánchez, Enriquez, & Sánchez, 2012). Services are defined as outputs from an organization with generally intangible elements (ISO, 2015).

The INEN (Ecuadorian Standardization Service) contributes to the National Quality System by improving the country's industrial sector by encouraging national organizations to manage and manage quality by recognizing it through the INEN label (INEN, 2016). The services sector is part of the beneficiaries with this quality label but there are not a large number of organizations certified as in the manufacturing industry (INEN, 2016).

The economy of private protection and surveillance services in Ecuador has a fast growing behavior due to the high demand of society, insecurity is a social problem with which all Ecuadorians must live together (Gallegos, 2012).

A quality service works under a quality model considered all the basic elements to ensure it from the perspective of the clients, adopting a quality management system is a strategic decision for an organization that can help you improve your overall performance and provide a solid foundation for sustainable development initiatives

and mainly improve the customer satisfaction index (ISO, 2015).

1.1 Methodology

Starting from the objective analysis of the theoretical basis, the initial diagnosis is then performed through direct observation, interviews and / or surveys, SWOT matrix and a checklist based on ISO 9001: 2015 to perform the initial audit.

Next, the design of the SGC is made based on the information found starting from the identification of the Macroprocess, Processes and Subprocesses. At this point, the following documentation is established: Procedures Manual, Corporate Risk Management Manual, Quality Manual, Characterization of processes, documentation formats and necessary records within the system.

Finally, the comparative analysis is performed between the results of the initial audit and those obtained in the proposal. Here is an Improvement Plan that helps to follow up the activities of continuous improvement.

1.2 Tools and methods

The tools and methods used in this research are:

Tools

- Deming Cycle
- Flowchart

Methods

- Histogram
- Calculation of the percentage gap (Anderi Sourí)
- ISO 9000: 2015: Quality management systems - Fundamentals and vocabulary. Norma ISO 9001:2015: Sistemas de gestión de la calidad – Requisitos.
- ISO Standard 19011: 2011: Guidelines on audits of quality and environmental management systems.
- ISO 10013: 2001: Guidelines for the documentation of quality management systems.
- ISO 31000: 2009: Risk Management - Principles and Guides.

1.3 Strategic analysis

To do this, the SWOT system or FODA analysis is used to study the internal and external environment of the company in each management: strategic, operational and support,

identifying the critical factors for strategic planning and meeting goals. This tool will allow us to know the strengths, opportunities, weaknesses and threats, in order to establish strategies (offensive, defensive, orientation and survival) according to internal organizational capacity and external situation.

The strategies presented in each management are shown below: Table 1, Table 2 and Table 3.

STRATEGY APPROACH - STRATEGIC MANAGEMENT	
OFFENSIVE (MAXI – MAXI)	Implementation of a marketing program
	Improvement of electronic equipment that is part of the provision of the service.
	Negotiation strategies with clients.
DEFENSIVE (MAXI – MINI)	Promote the philosophy of customer satisfaction both internal and external.
	Certification of regulations that guarantee a better and more efficient service (Quality, OSHAS, etc.)
ORIENTATION (MINI – MAXI)	Follow-up service through permanent contact with customers.
	Improvement of the quality of the service working with all the people responsible for providing the same and those in charge of the administrative area, using the management model based on ISO 9001: 2015.
	Establish management indicators and internal audits to carry out the respective monitoring for subsequent decision-making.
SURVIVAL (MINI – MINI)	Comply with the guidelines and objectives proposed in the strategic plan.
	Compliance with all the requirements established in the current national regulations of both private security and the public procurement sector.
SURVIVAL (MINI – MINI)	Compliance with contractual requirements established with customers.
	Compliance with contractual requirements established with customers.

Table 1: Strategies - Strategic Management

STRATEGY APPROACH - OPERATIONAL MANAGEMENT	
OFFENSIVE (MAXI – MAXI)	Immediately fulfill the requirements established in the contractual document with the clients.
	Delivery of economic resources for the innovation of communication equipment.
	Regularly train security guards on occupational health and safety and customer service.
DEFENSIVE (MAXI – MINI)	Instruction to staff (functions and responsibilities) per job. Taking into account that the facilities of each post are different, previous recognition must be made.
	Training of all operational staff through courses supported by the Ministry of Interior.
ORIENTATION (MINI – MAXI)	Staff retention programs through the delivery of incentives for good performance.
	Improve the channel and communication equipment between the central and the vigilantes.
SURVIVAL (MINI – MINI)	Implementation of a preventive maintenance plan.
	Implementation of a preventive maintenance plan.

