Frequently Asked Questions when implementing Integrated Environment, Health and Safety Management Systems

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REGIONAL ASSOCIATION OF OIL, GAS AND BIOFUELS SECTOR COMPANIES IN LATIN AMERICA AND THE CARIBBEAN

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Introduction and Objectives of the Report

ARPEL has incorporated, upon request of its Members, the subject of integral Environment, Health and Safety (EHS) Management Systems to as a priority in its action plans. The ultimate goal is that all companies ensure that hygiene, health, environment and safety aspects are duly considered in their operations.

The objectives of the ARPEL Integral EHS Management Program are to: (1) promote or catalyze the incorporation of integral management systems in companies that do not have or are in early stages of its implementation, and (2) improve those that companies already have it in operation. ARPEL companies adopted "SIGAS&SI" (a generic Integral Environment, Health and Safety Management System, from the Spanish acronym, *Sistema Integral para la Gestión de Ambiente, Salud y Seguridad Industrial*) by consensus as the reference model that would frame the work of the Program.

As part of ARPEL Governance Project (AGP), AECOM provided direct technical assistance to some ARPEL Members to implement/improve EHS Integrated Management Systems. The scope of the AECOM work was to assist ARPEL Members to develop their own Integrated EHS Integrated Management System (EHS-IMS) based on ARPEL's reference framework SIGAS&SI.

In the course of the direct technical assistance provided to ARPEL companies by AECOM, there were several questions related to SIGAS&SI concepts, scope, development, implementation and maintenance. During the course of the project most questions received were related to specific challenges and conditions of the participating companies; however AECOM reviewed the questions and redrafted them based on the intent and nature of the challenge so that they can be made more applicable to other companies. This report summarizes those "Frequently Asked Questions" (FAQs) and the answers.

The questions and generic responses that can be used by other ARPEL member companies are presented in this report as an attempt to support oil and gas companies in their endeavours to develop and fully implement integrated EHS management systems.

Frequently Asked Questions

1. How long does it take to implement an Integrated Environment, Health and Safety Management System?

The time required to implement an integrated Environment, Health and Safety (EHSEHS) management system depends on many factors, such as the level of current development of the EHS processes and systems, the resources available to support the development, and the company's goals, objectives and priorities. In general, a company with: 1) basic EHS structure and resources currently in place (EHS functions and personnel; and basic EHS procedures and culture); 2) willingness to commit management support; 3) invest time and dedication of key operational and EHS personnel; and 4) basic resources, should take from two to four years to develop a complete EHS integrated management system and implement it.

In some cases, the company may be willing to accelerate the process by committing further resources and internal personnel. Nevertheless, as the development of customized processes requires a detailed review of current internal processes, reviews and approvals, training of personnel, roll out, etc., it is difficult to conceive of the development and implementation of a companywide system in less than two years.

2. Is the SIGAS&SI (which stands from the Spanish acronym - *Sistema Integral para la Gestión de Ambiente, Seguridad y Salud Industrial* or Integral Environment, Health and Safety Management System) a requirement for ARPEL (Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America from the Spanish acronym) Companies?

SIGAS&SI (Integral Management System for EHS) is not a requirement for ARPEL Companies. SIGAS&SI is a reference or guidance document.

The SIGAS&SI is the Operations Integrity Management System (OIMS) of reference adopted by ARPEL and the cornerstone of the ARPEL Program of Integral EHS Management. ARPEL member companies are invited to use and adopt SIGAS&SI, as just one of the tools to support member companies in developing or upgrading their current systems.

There are also other guidance or reference models that companies can use as reference. The following are among the documents available for reference:

a. API Model Environmental, Health & Safety (EHS) Management System: A voluntary tool for companies interested in developing an EHS MS or enhancing an existing system - http://www.techstreet.com/standards/api/publ_9100?product_id=54513
b. Guidelines for the Development and Application of Environment, Health and Safety Management System, E&P Forum (now OGP) - http://www.ogp.org.uk/pubs/210.pdf
c. ISO 14,001 Environmental Management Systems - http://www.iso.org/iso/iso_catalogue/management_and_leadership_standards/environmental_management.htm
d. OHSAS 18,001 Occupational Health and Safety Management System - http://www.ohsas-18001-occupational-health-and-safety.com

3. What is an appropriate order or priority to initiate the development and implementation of SIGAS&SI?

SIGAS&SI includes a detailed process to explain the basic steps to initiate the development and implementation of the system to member companies. Typically, it starts by gaining the management commitment and then completing a self-assessment to identify how company processes and systems fulfill the SIGAS&SI requirements. However, once the self-assessment has been completed and several gaps have been identified, the question becomes: which element or process should the company start with?

