

# **THE SECURITY, ENVIRONMENT AND HEALTH POLICY DEFINED FROM AN INITIAL CRITICAL ANALYSIS AND UNFOLDED INTO OBJECTIVES, GOALS AND PROGRAMS: PRACTICAL USAGE AT ONE GAS COMPANY**

## **A POLÍTICA DE SEGURANÇA, MEIO AMBIENTE E SAÚDE DEFINIDA A PARTIR DE UMA ANÁLISE CRÍTICA INICIAL E DESDOBRADA EM OBJETIVOS, METAS E PROGRAMAS: APLICAÇÃO PRÁTICA EM UMA COMPANHIA DE GÁS**

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### **ABSTRACT**

The establishment of a Security, Environment and Health (SMS) Policy as intent letter of the organization, expressing its global objectives and the commitment to improve the SMS performance based on an initial critical analysis allows knowing in which situation the organization is relating to SMS issues, besides to be the first phase for a management system implementation. For this work, a survey based on the five basic principles of the management system in charge of the continuous enhance, or the cycle Plan-Do-Check-Act (PDCA) corresponding to the requirements of ISO 14001:2004, ISO 14004:2005, OSHAS 18001:2007, specifications of BS 880:1996 and the integration structure of PAS 99:2006 was applied. The initial critical analysis provided decisive information, causing a self-assessment, for defining the SMS policy and the leading guidelines. When established, this SMS policy may be unfolded into objectives, goals and programs, as well as a preview of a strategic adoption of a management system which provides a systemic process so

that the company reaches the continuous improvement in its SMS global performance.

**Key words:** Management system, security, environment and health policy and objectives, goals and programs.

## RESUMO

O estabelecimento da Política de Segurança, Meio Ambiente e Saúde (SMS) como carta de intenções da organização expressando os objetivos globais e o comprometimento para melhorar o desempenho de SMS baseado na análise crítica inicial permite saber onde e em qual estado a organização se encontra em relação às questões de SMS, além de ser uma etapa precursora para a implementação de um sistema de gestão. Para este trabalho foi aplicado um questionário estruturado nos cinco princípios básicos do sistema de gestão em função da melhoria contínua, ou do ciclo Plan-Do-Check-Act (PDCA) correspondente com os requisitos da ISO 14001:2004, ISO 14004:2005, da OSHAS 18001:2007, especificações da BS 8800:1996 e com a estrutura de integração da PAS 99:2006. A análise crítica inicial forneceu informações decisórias, propiciando uma auto-avaliação, para a definição da política de SMS e as diretrizes que irão conduzi-la. Essa política de SMS sendo estabelecida pode ser desdobrada em objetivos, metas e programas, assim como prever-se a adoção estratégica de um sistema de gestão que forneça um processo sistêmico para a companhia atingir a melhoria contínua do desempenho global em SMS.

**Palavras-chave:** Sistema de gestão, política e diretrizes de segurança, meio ambiente e saúde, objetivos, metas e programas.

## INTRODUCTION

Society is passing through changes in its social paradigms relating the technological development, associated to changes in individuals' life expectations and human being capacity on altering his environment characteristics, able to generate social environmental impacts by productive processes, increasing social pressure for a performance of enhanced organizational management, which concerns initially focused on product quality and were little by little adjusted for quality in work management and then for environmental quality. The maturity of this scenario led to the appearance and consolidation of the rules OHSAS 18001 for Security and Health in Work and ISO 14001 for Environmental Management, which complementation and synergism of integrated implantation are very important for controlling the socio environmental impact in ventures (SEIFFERT, 2008). The Environmental Legislation and the NRs – Regulatory Rules for Security and Medicine in Work, among other legal requirements, oblige the enterprises to execute several programs, activities and services. The programs required by legislation as well as corporative programs are executed isolated with few participation of other people, besides the SMS specialists, as also are not properly systematized or joint through a true Management System. The efforts integration of

the organization depends on efficient communication and this requires the sharing of a holistic concept and a common conceptual framework (CARDELLA, 2008).

This article presents the definition of the Security, Environment and Health Policy from an initial critical analysis taken at one Gas Company. In this analysis questionnaires for assessment were applied to the Company's senior management and line of leaders, considering the five basic principles of one management system based on the PDCA cycle. For conducting the SMS Policy is presented the PETROBRÁS' SMS' Model of Management System adapted for the Natural Gas Distributors compounded by 15 elements. This article yet introduces objectives, goals and programs from the SMS Policy established by the company, as examples. The result of the analysis reports the efforts to value actions and behaviors which preserve aspects of SMS made by the company enabling the leadership to make substantial decisions relating to the continuous improvement process of SMS performance on seeking excellence.

