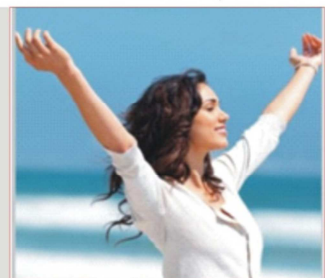
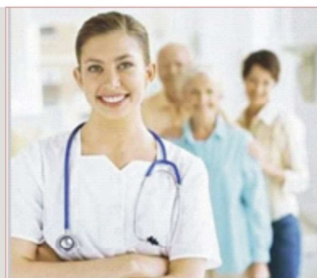




ARPEL Benchmarking on Occupational Health Management User's Manual

*Based on OGP/IPIECA
Health Performance Indicators
1st Edition, 2013*



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

ARPEL BENCHMARKING ON OCCUPATIONAL HEALTH MANAGEMENT

Based on OGP/IPIECA Health Performance Indicators

USER'S MANUAL 1st Edition, 2013

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ARPEL, July 2013



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1. Introduction

This manual was carried out by ARPEL, through its Occupational Health Project Team (OHPT), which is part of the Environment, Health and Safety Committee (CASYSIA) and provides the definitions, procedures, tools and instructions for the assessment of the implementation of Occupational Health Management Systems in companies of the oil and gas industry, in order to identify the key aspects for the ongoing improvement process of its management on the subject.

Measuring of occupational health management presented in this manual is based on the OIHC (OGP / IPIECA)¹ Health Management System on its document Health Performance Indicators² of 2008, and on the computer tools (Percentage Tool and Gap Analysis Tool) that were designed for its measurement.

1.1. Scope and Content

The Manual has the Definitions of the Occupational Health Management System (OGP/IPIECA) that is a conceptual framework for the assessment and the detailed explanation for using the data collection forms, made up of the two Excel™ tools already mentioned (Percentage Tool and Gap Analysis Tool); in order to provide companies with information on their performance and on the oil and gas industry performance in Latin America and the Caribbean as regards Occupational Health.

2. General considerations

Contact and responsibilities of ARPEL.

The contact person in ARPEL Executive Secretariat to provide information or comments on this manual will be the leader of the Occupational Health Project Team (*Pablo Ferragut – pferragut@arpel.org.uy*)

ARPEL Executive Secretariat will be responsible to provide companies everything that is necessary so that they can send the information (lists, manuals, etc.), to process and validate information, to elaborate the Annual Reports and to safeguard the confidentiality of the information sent by companies.

Contact and responsibilities of companies:

The contacts in the company will be the delegate before the ARPEL Environment, Health and Safety Committee and the person designated by it to work in the Occupational Health Project Team.

Companies will have to send the information requested on occupational health in their operations in Latin America and the Caribbean to ARPEL, within the deadlines and forms established in this manual.

The delegate of the company before the ARPEL Environment, Health and Safety Committee will be responsible for sending the information.

¹ OIHC (OGP/IPIECA Health Committee). OGP: International Association of Oil and Gas Producers. IPIECA: International Oil and Gas Industry Association for Environmental and Social Issues

² Health Performance Indicators -a guide for the oil and gas industry- (2008), available at IPIECA / OGP websites (<http://www.ogp.org.uk/pubs/393.pdf>) // <http://www.ipieca.org/publication/health-performance-indicators>



Confidentiality:

The information provided by companies will be kept confidential within the ARPEL Executive Secretariat.

In every case in which the information provided is published or shared (for example, in the Annual Report), confidentiality of companies will always be kept, **so that no data published can be under any concept or circumstance linked to any company in particular.**

Deadlines:

ARPEL will prepare and publish its Occupational Health Management Annual Reports during the last quarter of the year assessed. In order to meet this deadline, companies will be asked for the information before October.

Distribution:

The Annual Report will be shared with the ARPEL Environment, Health and Safety Committee, and also with the OGP/PIECA (OIHC) Health Committee Project managers, as agreed with both institutions in October 2012. Confidentiality will always be kept.