Table 2: Strategy - Operational Management

STRATEGY APPROACH - SUPPORT MANAGEMENT	
OFFENSIVE (MAXI - MAXI)	Socialize negotiation policies with clients.
	Monthly update of information entered into the computer system (personnel leaving, new staff, etc.)
	Proposed necessary plan resources, after analysis and approval.
DEFENSIVE (MAXI - MINI)	Implementation of preventive measures rather than corrective measures.
	Analysis of costs in each of them.
ORIENTATION (MINI - MAXI)	Make a schedule for the monthly review of existing documentation.
	Application of quality 5S to maintain a better and orderly job.
	Use of uniform for administrative staff as a hallmark of the company.
	Control in the use of resources, establish an average weekly amount.
SURVIVAL (MINI - MINI)	Prioritize preventive or corrective measures and then proceed immediately to allocate resources for implementation.

Table 3: Strategies - Support Management

In order to carry out this analysis, the information collected in internal documents and the contribution of the management personnel were considered: President and General Manager in the strategic management. In the operational management, the information collected in internal documents and the contribution of the corresponding personnel of this area were considered: Chief of Operations, Centralista, Supervisors and Security Guards.

Finally, the analysis of support management considered the information collected in internal documents and the contribution of the personnel of the corresponding staff in this area who are organized in heads and departmental assistants.

1.4 ISO 9001: 2015 Audit

It is important to carry out a comprehensive analysis of the current situation of the company Seguridad y Confiabilidad C.E.S.E.P Cía. Ltda., For which the internal audit is performed in order to know the degree of compliance with the requirements established in the standard.

For this initial diagnosis, a questionnaire based on ISO 9001: 2015 is used characterized by its clarity of language and easy comprehension that facilitates the work of the internal auditors, and also the criteria of Anderi Souri (For audit) are used in the quantitative analysis of each of the items of the standard.

The results are shown below:

ITEM	TERMINO	% DE CUMPLIMIENTO
4	Contexto de la Organización	11,16%
5	Liderazgo	14,72%
6	Planificación	0,00%
7	Apoyo	13,04%
8	Operación	13,08%
9	Evaluación de desempeño	2,08%
10	Mejora	10,42%

Table 4: Results of the ISO 9001: 2015 audit

• **Graphic representation:**

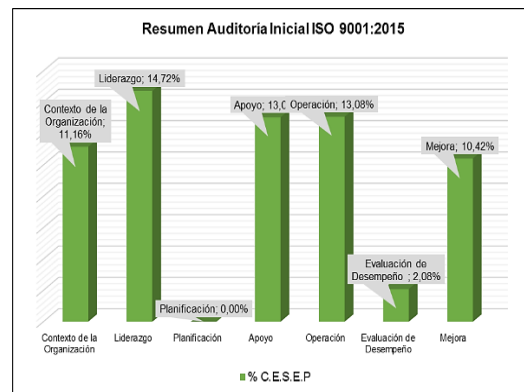


Figure 1: Summary Audit ISO 9001: 2015

• **Calculation of percentage of total compliance of the standard:**

$$\%CT = \frac{11,16 + 14,72 + 0,00 + 13,04 + 13,08 + 2,08 + 10,42}{7} = 9,22\%$$

• **Calculation of percentage of inconsistencies with the standard:**

$$\%BC = 100 - 9,22 = 90,78\%$$

The percentages shown correspond to the current values according to the compliance of the standard in the private security company obtaining an average of a final result of 9.22%.

In order to establish a comparative analysis between the current state of the company and the ideal state, the value of 9.22% represented by the real state is subtracted from 100%. The difference obtained corresponds to the percentage of inconsistencies with the standard, which falls to the value of 90.78%.

Then it is concluded that the organization has a large space where it must carry out improvement actions.

1.5 ISO 9001: 2015 Model

ISO 9001 indicates the importance of the analysis of the different internal processes of an organization such as: strategic, operational and support or support that guarantee the proper development of activities.

The model begins with identifying the requirements and needs of the client and stakeholders that are the cause of quality management.