There are many ways to approach prioritizing the development/implementation of SIGAS&SI. Some examples of the prioritization approach are as follows:

a. Risk Based: This approach starts with identifying a critical risk in the company, or recent incidents/accidents that have been identified to be caused by a specific gap in the process. For example, if a major failure in a facility caused a corrosion issue in a pipeline, with the possibility of some deficiencies in others facilities, "Mechanical Integrity" should be among the first elements to be addressed in the development/implementation of SIGAS&SI.
b. Structural: If the company has not developed basic elements such as policy, leadership and commitment, a structural approach may be used. This approach is initiated by developing a policy, increasing leadership, and developing the commitment of the management and the work force.
c. Convenience: If the company has already developed their EHS processes and elements to an intermediate level, it may be convenient to start the improvement of their management system by selecting an "easy to improve" (lower fruit) or "easy to manage" element. If the company is creating a process improvement project to address all the gaps identified, addressing the elements that only require small adjustments first or those which are well

integrated in the company, allows the company to more rapidly gain experience in the process improvement process. Once this experience is gained, the company can initiate more complex or challenging elements.

d. Special Needs: If the company already has an intermediate level of development of many of the SIGAS&SI elements, but is total lacking the development in one or a few of them, the company may initiate the development by addressing the elements that are lacking.

4. What are the key elements in SIGAS&SI?

Integrated Management Systems are a series of interlinked and interdependent elements (or processes); therefore all elements are relevant and key to achieve EHS performance improvement and excellence. It is difficult to identify which element is more relevant or important. As discussed in FAQ 3, a key element may be based on risk, structural, convenience or special needs priorities. In the same way, relevance or importance of the elements can be ranked and prioritized based on the companies' needs.

In general terms, SIGAS&SI divided its elements into three factors: 1) Human Factors; 2) Methods and 3) Facilities. Therefore, this classification can be used to set priorities according to the company's interests or identified areas of improvements.

In other systems, the elements are divided by 1) Commitment (foundational processes); 2) Planning (preparation processes); 3) Implementation (operational processes); 4) Checking and Corrective Action (reviewing processes); and 5) Continual Improvement (processes to ensure the system is retro-feeding). This classification of elements can also be useful to set priorities or to identify key elements for each company.

5. What is the best way to develop a self-assessment?

The SIGAS&SI Manual includes a detailed description of the process, planning and training required to conduct the self assessment. Further to the description in the SIGAS&SI Manual, it is important to highlight that the more multi-disciplinary and multi-functional the implementation team is, the less bias or subjective the self-assessment will be. Evaluating organization gaps is a challenging task, and one of the most important risks of performing a self-assessment is due to internal pressures or natural bias of personnel within a unit or department. The self-assessment will reflect what personnel believes is in place, and not what is actually in place.

One example may be a policy or directive that has been distributed and communicated via email to personnel. The team that initiated the communication believes it to be communicated; nevertheless, the reality may be that a minority of company personnel has access to email, or that the information received by email is not read completely or at all by company personnel.

In order to minimize the natural tendency towards a biased opinion or subjective information, as much as possible, it is always preferable to invite to the self-assessment, those personnel who are not related with the process or elements that are being evaluated, or who are from different operations/units/departments of the company. To assure quality assurance and control, a person who is far away from the process or unit should conduct a reality check on the self-assessment.

6. Who should be on the implementation team? What level of personnel should take up the leadership, coordinators and support team roles for the implementation of SIGAS&SI?

The SIGAS&SI Manual includes detailed descriptions and recommendations for employee profiles that should perform key roles. Unfortunately, sometimes there is a failure to select and name the appropriate individual for the leadership and implementation team.