Internal dissemination (that is, within the company and the company staff) of reports or part of them is at the discretion of the company that notifies, being this totally advised and recommended by the ARPEL Executive Secretariat.

Information scope:

The information that will be requested will be on all the operations of the company in Latin America and the Caribbean, globally consolidated (that is, without business line or country breakdown)

The Operated Limit will be used, according to which a company presents the performance reports only of the operations on which it has management control and NO data of the operations it does not manage. It is understood that the management control involves those facilities where the company's management has accountability and authority for sustainability policies, systems and performance (health, safety, environmental, social and/or economic) related to the facility.

Recommendations

The process is based on a voluntary self-assessment, qualitative and subjective, on the health program integrity and that it intends to reflect the extent of the general coverage of the occupational health system within the company's scope or in some or its areas. It is possible that during the assessment process, when the grade corresponding to the Company's current level is given there are doubts on which is the best value to be attributed. In these cases, the lowest value is recommended, as, in the case that there is an evaluation or perception error, the error will always be to adequately value what was already done or is being done and not an overvaluation error.

It should be taken into account that it is a self-assessment process and it should represent the reality of the current situation. Therefore, it is recommended that the assessment is never done considering the opinion/perception of only one person. It would be advisable that the assessment is carried out by more than one person, without previous knowledge of the other person's results and after they are compared, if there are differences, they are discussed until an agreement is reached.



3. Health Management System

3.1. Presentation and Background

Oil and Gas companies usually generate health reports with different contents, in order to meet internal demands, or to meet some legislation or national recommendation, or even to meet international standards.

But these reports do not constitute a solid set of performance indicators that can be applied to the oil and gas industry as part of a strategy to achieve excellence in the efficient management of health actions. OIHC elaborated, in 2007, a document on Health Performance Indicators (HPI), with the purpose of filling the existing gap as regards guidelines to assess health actions in oil and gas companies in the world.

In this document three approach levels were suggested:

1. Implementation of a health management system.
2. Use of detailed proactive indicators, supporting the first level.
3. A reactive indicator - the efficient communication of work-related illnesses.

It is expected that the use of health management indicators establish solid health management standards in the companies' operations, also providing performance points of reference, in order to identify and share best practices and face the demands of the different stakeholders; among others, the management of oil and gas companies themselves, national and regional associations of the industry, shareholders, governments / regulatory authorities, employees/contractors and their families, non-governmental organizations, the general public and the communities around industrial facilities.

The document intends to help in the gradual substitution of multiple reports that are currently used in the oil and gas industry for a simple and consistent standard.

There is also the expectation that its use brings direct benefits to business, providing support to business improvements, helping to demonstrate transparency, providing information to external stakeholders with potential to enhance the corporate image, and be able to reduce administrative costs due to the simplification of reports.

ARPEL, recognizing that the OGP/IPIECA Health Committee carried out that health management system and its respective support tools that are useful management tools for the oil and gas industry, signed an agreement with both institutions for its use within the scope of its member companies.

This manual, carried out by the Occupational Health Project Team of the ARPEL Health, Safety and Environment Committee (CASYSIA), refers to level 1 -implementation of a health management system and the use of the support tools developed by the OIHC, which purpose is to measure the level of implementation of the health management system in a Company and analyse its gaps, providing a practical, self-supported and detailed set of health information, in the eight areas of interest defined by the HPIs.