The established criteria are the inputs for the processes that transform them into products that hope to satisfy the two parties always paying vital attention to the economic and competitive environment in which it performs. In the transformation of the Inputs to Outputs the processes are born:

- Organization and its context
- Requirements and expectations of customers and stakeholders
- Process management – PDCA
- QMS results

The documentation is the basis for the compression of the system and determination of its effectiveness, the new version of ISO 9001 brings with it significant changes relative to the mandatory documents to be maintained. The terms of documented information such as: procedures, work instructions, records, plans, manuals and programs are now not specified, only the name of documented information is taken into account in relation to any document involved in the system (Crof, 2015)

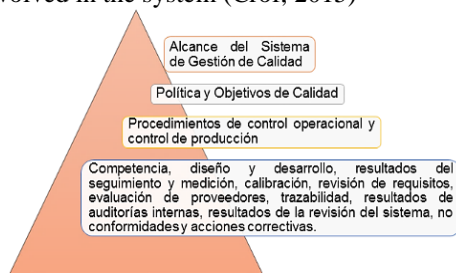


Figure 2: Pyramid of documentation adapted to ISO 9001: 2015

(López, 2016)

The necessary documentation for each type of organization is not specified, therefore each one documents the information that it establishes as absolute according to the administrative and managerial conditions and needs, this information must meet criteria of simplicity, informality and summary (Crof, 2015).

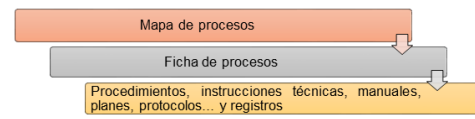


Figure 3: Proposal for documentation for item 8 of ISO 9001: 2015

(López, 2016)

The new version combines the successful "process-based approach" with a new basic concept of "risk-based thinking" to prioritize processes, using the PHV at all levels of the organization to manage processes and the system in your whole, and to drive improvement. This new risk-based approach seeks to avoid undesirable consequences as non-compliant products and services (Crof, 2015).

The particularity of risk-based thinking considers the GSC to be a preventive tool in itself, from the design and development of the entire system to the decision to maintain or preserve documented information. It considers the analysis of existing risks and the best alternatives to eliminate them or, if possible, to mitigate them to acceptable levels for the organization (López, 2016).

Quality management systems based on the new ISO 9001 are determined as more comprehensive management tools because it links risk-based thinking with strategic planning and internal processes. The timely identification of risks shows opportunities for improvement under the proactive performance of all members of the organization.

It defines the proposed documentation fulfilling the requirements of the standard according to the needs of the organization, maintaining a hierarchical order according to its relevance. These documents are created keeping the generic nature and independent of the norm.

1. Quality Manual
2. Manual of procedures (Procedures specific to the standard)
3. Corporate risk management manual
4. Work instructions
5. Records (Several formats are established in each one of the steps)

2 Results and discussion

2.1 Proposal of the QMS

The documentation of a Quality Management System based on the ISO 9001 version 2015 is in the free criterion of the organization, that is, it determines the documents that will be handled based on their characteristics and needs. Then the organization determines the documents and records that add value in both the procedures and the final product. But despite the freedom of the new ISO, specific requirements such as quality policy, quality objectives and documented procedures are identified.

Strategic fundamentals

- **Mission**

Ensure a private security and surveillance service, with efficient technical and human equipment to meet the needs of customers.

- **View**

To be the leader in providing the private security service in the northern part of the country working with technological innovation and highly qualified personnel in each of the internal areas, complying with ISO 9001: 2015 certified quality standards until 2018, reaching new regions of the country and penetrating to a greater extent in the private sector.

Organizational structure

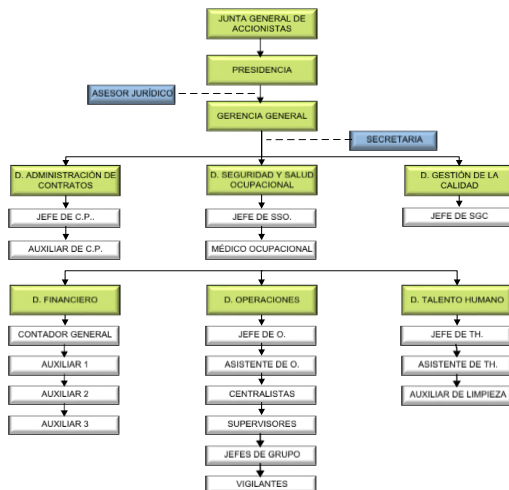


Figure 4: Structural organic

1. Quality Manual

This document contains all the documentation related to the QMS as:

- Scope of the Quality Management System, including the details and justification of any exclusion.
- Macroprocess
- Description of the items of the standard
- Quality politics
- Quality objectives
- Procedures documents required by the standard.