The objective of this work is to define a Security, Environment and Health for a gas company from an initial critical analysis of the existing providences of the security, environment and health management and to introduce the Guidelines for this Policy development. When defined, the SMS policy of the company is able to be unfolded in objective, goals and programs which will be presented in this article, as example.

## **METHODOLOGY**

The requirements of the Rule ABNT NBC ISSO 14001:2004 and Specifications of the OHSAS 18001:1999 sooner adapted to the OHSAS 18001:2007 were the instruments considered for verification. The principles defined by the ISSO 14001:2004 and OHSAS 18001:2007 are compatible and permit the elaboration of a SMS diagnosis which portrays the level of concern of the Company about the SMS issues once the adoption is volunteer, incorporating in its principles the legal order demands. 20 questionnaires were applied to the company's co-workers of the Board of Executive Directory, Consultant Staffs, General Managements and local Managements in administrative and commercial functions, besides, a self-criticism report related by the Company's SMS Consultant and this

work's author, complementing the analysis.

The self-criticism report is a document written by the Company's SMS Consultant Staff and author of this work expressing a general view on the SMS aspects applied at the Company, besides to include the four key-areas, according to ISO 14004:2005 "Systems of Environmental Management – General guidelines about principles, systems and support techniques":

- a) identification of the SMS aspects, including those associated to the normal conditions of operation, abnormal conditions, starts and stops, as also as emergencies and accidents;
- b) identification of applicable legal requirements and other requirements subscribed by the organization;
- c) examination of existing SMS practices and procedures, including those associated to acquisition and hiring services activities;
- d) assessment of emergencies and previous accidents.

### Response Tabulation

For tabulating the responses, all values assigned to each one of the items of the questionnaire were scored, with result note, according to table 1 below.

**Tabela 1** - Template for results tabulation

Is su e n <sup>o</sup>	value s assig ned	re pl y n <sup>o</sup>	Weigh ting	T ot al	questionn aires n <sup>o</sup>	aver age ques tion

### Profile of the results

To better view the results obtained by the Company, the approximate average value was noted as shown in the table 2 below:

**Tabela 2** - Template for profile of results.

Questionnaire items	Values assigned					
	1	2	3	4	5	NA


The security, environment and health integrated management must portray the company's intentions relating to its environmental performance and employees' safety. It is fundamental that there is an effective commitment of the Board of Executive Directory and to consider the interested parties' expectations:

- a) be suitable for the company's activities, products and services;
- b) include the commitment to meet all the legal requirements and pertaining requirements subscribed by the company, and to continuously improve the efficacy of the management system;
- c) provide a framework to the establishment and critical analysis of the objectives;
- d) communicate to all that they work in the organization or that act in its name;
- e) be regularly critically analyzed to assure its continuous suitability.

In this work, PETROBRÁS' management model compounded by 15 SMS Guidelines proposal was introduced to the companies' leaders for SMS Policy's implementation.

- 1) Leadership and Responsibility;
- 2) Legal compliance;
- 3) Risk Assessment and Management;
- 4) New Ventures;
- 5) Operation and Maintenance;
- 6) Change Management;
- 7) Acquisition of Goods and Services;
- 8) Training, Education and Awareness;
- 9) Information Management;
- 10) Communication;
- 11) Contingency;
- 12) Relationship with Community;
- 13) Analysis of Accidents and Incidents;

14) Product Management; and

15) Process of Continuous Improvement.

One representative of the Senior Management must be defined and named with responsibility and authority to guarantee that the SGSMS requirements and processes be established, implemented and maintained.

For choosing one Board of Directory representative, the following criteria must be considered:

- a) the professional shows balance to manage conflicting situations;
- b) have adequate experience on organizations' dangers and risks;
- c) experience on quality systems and systemic view is an asset; and
- d) have high sense of organization.

## **RESULTS**

### **FROM THE INITIAL CRITICAL ANALYSIS**

#### **Principle 1: Commitment and policy**

**Explanatory comment:** this principle highlights commitments with SMS aspects and provides general orientations for plans and specific objectives which diverse segments of the organization must develop and reach.

#### **Principle 2: Planning**

**Explanatory comment:** this principle recommends that the organization formulate a plan to accomplish its SMS Policy.

#### **Principle 3: Implementation and operation**

**Explanatory comment:** this principle recommends that so that there is an effective implantation of the management system, the organization must develop the support mechanisms required to meet what is previewed in its SMS policy, objectives and goals.