3.2. Health Management System

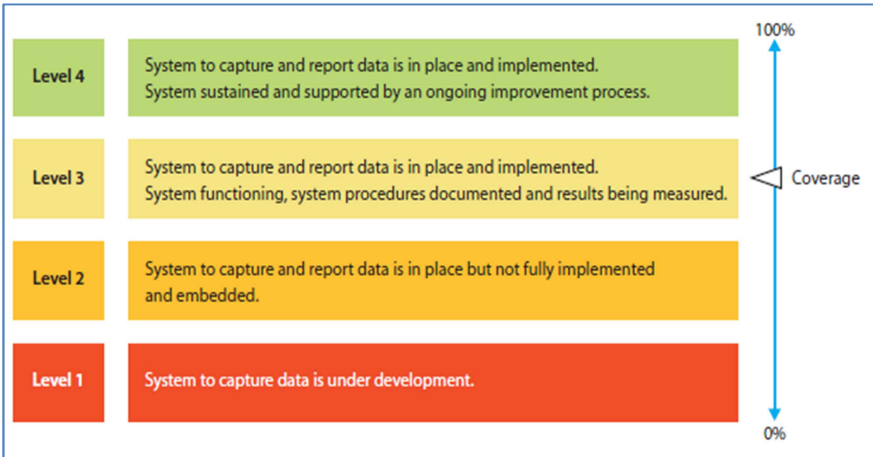
The health management system was conceived in eight key areas named elements, which qualitative description is a key and necessary aspect for the appropriate health management in any type of occupational business or group.

- Health risk assessment and planning
- Industrial hygiene and control of workplace exposures
- Medical emergency management
- Management of ill-health in the workplace
- Fitness for task assessment and health surveillance
- Health impact assessment
- Health reporting and record management
- Public health interface and promotion of good health

There is a qualitative assessment of each of the 8 elements, using a numeric scale from 1 to 4, which is connected with a very simple visual indicator system inspired by the traffic light colors which is used to give a visual sign in connection with the global system (that is, its level of implementation, maturity, sophistication, etc.)

The person in charge of the assessment should describe the position of the company as regards the implementation of the occupational health management system and if it fully covers the eight categories (elements), remembering that this is a process that uses a systemic and disciplined approach for health management in the company's activities, using an iterative process that grows in experience and knowledge in a cycle and uses them to improve and adjust expectations in the next one.

Management systems should transfer responsibilities, practices, procedures and resources to the company structure to implement health management, including the processes to identify the causes of low performance, prevent recurrences and guide ongoing improvement. The health management system can be integrated into the safety and environment management system - and possibly also into the quality and provision one - or remain isolated.





3.3. The eight elements of the Health Management System

The description of the eight elements is shown below, translated from the publication of Health Performance Indicators, appropriately quoted.

3.3.1. Health risk assessment and planning

Health risk assessment is generally understood to relate to 'within the fence' activities. Workplace, product and environmental health hazards are identified, their risks assessed and a health plan produced for all current activities, operations and products. This takes place during the development stage of all new projects and products, prior to modifications to plant or process, and before the acquisition or divestiture of sites' leases, plant or other processes or materials, to address changing public and environmental health conditions. The health plan addresses any risks identified, is reviewed regularly and is progressed against internally set targets.

3.3.2. Industrial hygiene and control of workplace exposures

The workplace environment meets legal requirements and does not harm health. Industrial hygiene and occupational health expertise is used to assess all chemical, physical, biological, ergonomic and psychological health hazards and advise on the implementation of appropriate controls and work practices to eliminate or minimize exposures. Workplace exposure monitoring is used to confirm ongoing effectiveness of control measures. Material storage, labelling, and safety data sheets are kept current. Employees are trained to understand the health risks, preventive measures and emergency procedures associated with their work. The workplace maintains adequate records for auditing and demonstrating compliance.

3.3.3. Medical emergency management

Provision is made for the management of medical emergencies associated with company operations and activities. There is a medical emergency plan based on competent medical advice and level of risk, and it is in alignment with existing local provisions. The plan is integrated into other emergency procedures, communicated effectively, and practised regularly with drills and reviews as appropriate. A process is in place to ensure that lessons learned are acted upon as a result of drills or incidents. Appropriate response times are established for first aid, emergency medical care and evacuation, and adequate resources have been made available to meet these times. All staff are provided with emergency contact numbers for medical assistance on each work site and during travel.