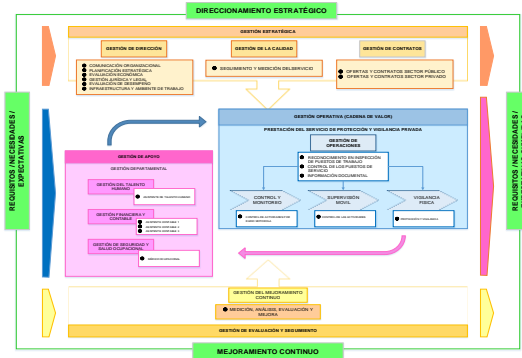


Figure 5: Proposed process map

2. Procedural Manual

It contains the necessary procedures on the part of the organization, among which are:

MACROPROCESO	PROCESOS		PROCEDIMIENTOS							
	COD.	NOMBRE	RESPONSABLE	COD.	NOMBRE	PRODUCTO O RESULTADO				
GESTION OPERATIVA	GO	Gestión de la prestación del servicio	Jefe de Operaciones	GO-P1.1	Instalación de puestos nuevos	Acta entrega de uniformes y equipos (Por personal) Acta entrega de equipos y armamento (Persona responsable - Supervisor)				
				GO-P1.2	Solución de novedades del servicio, informe específico de novedades, Documentación solicitada por la aseguradora					
				GO-P1.3	Administración base ADM	Registro completo y actualización de los puestos de servicio donde aparecen datos como: nombre y ubicación del puesto, teléfonos del puesto, nombres y teléfonos del administrador del contrato, nombres de los guardas del personal de seguridad, así como también otro detalle que se considere oportuno.				
				GO-P1.4	Atención al Cliente	Contactos con el cliente de forma personal o mediante vía telefónica, informe del servicio (Mensual o Semanal)				
				GO-P2	Control y monitoreo	Centralista de turno	Registro de ausencias, notificación de retrasos o faltas, corrección inmediata de problemas e inconvenientes encontrados. Comunicación de modificaciones de consignas. Verificación de cumplimiento de rutas (equipamiento de la motocicleta), comunicación de consignas) Control de las cámaras de seguridad de las instalaciones, comunicación inmediata de inconvenientes			
				GO-P3	Vigilancia móvil	Supervisor de turno	GO-P3.1	Vigilancia móvil	Reporte de cumplimiento a las políticas, incumplimiento de responsabilidades (inmatriculados), control de puesto de trabajo (Hoja de rutas)	
				GO-P4	Vigilancia fija	Vigilante de turno	GO-P4.1	Vigilancia fija	Protección de bienes, instalaciones y personas. Cumplimiento de consignas generadas y específicas	
				GESTION DE APOYO	GA	Gestión departamental	Gerente general	GA-P1.1	Reclutamiento y selección de personal	Diseño de cargos, proceso de reclutamiento, selección y contratación de personal operativo y administrativo. Recepción de hojas de vida de postulantes. Preparación del nuevo personal
								GA-P1.2	Inclusión para el personal de nuevo ingreso	Inducción para el personal de nuevo ingreso
								GA-P1.3	Evaluación de Desempeño	Seguimiento del desarrollo personal, programa de incentivos, beneficios y servicios, memorándums (bancos), multas por incumplimientos. Personal capacitado y comprometido
GA-P1.4	Formación y capacitación	Planificación de personal (cobertura de puestos de trabajo)								
GA-P1.5	Salud de vacaciones	Liquidaciones, ESS, Ministerio del trabajo, Sistema de Compañías de Seguridad Privada								
GA-P1.6	Desvinculación laboral	Preventas de sanción, retenciones, demandas presentadas por clientes o ex trabajadores								
GA-P1.7	Asuntos jurídicos	Contos, intereses y esternos (directos/indirectos, fijos/variables, vacaciones) balances de resultados (généricas y garantías), margen de contribución, presupuestos, Libros de bancos, presupuesto del servicio,								
GA-P2	Financiero	Asistente Contable 1 Asistente Contable 2	GA-P2.1					Declaraciones tributarias	Declaraciones tributarias	
GA-P2.2	Cuentas por pagar	Cuentas por pagar								
GA-P2.3	Consultas bancarias	Consultas bancarias								
GESTION DE APOYO	GA	Gestión departamental	Gerente general	Asistente Contable 3	GA-P2.4	Programación de ingresos por pago del servicio, documentos del SOC relacionados, caja chica				
				GA-P2.5	Programación anual de caja	Programación anual de caja				
				GA-P2.6	Facturación y Cotización	Facturación y Cotización				
				GA-P2.7	Pagos	Pagos				
				GA-P2.8	Botoga	Inventarios de entrada y salida de materiales y recursos, orden de compras, orden de despacho				
				GA-P2.9	Auditoría y Consultoría	Inspección CCFFAA y demás entes de control				
				GA-P3	Seguridad y Salud Ocupacional	Jefe de Seguridad y Salud Ocupacional Médico Ocupacional	Se encuentra diseñado un Sistema de Gestión de Seguridad y Salud Ocupacional.			