The main reasons why the inadequate selection of personnel can cause a failure in successfully developing and implementing SIGAS&SI are:

a. Selecting a leader of the SIAS&SI with no formal or informal power. One of the key factors in leading the development and implementation of an integrated management system, is that it should be lead by a high ranking officer within the company (either within the EHS or the operational departments), who has easy access to the highest authority of the company, adequate knowledge of the organization and is highly respected within the organization.

b. Selecting element coordinators with no formal or informal power, or with no available time. A second and more important factor for success is the appropriate selection of the element (or process) coordinators. They should also have a high level of authority and demonstrated leadership skills, especially when the management system is developed and implemented company-wide – across several departments, divisions, or internal organizations. Also, the coordinator needs to have time available, or able to commit a certain amount of time and energy, to manage the aspects associated with the development and implementation of the element. In many cases, commitment and required actions for successfully developing and implementing an integrated management system fails, due to conflict with day-to-day operational requirements or reactive/emergency problem resolution.

c. Selecting "Element Group" members with no leadership within their organizations. The groundwork to developing and implementing an integrated management team is the element, subject matter or process experts. The element teams are the ones that enable the success of a system. The representatives from operations and field areas are the ones that face daily use of processes and procedures. Representatives should truly be leaders within their area of influence and should consist of a balanced set of representatives from all areas of the company. They should also be experienced and knowledgeable of the element they are responsible for. They should communicate the advantages of an integrated system to their peers and facilitate adoption and buy-in to the different operating units.

7. What are the common causes of failure in developing and implementing an integrated company-wide management system?

a. Selecting a leader, coordinator and team members with no formal or informal power;
b. Not linking element and process solutions to an overall strategy;
c. Initiating too many element and process improvement efforts to coordinate at once;
d. Hiding behind business unit, functional, or geographic silos. Letting a "We're Different" or "Not Invented Here" culture prevail;
e. Too many coordination meetings and not executing real improvement; and
f. Turning process focus into an ideology rather than a tool for results.

8. What kind of EHS organization should I establish? What resources should be available to develop and implement SIGAS&SI?

There is no mandatory or preferred EHS organizational structure required for developing and implementing a SIGAS&SI; however, there are some conditions that are highly recommended. They are as follows:

a. EHS needs to be an independent structure within the company. As required by Element #2, "Organization" the EHS structure should depend on the highest authority of the company. This requirement is to: promote easy access to the highest level of management; to ensure unified criteria for the whole company; and, at the same time, avoid potential conflicts with operational and financial priorities. In some companies, where EHS depends on operational units, there is a chance that other interest or priorities prevail over developing and implementing a management system. Also, when the EHS units are split among

operational/functional units, it is more challenging to agree and implement truly integrated companywide efficient elements and processes.

b. EHS is an integrated unit. There are different organizational and functional approaches to manage EHS issues. Some companies have integrated the three aspects into one; others have two organizations, one to manage environmental issues, and another to manage health and safety issues. Some companies maintain all occupational health issues under one organization and others maintain two organizations –one to manage industrial hygiene under the EHS or S&H unit, and another to provide the health surveillance function with the medical or human resources/capital structure. When there is more than one organizational unit or structure that manages one or more EHS aspects within the company, it is highly recommended that all the units have a similar level or status, to ensure that all aspects are managed with the same degree of relevance. The closer and more unified the units are, the easier it will be to integrate the management tools associated with SIGAS&SI.

9. How does SIGAS&SI compare to ISO 14001 and OHSAS 18001?

SIGAS&SI as well as the OHSAS 18001 and the International Organization for Standardization's "ISO 14001" are all management systems. They are based on the application of scientific process for improvement, through the concept of continual improvement cycle (PDCA) Cycle – Plan, Do, Check, Act. All these systems are a series of interlinked and interdependent processes established to achieve specific performance objectives. Nevertheless, there are some differences between the systems:

a. SIGAS&SI integrates all three (environment, occupational health and safety) aspects into one system, whereas ISO 14001 is only related to environmental management and OHSAS 18001 is only related to occupational health and safety.

b. SIGAS&SI includes specific aspects, concepts and terminology for the oil and gas industry, such as references to design, construction, operation and maintenance of operations and management of change. SIGAS&SI also includes elements/processes from the USA-OSHA's Process Safety Management (such as mechanical integrity). On the other hand, ISO 14001 and OHSAS 18001 are generic systems that can be applied to all economical activities.

c. SIGAS&SI is not a certifiable system, compared to ISO and OHSAS, which are certifiable systems.

d. SIGAS&SI does not include processes required by ISO 14001 and OHSAS 18001 such as management review, and other elements like "monitoring and measurement" and "corrective and preventive actions" are scattered though the system.

In general terms, a company with a well established SIGAS&SI in place will require minor adjustments to be eligible for an ISO 14001 and OHSAS 18001 certification. Accordingly, a company with well developed and implemented ISO 14001 and OHSAS 18001 systems will require only a few adjustments and additions to align its systems with SIGAS&SI requirements.