3.3.4. Management of ill-health in the workplace

Employees have access to occupational health practitioners who can help mitigate the effects of ill-health on their ability to work effectively, including facilitating employee rehabilitation and return to work post-illness or post-injury. A system is in place to provide access to primary, secondary and emergency medical facilities as well as counselling and employee assistance where appropriate.



3.3.5. Fitness for task assessment and health surveillance

Employees' health status is compatible with the work that they do, and this is confirmed by assessments when necessary. There is a task checklist for different job categories, and health assessments / surveillance are performed by a competent health practitioner who has knowledge of the work to be performed. Pre-employment, pre-placement and periodic health assessments are conducted as dictated by legal requirements and by the health risks associated with specific tasks. Wherever possible, work is adapted so that individuals are included rather than needlessly excluded from work. Health surveillance is performed where required by legislation or where the work is known to be associated with the development of a recognized health problem for which there is a valid method for testing.

3.3.6. Health impact assessment

Health impact assessment is generally understood to relate to 'outside the fence' activities. HIAs are initiated during the development stage of all new projects and expansions. Baseline data are established on the demography, community health status, air, soil and water quality prior to the start of a new project. Health impact assessors are assigned to work with social and environmental impact assessors in order to outline the range and types of hazard and potential beneficial impacts from the new project / expansion. External stakeholders are defined, and the product / project staff communicate and consult with them on a regular basis. Partnerships are developed with joint ventures, contractors and local government to create a common, cost-effective approach to health management.

3.3.7. Health reporting and record management

Health information on all operations and products meets legal requirements and is accurate, secure and readily available. Records are maintained on raw materials, processes, products, work locations and work duties, as well as monitoring the assessment activities such as health risk assessments, workplace and personal exposure monitoring. Significant health incidents or trends are investigated. Personal health records are retained for a minimum of 40 years after an individual leaves employment. Categories and cases of occupational ill-health are tracked and analysed on a regular basis, and form part of the routine presentation of operating, business and financial metrics to facility management. In turn, these data are aggregated to form part of the annual business planning process.

3.3.8. Public health interface and promotion of good health

An effective interface between public health and occupational health is maintained to mitigate major business risks and identify key sources of epidemiological information. Communications are maintained with local governments and health authorities to plan timely response to major outbreaks of infectious diseases. A programme is in place to identify key employee health issues and develop programmes to educate around prevention / harm reduction. Where appropriate these programmes extend beyond the workforce and into the community; examples might include HIV, tuberculosis, smoking, obesity, heart disease, malaria and vaccination programmes.



4. Data collection tools

There are two self-assessment tools, the "percentage tool" and the "gap analysis tool":

- **Percentage Tool:** It measures the level of implementation of the 8 health management elements, assigning percentages to the different levels for each of them. It answers the question, "what percentage of the company is in level 1/2/3/4 in Element 1/2/3.../8?" It is advisable to use this tool only at the global level of the company.

This tool provides a general assessment of the implementation of the health management system within the company's scope, without showing in detail specific focal points, which evaluation and identification should be carried out using the "Gap analysis tool"

- **Gap Analysis Tool:** It divides each element into sub-elements and the person evaluates (in the scale from 1 to 4) the level of the company for each sub-element and, consequently, for the element as a whole. It answers the question, "In which implementation level is the company in each element/sub-element of the health management system?" This tool can be implemented by business unit/area and not only at global level.

The gap analysis tool is complementary to the percentage tool and it can be used to measure the general coverage of the Health System in the whole company or in some parts of it.

The only difference between both tools is that the "gap analysis tool" is more detailed than the "percentage tool" as it provides an analysis by sub-elements, that enables a better diagnosis of the situation.

There is a detailed description of both tools in the rest of the chapter.

4.1. Percentage tool

The percentage tool measures the health management level in a company, through the assessment of the implementation of the eight elements of the health management system. Its implementation is carried out considering the Company as a whole and the results can be used for benchmarking among companies.

Answers are determined by qualitative criteria based on a self-assessment carried out by each company, to measure the level of fulfilment of the requirement of each element.