Table 5: Inventory of procedures

3. Risk management manual

It is performed based on the NTE INEN ISO 31000 standard that allows a more efficient and timely management of risk factors.

SEGURIDAD Y CONFIABILIDAD C.E.S.E.P.CÍA. LTDA.								
	PROCESO:	GESTIÓN DE CONTROL DE LA CALIDAD Y MEJORA CONTINUA		CODIGO:	FR.SSG.PS-2			
	SUB PROCESO:	ADMINISTRACIÓN DEL RIESGO		VERSION:	01-00			
		FORMATO DE MATRIZ DE VALORACIÓN DEL RIESGO ALTO		FECHA DE ELAB:	dd/mm/aa			
				FECHA DE APR:	dd/mm/aa			
				Nº DE PÁGS:	1 de 1			
CODIGO	PROCESO	PROCEDIMIENTO	CAUSA DEL RIESGO	RIESGO	PROBABILIDAD	IMPACTO	VALORACION	
GA-P11	Reclutamiento y selección de personal	17	Hace falta el contrato	La persona encargada se encuentra con gran cantidad de trabajo	Incumplimiento de obligaciones patronales de la legislación nacional vigente que repercuten en multas considerables por la no realización de las actividades obligatorias.	2	5	10
		18	Registra en el IESS	Confunde u olvida las funciones que debe cumplir. La gran cantidad de relación de personal	La política de seguro no cubre a las personas que no constan en la nómina que mantiene.	2	5	10
		19	Registra en el MRL	Complica la realización de estas actividades de	Pérdidas económicas por pagos innecesarios.	3	5	15
		22	Registra en nómina de aseguradora	La persona encargada se encuentra con gran cantidad de trabajo	Confunde u olvida las funciones que debe cumplir. La gran cantidad de relación de personal complica la realización de estas actividades de manera inmediata.	5	3	15
GA-P16	Devinculación laboral	19	Nómina de la Aseguradora	La persona encargada se encuentra con gran cantidad de trabajo	Confunde u olvida las funciones que debe cumplir. La gran cantidad de relación de personal complica la realización de estas actividades de manera inmediata.	4	4	16
		20	Pago Liquidación	La persona encargada se encuentra con gran cantidad de trabajo	Incumplimiento de obligaciones patronales de la legislación nacional vigente que repercuten en multas considerables por la no realización de las actividades obligatorias.	5	3	15

Table 6: High risk assessment

Also a very important point that is cited is the risk management culture that defines a policy that is mentioned below:

- **Politics**

The company Seguridad y Confiabilidad C.E.S.E.P Cía. Ltda., Guarantees management of corporate risks by establishing actions in order to avoid, prevent, mitigate, share or transfer those risks that generate an impact on internal processes; with the commitment, intervention and participation of each one of the elements of the company towards a continuous improvement of the internal management.

It seeks the comprehensive understanding of the risk management policy with the guidelines of strategic management in order to obtain a better quality management system.

Guidelines:

In order to comply with the risk management policy, the following must be taken into account:

- Risk Management is based on the concept of opportunity with a strategic planning approach.
- The company considers as risks to all factors affecting the performance of internal processes named also systematic risks.
- Risk Management considers as a fundamental point the effects of non-compliance with current legislation and legal development that may lead to deterioration in assets, fines, loss of validity or non-obtaining of licenses and permits,

findings of control entities, judicial judgments against, and any occurrence of anti-legal damages, public ethics and commitment to the community.

- The identification and assessment of risks will be carried out whenever a change of the current regulations arises in specific cases that merit and are of control of the company.
- The company will make available a tool that defines whores for risk management.
- The results obtained in the risk management will be communicated to the top management as well as the actions to prevent and mitigate them.
- Those risks defined as intolerable must have the treatment in the shortest possible time allocating the necessary resources for it.
- Risks can be identified in all business activities, including strategies and decisions, operations, processes, functions, projects, products, services and assets.

2.2 Comparison of the initial and final situation

After presenting the results obtained in the initial internal audit and the proposed documents corresponding to the design of the QMS, the comparative analysis between the initial audit and a final audit after the QMS design is presented below.

The analysis consists of two parts, the first focuses on each of the items of the standard, and the second shows the total compliance results validating the level of compliance.