10. If we adopted SIGAS&SI as our company management system, can we still seek certification to ISO 14001 and OHSAS 18001? Will that mean we will need to run two parallel systems?

As the systems are structured and based on the same principles and concepts, there is no need to develop parallel systems and/or structures. SIGAS&SI includes most of the elements and processes from ISO 14001 and OHSAS 18001 and vice versa. Table 1 shows the relationship between the systems, and how their elements are related.

Table 1 - Relationship between systems, and how their elements are related.

ISO 14,001 (2004) & OHSAS 18,001 (2007) Requirements		SIGAS&SI ELEMENT	SIGAS&SI SUB-ELEMENT
4.1 General Requirements			
4.2 Policy		1. Policy, Leadership and Commitment	1.1 Policy
4.3 Planning	4.3.1 Environmental Aspects (ISO) 4.3.1 Hazard identification, risk assessment and determining controls (OHSAS)	12. Risk Management	12.1 Analysis and Assessment
			12.2 Prevention, Control and Follow-up Strategies
		4. Occupational Health	4.2 Identification and Job Competence Follow-Up
	4.3.2 Legal and other requirements	9. Rules and Regulations	9.1 Rules and Regulations
	4.3.3 Objectives, (targets) and programme(s)	8. Planning and Budget	8.1 Planning
4.4 Implementation and operation	4.4.1 Resources, roles, responsibilities (accountability) and authority	1. Policy, Leadership and Commitment	1.2 Leadership and Commitment
		2. Organization	2.1 Structure
			2.2 Functions, Responsibilities and Authority
		8. Planning and Budget	8.1 Planning
			8.2 Budget
	4.4.2 Competence, training and awareness	3. Training	3.1 Planning and Training
			3.2 Training Assessment and Control
	4.4.3 Communication (participation and consultation)	7. Public Relations and Relations with Communities	7.1 Administrative Infrastructure
			7.2 Internal Communication
			7.3 External Communication
			7.4 Response to Claims, Complaints and Reports
	4.4.4 Documentation	10. Information Management	10.1 Information Management
		11. Process Technology	11.1 Documentation
	4.4.5 Control of Documents	10. Information Management	10.1 Information Management
	4.4.6 Operational Control	4. Occupational Health	4.1 Industrial Hygiene
		6. Contractors Management	6.1 Selection and Contracting of Contractors
			6.2 Internal Administration of Contractors in the Facility
			6.3 Product or Service Control

ISO 14,001 (2004) & OHSAS 18,001 (2007) Requirements		SIGAS&SI ELEMENT	SIGAS&SI SUB-ELEMENT
		11. Process Technology	11.2 New Projects
		13. Management of Change	13.1 Change Management
		18. Control and Restoration	18.1 Emissions to the Atmosphere
			18.2 Water Management
			18.3 Waste
			18.4 Restoration
		17. Mechanical Integrity	17.1 Construction
			17.2 Inspection and Tests
			17.3 Operation
			17.4 Maintenance
	4.4.7 Emergency preparedness and response	16. Emergency Response Plans	16.1 Emergency Response Planning
			16.2 Response System
			16.3 Training and Assessment
4.5 Checking	4.5.1 Performance measurement and monitoring (monitoring and measurement)	2. Organization	2.3 Performance
		4. Occupational Health	4.3 Worker Health Surveillance
		14. Performance Indicators	14.1 Management Indicators
			14.2 Safety and Environmental Protection Indicators
	4.5.2 Evaluation of compliance	9. Rules and Regulations	9.1 Rules and Regulations
	4.5.3 Nonconformity, (incident investigation), corrective action and preventive action	4. Occupational Health	4.4 Worker Disease and Injury Management
		5. Analysis and Dissemination of Incidents and Good Practices	5.1 Incident Investigation and Report
		4. Occupational Health	4.4 Worker Disease and Injury Management
		5. Analysis and Dissemination of Incidents and Good Practices	5.2 Selection and Dissemination of Good Practices
	4.5.4 Control of records	Embedded in several SIGAS&SI elements as requirements	
	4.5.5 Internal Audits	15. Audits	15.1 Audits
7. Management Review		Embedded in the elements of SIGAS&SI in level 5 of implementation which is “in search for excellence” (Continuous Improvement)	

11. What department or functional department should be reposable for the Integrated EHS Management System Audit element or process?