#### **Principle 4: Verification and corrective action**

**Explanatory comment:** this principle creates conditions to check whether the organization is working according to the SMS management program previously defined, identifying undesirable aspects and reducing any negative impacts, besides to deal with preventive measures.

#### **Principle 5: Critical analysis and improvement**

**Explanatory comment:** this principle proposes to the organization administrators to identify the need of possible alterations in its SMS policy, its objectives and goals, or in others elements of the system. Briefly, here the process of management can be reviewed, as also the improvement process keeps being exercised.

### **ABOUT THE SMS POLICY PROPOSED**

Establishing the Security, Environment and Health (SMS) Policy is a declaration that the company will expose its intentions, posture and principles of action related to the SMS aspects, facing the Senior Direction approve.

The company disposes natural gas, in permanent commitment with the preventive safety of its projects, products and services, developing services which respect its employees', partners' and society's health and physical integrity observing the environmental sustainability and the applicable legal requirements.

Principles for Action:

- To recognize the aspects of Security, Environment and Health as integrant parts of its businesses development;
- To accomplish the Security, Environment and Health Guidelines;
- To meet or excel the legal requirements and other requirements subscribed;
- To establish communication related to the aspects of Security, Environment and Health to the internal and external interested parties;
- To teach, capacitate and commit its employees on the Security, Environment and Health requirements involving customers, contracted, suppliers, communities, competent organs and other interested parties;
- To stimulate the improvement process of the labor force preventive efforts;

- To adopt procedures which minimize the impacts on Security, Environment and Health, adverse and significant on its activities, products and services;
- To promote risk management and act on preventing accidents, pollution and reducing residues and resources consumption;
- To respond to the emergence situations, acting on their combat, control and mitigation;
- To promote the continuous improvement of the integrated management of Security, Environment and Health through performance assessment and associated indicators.

### SMS Policy Unfolding

When the COMPANY'S SMS Policy is defined, it can be expressed from its unfolding in objectives, goals and programs, according to exemplified in Table 3.

**Tabela 3 - Perfil dos resultados de SMS – cinco princípios da gestão.**

Elements	Questions	Values assigned					Average
<b>Principle 1 Commitment and Policy</b>	1.1 SMS policy						<b>4,0</b>
	1.2 SMS facilitator						
	1.3 aspects of SMS						
	1.4 legal requirements						
<b>Principle 2 Planning</b>	2.1 aspects of SMS						<b>3,0</b>
	2.2 legal requirements						
	2.3 internal performance Criteria						
	2.4 objectives and goals						
	2.5 Programs						
	2.6 Procedures						
<b>Principle 3 Implementation and operation</b>	3.1 Organizational Structure and responsibilities						<b>3,0</b>
	3.2 training, awareness and competence						
	3.3 Communication						
	3.4 Communication						
	3.5 Control of documents and data						
	3.6 operational control						
	3.7 emergency preparedness and						



	response						
	3.7.1 Emergency Plan						
<b>Principle 4 Checking and corrective action</b>	4.1 monitoring and measurement						<b>3,0</b>
	4.2 assessment of the legal and other requirements						
	4.3 non-conformances, corrective action and preventive action						
	4.3.1 corrective and preventive Action						
	4.4 registration and information management						
	4.5 internal audit						
<b>Principle 5 Critical analysis and improvement</b>	5.1 critical analysis and continuous improvement						<b>2,0</b>

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### **SMS Policy Unfolding**

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## **ABOUT COMPANY's SMS GUIDELINES**

Regarding the instruments of excellence of the company outlined in its Strategic Planning, projected for 2015, the 15 SMS Corporative Guidelines Management Model of PETROBRÁS was presented as a propose to be adopted by the company to develop its SMS Policy.

### **Guideline 1 – LEADERSHIP AND RESPONSIBILITY**

The Company, when integrating Security, Environment and Health to its entrepreneurial strategy, reaffirms the commitment of all its employees and contracted in seeking for excelling in those areas.

### **Guideline 2 – LEGAL COMPLIANCE**

The company's activities must be in accordance with the current legislation on Security, Environment and Health fields.