- **Análisis comparativo de resultados por ítem**

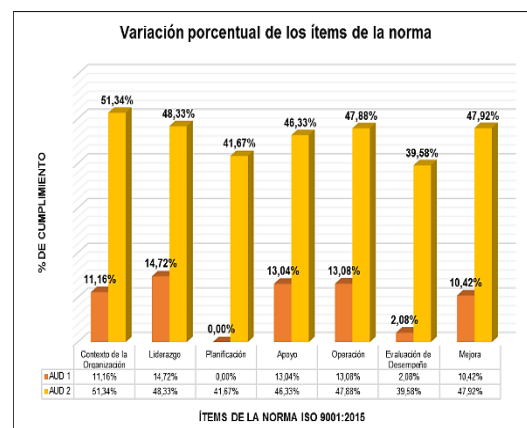


Figure 6: Comparative analysis

In the figure the final result can be evidenced in an illustrated way in each one of the items of the standard for the company Seguridad y Confiabilidad C.E.S.E.P Cía. Ltda.

The comparative percentage analysis is also shown based on Anderi Sour's audit criteria and the relevant checklist based on ISO 9001: 2015.

Variación porcentual de los ítem de la norma ISO 9001:2015				
ITEM	TÉRMINO DE LA NORMA	INICIAL	PROPUESTA	NORMA
4	Contexto de la Organización	11,16%	51,34%	100%
4.1	Comprensión de la Organización y de su contexto	37,50%	62,50%	100%
4.2	Comprensión de las necesidades y expectativas de las partes interesadas	0,00%	50,00%	100%
4.3	Determinación del alcance del sistema de gestión de la calidad	0,00%	50,00%	100%
4.4	Sistema de gestión de la calidad y sus procesos	7,14%	42,86%	100%
5	Liderazgo	14,72%	48,33%	100%
5.1	Liderazgo y Compromiso	15,00%	45,00%	100%
5.2	Política	12,50%	50,00%	100%
5.3	Roles, responsabilidades y autoridades en la organización	16,67%	50,00%	100%
8	Planificación	0,00%	41,57%	100%
8.1	Acciones para abordar riesgos y oportunidades	0,00%	50,00%	100%
8.2	Objetivos de la calidad y planificación para lograrlos	0,00%	50,00%	100%
8.3	Planificación de los Cambios	0,00%	25,00%	100%
7	Apoyo	13,04%	46,33%	100%
7.1	Recursos	28,75%	40,00%	100%
7.2	Competencia	33,33%	66,67%	100%
7.3	Toma de conciencia	0,00%	50,00%	100%
7.4	Comunicación	0,00%	25,00%	100%
7.5	Información Documentada	3,13%	50,00%	100%
8	Operación	13,08%	47,88%	100%
8.1	Planificación y Control Operacional	12,50%	62,50%	100%
8.2	Requisitos para los Productos y Servicios	36,36%	59,09%	100%
8.3	Diseño y Desarrollo de los Productos y Servicios	18,06%	50,00%	100%
8.4	Control de los procesos, productos y servicios suministrados externamente	21,88%	21,88%	100%
8.5	Producción y Provisión del Servicio	2,78%	41,67%	100%
8.6	Liberación de los Productos y Servicios	0,00%	50,00%	100%
8.7	Control de las Salidas no Conformes	0,00%	50,00%	100%
9	Evaluación de Desempeño	2,08%	39,58%	100%
9.1	Seguimiento, medición, análisis y evaluación	6,25%	43,75%	100%
9.2	Auditoría Interna	0,00%	25,00%	100%
9.3	Revisión por la Dirección	0,00%	50,00%	100%
10	Mejora	10,42%	47,92%	100%
10.1	Generalidades	0,00%	50,00%	100%
10.2	No Conformidad y Acción Correctiva	6,25%	43,75%	100%
10.3	Mejora Continua	25,00%	50,00%	100%

Table 7: Results of initial, final and expected situation

• **Comparative analysis of total results**

The graphical representation shows the total variation of the values obtained in the initial and final audit with the perspective of total compliance with the requirements of ISO 9001: 2015.

The percentage values show an improvement from the first corresponding result 9.22% to 46.15%. It also shows the results of breach breaches and inconsistencies with the norm that at first corresponds to 90.78% and finally gets a value of 53.85%.

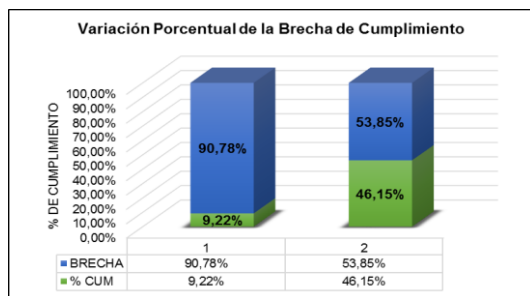


Figure 7: Percent change in compliance gap

A very important point to clarify refers to the modifications that have been made in the standard, compliance with all the requirements established only in ISO 9001: 2015 does not in itself guarantee the effectiveness of the GSC as a whole because a new requirement of great importance has been raised.