The responsibility of the EHS Audit process should be with the EHS functional area. If this is not possible, of the company has a more convenient arrangement due to organizational structure, it could be also within the internal audit functional area. If the responsibility of the EHS is out of the EHS functional area, it is highly recommended that there is a share responsibility with the EHS functional area. If the organization has a well establish "Internal Audit" functional area with responsibilities typically beyond finance audits, such as technical and/or quality audits, it may be logical that the main responsibility of the internal audit processes rely within this functional area. In this case, as mentioned before, it is recommended that the EHS has a share responsibility in the process, by ensuring scope, providing personnel with actual EHS experience, etc.

12. How can small or medium size companies avoid potential conflict of interest of the internal auditors?

One of the internal audits principles is the independency and objectivity. As defined by the Institute of Internal Auditors (IIA), "*internal auditors must have an impartial, unbiased attitude and avoid any conflict of interest*". This is interpreted as: "*conflict of interest is a situation in which an internal auditor, who is in a position of trust, has a competing professional or personal interest. Such competing interests can make it difficult to fulfill his or her duties impartially. A conflict of interest exists even if no unethical or improper act results. A conflict of interest can create an appearance of impropriety that can undermine confidence in the internal auditor, the internal audit activity, and the profession. A conflict of interest could impair an individual's ability to perform his or her duties and responsibilities objectively*". Furthermore, ISO 19011:2002 define "*Independence*" as one of the principles related to auditors: "*Auditors are independent of the activity being audited and are free from bias and conflict of interest. Auditors maintain an objective state of mind throughout the audit process to ensure that the audit findings and conclusions will be based only on the audit evidence*".

Therefore the IIA recommends:

- Internal auditors must refrain from assessing specific operations for which they were previously responsible. Objectivity is presumed to be impaired if an internal auditor provides assurance services for an activity for which the internal auditor had responsibility within the previous year. Your statement: "composing teams in such that persons/teams are not auditing their own processes" is fully aligned with the principle.

We understand that in middle or small organizations this is difficult to achieve, as EHS personnel somehow may be involved in all of the aspects of the company. In order to minimize potential conflict of interest, we recommend when full independence is not possible:

- That the auditor with potential conflict of interest should not be the lead of the audit team and should be conducting "one person" audit.

- That the auditor with potential conflict of interest should be more active in an advisory role in the audit team, indicating to the others in the team the extent of his/her previous involvement with the process(es) object of the audit.

- As in many cases, the EHS functional area members have more or less involvement assisting in the implementation of process to the different operational units, it is also recommended that the auditor has the less involvement possible with the operational area being audited.

Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean

ARPEL is a non-profit association gathering companies and institutions of the oil, gas and biofuels sector in Latin America and the Caribbean. It was founded in 1965 with the primary purpose of promoting industry integration and growth as well as seeking ways to maximize its contribution to sustainable energy development in the region. Its membership represents over 90% of the upstream and downstream activities in the region and includes national and international oil companies, companies providing technology, goods and services to the industry value chain, and oil, natural gas and biofuels sector institutions.

Since 1976 ARPEL holds Special Consultative Status with United Nations Economic and Social Council (ECOSOC). In 2006, the association declared its adherence to UN Global Compact principles.

Mission

To foster and facilitate industry development and integration, continuous operational improvement and effective management of environmental and social issues, by:

- developing, sharing and disseminating best practices;
- carrying out studies that translate in information of value;
- broadening knowledge and helping build required competencies;
- networking and engaging members and stakeholders in constructive dialogue.

Vision

A growing, competitive and integrated oil, gas and biofuels industry that achieves operational and management excellence, and effectively contributes to the sustainable energy development in Latin America and the Caribbean.

Value proposition

ARPEL is a well established industry association in Latin America and the Caribbean, offering members a unique means for networking, sharing knowledge, joining efforts and building synergies in favor of the industry's competitive and sustainable development. As a recognized regional body of representation, the association also seeks to advocate in favor of the common interests of its membership and to enhance the industry's public image and reputation.

A significant part of ARPEL´s value is reflected in its condition of cost-effective vehicle for the development of regional publications on best practices, emerging issues and sectoral studies, of value-added service center, and of means of access to non-reimbursable financial resources for projects related to the social and environmental management improvement of its member companies.

Socio-environmental sustainability
Operational excellence
Sectoral development

March 2012

Member Companies

Member Institutions

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