**Table 4 – Objectives, goals and global programs coherent with the COMPANY’s SMS Policy.**

<b>OBJECTIVE</b>	<b>GOAL</b>	<b>METHOD</b>	<b>DEADLINE</b>	<b>INDICATOR</b>
<b>Meet the parties’ needs</b>	Achieve a satisfaction index of 80% of our clients  Achieve a satisfaction index of 100% of our employees	Satisfaction survey taken by company or by our own staff (brief instruction)	12 months	Number of customers satisfied  Number of customers surveyed  Number of employees satisfied Number of employees surveyed
<b>Dispose NG with security</b>	Achieve a ZERO index of Accident Frequency  Achieve a ZERO index of leaking ZERO	Promote educative campaigns and training  Establish Maintenance Plan	12 months  12 months	Number of campaigns / year  Number of trainings / year  Plan undertaken and implanted
<b>Take action in accident prevention</b>	Standardize the process of incident analysis (5 documented procedures)	Promote work group for elaboration through reference documents	4 months	Number of approved procedures
<b>Take action in pollution prevention</b>	Keep the index of adequate sound from machinery and equipment used in works	Environmental and occupational assessments, according to normative standards	12 months	Acceptance specified in standard
<b>Respond emergencies</b>	Elaborate Plans for Emergencies Responses	EAR	5 months	Plan undertaken and implemented
<b>Establish sustainable environmental practices</b>	Elaborate Program for Environmental Management	CONAMA 398:2008  N-2644:2008	6 months	Plan undertaken and implemented
<b>Meet environmental constraints</b>	Elaborate Program for Environmental Constraints	Procedure and CONAMA  Procedure and CONAMA	3 months	Plan undertaken and implemented

### **Guideline 3 – RISK ASSESSMENT AND MANAGEMENT**

Risks inherent to the company's activities must be analyzed, evaluated and managed, to avoid the occurrence of accidents and/or to assure the reduction of their effects.

### **Guideline 4 – NEW VENTURES**

The new ventures must meet the legislation and incorporate, in its all life cycle, the best Security, Environment and Health practices.

### **Guideline 5 – OPERATION AND MAINTENANCE**

The company's operation must be executed according to established procedures and using adequate installations and equipment, inspected and with conditions to assure the attendance to Security, Environment and Health demands.

### **Guideline 6 – CHANGE MANAGEMENT**

Temporary or permanent changes must be assessed aiming the mitigation and/or reduction of risks which derive from their implantation.

### **Guideline 7 – ACQUISITION OF GOODS AND SERVICES**

Security, Environment and Health performance in contracted, suppliers and partners must be compatible with the Company's system.

### **Guideline 8 – TRAINING, EDUCATION AND AWARENESS**

Training, education and awareness must be continuously promoted in order to reinforce the commitment of labor force with Security, Environment and Health performance.

### **Guideline 9 – INFORMATION MANAGEMENT**

Information and knowledge related to Security, Environment and Health must be precise, updated and documented, in order to ease their consulting and use.

### **Guideline 10 – COMMUNICATION**

Information related to Security, Environment and Health must be clearly, objectively and quickly informed, in order to produce the desired effects.

### **Guideline 11 - CONTINGENCY**

The emergencies must be previewed and faced with quickness and efficacy aiming the maximum reduction of their effects.

#### **Guideline 12 – RELATIONSHIP WITH CUSTOMERS AND COMMUNITY**

The Company must take care of its customers´ and surrounding community´s security, as also as to keep them informed on impacts and/or risks eventually derive from its activities.

#### **Guideline 13 – ANALYSIS OF INCIDENTS AND ACCIDENTS**

Incidents and accidents derive from Company´s activities must be analyzed, investigated and documented, in order to avoid any repetition and/or assure their effect reduction.

#### **Guideline 14 – PRODUCT MANAGEMENT**

The Company must take care of its products Security, Environment and Health aspects, from their origins until their final destination, as well as to strive in constantly reduce the impacts they eventually may cause.

#### **Guideline 15 – PROCESS OF CONTINUOUS IMPROVEMENT**

The continuous improvement of Security, Environment and Health performance must be promoted in all levels at Company in order to assure its advance in these areas.

### **CONCLUSION**

The current work was effective in reaching the proposed objectives, where through initial critical analysis presented, it was observed that the company, focus of the practical application, strives to keep its Security, Environment and Health performance.

The implantation of the System of Security, Environment and Health Management for company, focus of the practical application, will enable the development of policy, the establishment and maintenance of procedures to assess, monitor and improve aspects of safety, environment and health, especially with regard to the enforcement of legislation, stakeholder requirements, rational use of raw materials and inputs, health protection and workers ' health and the

minimization of risks and environmental damage seeking continuous improvement in Safety, Environment and Health performance.

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