Already within the QMS, alignment to strategic planning and risk management prevails; the strategic planning itself is not an unknown issue, but the risk management approach corresponds to a whole new analysis within the SGC, therefore, the same ISO 9001: 2015 standard to improve the complete understanding of this punto refers to ISO 31000: 2009.

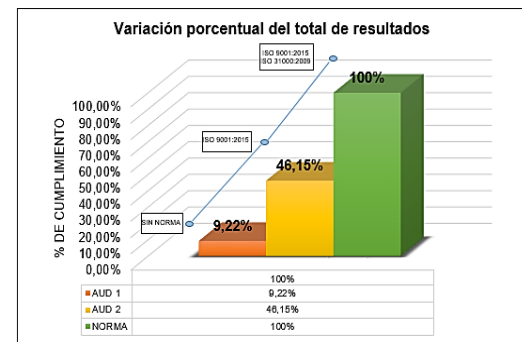


Figure 8: Compliance Validation

2.3 Cost quote

1. Consulting proposal

Etapas	Actividades
Nº1	Visita inicial, Reunión introductoria, recorrido por la Instalación y establecer el Plan de Auditoría Interna de Diagnóstico.
Nº2	Realizar la Auditoría Interna de Diagnóstico.
Nº3	Entrega del Informe de la Auditoría Interna de Diagnóstico y Propuesta del Plan de Acción.
Nº4	Elaboración del Sistema Documental: <ul style="list-style-type: none"> Manual de Calidad, Los 6 Procedimientos obligatorios de la Norma, Los Procedimientos Operativos, Objetivos Generales y Específicos con sus indicadores, Política de Calidad y la divulgación de la misma.
Nº5	Realizar Auditoría Interna Final del Sistema.
Nº6	Levantamiento de las No Conformidades y Observaciones detectadas en la Auditoría Interna Final del Sistema, (Elaboración de las Solicitudes de Acciones Correctivas, Preventivas y de Mejoras).

For the provision of the services of Implementation of the Quality Management System, the expected fee is \$ 4 200.00 (+ VAT) by the consulting company, a value that will be paid 50% upon signing the contract and the 50% upon delivery of the project.

NOTE: In case of having branches in another City of Ecuador, the expenses for transportation, food, and lodging (in case it is required) by the customer.

2. Certification proposal

SERVICIOS DE CERTIFICACION	
REALIZACION AUDITORIA Etapa I:	Consta de una revisión del Sistema Documental.
REALIZACION AUDITORIA Etapa II:	Revisión in situ del Sistema de Gestión.
INFORME DE RESULTADOS DE AUDITORIA.	
ENTREGA DEL CERTIFICADO (válido por 3 años): 1 certificado enmarcado y 1 certificado adicional sin costo adicional.	
IDIOMA DEL PROCESO DE AUDITORIA: ESPAÑOL	
AUDITORES COMPETENTES EVALUADOS BAJO ESTRICTOS ESTANDARES	

VALORES DE CERTIFICACION	
AUDITORIA DE CERTIFICACION	\$ 1736.00
AUDITORIA SEGUIMIENTO I (Año 2018)	\$ 1302.00
AUDITORIA SEGUIMIENTO II (Año 2019)	\$ 1302.00
<i>Los valores de la Auditoría de Certificación se cancelará en la firma de los contratos y los valores de las Auditorías de Seguimiento I y II, se cancelarán en los próximos años (2018, 2019) respectivamente.</i>	
<i>Los costos de Hospedaje, Transporte y Alimentación en horarios de Auditoría se encuentran a cargo del Cliente.</i>	

To the values mentioned above, the respective value must be added to the I.V.A.

2.4 Plan of improvement

This document indicates the actions to be taken to reduce the nonconformities found within the Quality Management System, integrating the strategic decisions with the accomplishment of the described activities with the objective of improving the offered security and surveillance service; and also of all interested internal and external parts.

This plan is developed based on compliance with points 9 and 10 of ISO 9001: 2015, which refer to performance evaluation and improvement respectively. We also analyzed points 4, 5, 6, 7 and 8 of the same standard keeping the internal audit criteria established in the checklist used in the audit. A point to be drawn from this document is to use indicators established in numerical figures that allow monitoring the effectiveness of the actions taken and carried out.

In this plan, the corrective actions are specified, but it does not refer to preventive actions because, according to the new specifications of the standard, risk management corresponds to or includes all preventive actions in the QMS.

1. Control of documents

Description: There are problems in the maintenance and control of the documented information that is handled internally and externally in the company C.E.S.E.P Cía. Ltda. There is no established document format that meets the necessary requirements (letterhead), nor is there a basis for all documents used within the organization (manuals, programs, plans, etc.). The integrity of the documents is not maintained because there is no clear record of the modifications and updates made.

Root cause analysis: The requirements of a QMS are not met.

Action plan: The activities to be developed to eliminate the detected nonconformity are detailed below:

- Establish a model of the structure of documents complying with the guidelines established in the documentary structuring.
- Make a record of all the documents used by the company C.E.S.E.P Cía. Ltda.
- The respective classification should be made between the internal and external management.
- To socialize to the interested parties the modifications or updates made in the related documents.

2. Control of nonconforming service

Description: Complaints and complaints from clients are not treated with due care and in addition, sometimes corrective actions are not taken and there is no response to the inconveniences reported. There is no follow-up of the customer satisfaction index with respect to the service received, which impedes the approach of immediate and long-term activities to improve this figure.

Root cause analysis: The most important factor of economic activity is not taken into account.

Action plan: The activities to be developed to eliminate the detected nonconformity are detailed below:

- Establish a non-conforming service treatment procedure that is recorded in the internal documents of the Quality Management System.
- Conduct periodic surveys at least once a month via telephone. The format of this document should pursue the objective of collecting information regarding compliance with the service received.
- Perform a permanent monitoring of the number and nature of the inconveniences materialized in the different service positions.
- Establish a risk indicator for all jobs by keeping a record of them by classifying them according to their level of importance.

3. Risk management

Description: There are no actions to improve and monitor the performance of internal processes, therefore it is not possible to establish and identify the systemic risks of the company. Based on the situations described, there are no effective corrective actions in response to internal risks, which directly affect the economic status of the company.

Root cause analysis: There is no deep commitment from management due to lack of budget resources.

Action plan: The activities to be developed to eliminate the detected nonconformity are detailed below:

- Establish a procedure or manual of risk management that is recorded in the internal documents of the Quality Management System.
- Socialize the irrigation management document explaining in detail each of its components because it is a new management document.
- Follow up on compliance with the requirements established in the risk management manual.

4. Management of the rendering of the service

Description: The operational area does not have adequate controls, which leads to multiple inconveniences, the main one is that security guards do not have an effective training and training process, nor do they have the necessary documentation to support the implementation of some activities within that post. Also, the control posts as supervisor and centralist do not have adequate training, which has repercussions on failures and delays in the execution of activities.

Root cause analysis: The functions and activities of each of the positions related to the operational area have not been defined correctly.

Action plan: The activities to be developed to eliminate the detected nonconformity are detailed below:

- Establish the necessary and appropriate procedures within the operating department.

- Socialize these procedures to each of the interested parties in the necessary frequency.
- Perform a constant monitoring of the understanding and use of the indicated procedures.
- Implement comprehension and implementation assessments.
- Establish documentary formats inherent in each of the jobs or service.

3 Conclusiones

- The technical regulations of the Quality Management System were examined, highlighting the new concepts presented in the latest version of ISO 9001: 2015, where Risk Management is a transcendental actor within business administration.
- The analysis of statistics and national data of the private security sector shows the great economic growth of this sector, as well as the deficit in the regulation of the sector.
- By means of situational analysis carried out internal correspond to failures or errors determined that most human weaknesses during the development of activities or procedures, which represents economic losses to the company.
- The initial situational diagnosis showed a large number of non-compliances with the requirements established in ISO 9001: 2015, presenting only 9.22% of compliance with the normative requirements.
- Through the analysis and evaluation of the results obtained in the initial audit and the situational diagnosis, the critical processes and procedures that influence the quality of the service can be clearly identified. These procedures refer to the departments: Operations and Human Talent that are those that have permanent contact with the client.
- It was possible to design the Quality Management System for the company, starting from the elaboration of a process map, five characterizations of processes to the quality manual, procedures manual and manual of corporate risk management with the respective formats of documentation and work instructions necessary within each one of them.
- The validation of data by comparing the initial results of the internal audit with those obtained in the QMS design proposal makes it possible to show the possible degree of

improvement, achieving a 46.15% compliance or compliance with the requirements of the standard ISO 9001:2015 from 9.22% corresponding to the initial value thereof.

The degree of improvement refers clearly to the documentation created according to the proposal of the standard and in reference to the needs of the company, so that this indicator of improvement does not reach higher levels (90% - 95%) due to that all proposed principles, objectives, policies, etc. must be fulfilled or directed to it and it is necessary to give the corresponding follow-up to each of the documents within the QMS.

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