Grades show the fulfilment percentage in 4 levels:

1. Process under development
2. Process in place but not fully implemented and embedded
3. Process in place and implemented. System functioning, system procedures documented and results being measured
4. Process in place and implemented. System sustained and supported by an on-going improvement process



4.1.1. Guidance for the use and browsing of the tool.

It is recommended to read the instructions on the home page of the tool before you start browsing and filling in the templates. If there are any doubts, consult this manual.

Remember that for the use of any of the tools it is NECESSARY to enable "Macros" in the Excel sheet.

You can browse through the application by clicking on the grey buttons.

The tool has:

1. A home page
2. An instructions page
3. A main menu
4. A page for each of the 8 elements (these are the pages to fill in)
5. A Graphical summary page

4.1.2. Home page

Three key things should be filled in: Name of Company, scope or site of assessment and its Date.

Besides, the Instructions page and the main menu of the tool can be accessed.

This Page can be accessed by clicking the "Home" button from the Main Menu or from the Instructions page.

The screenshot shows the home page of the OIHC Percentage Tool 2011. At the top right, there are logos for IPIECA (International Petroleum Industry Environmental Conservation Association) and OGP (International Association of Oil & Gas Producers). The main title is "OIHC Percentage Tool 2011". Below the title, there are three input fields: "Name of site", "Name of Company", and "Date of assessment". Below these fields, there is a message: "Please read the instructions before completing the tool". At the bottom of the form, there are two buttons: "Instructions" and "Enter Tool".



4.1.3. Instructions

It is a brief summary of the basic things to be taken into account to fill in the forms.

4.1.4. Main Menu

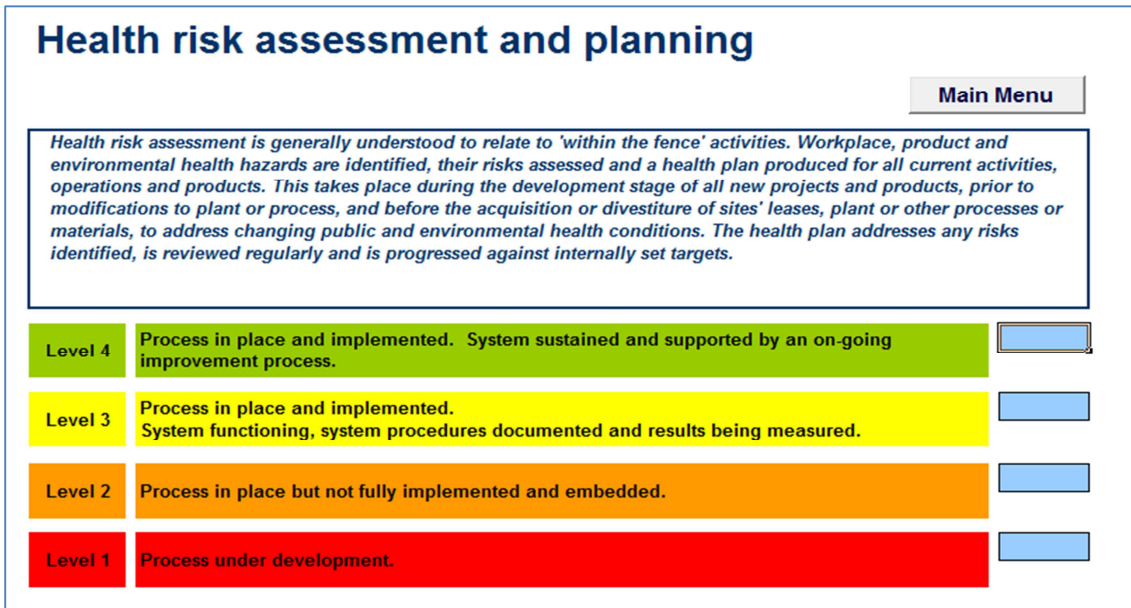
It is accessed from the Home page by clicking "Enter Tool".

It is just a menu through which we can access the assessment pages of each of the 8 elements of the system and the summary page in the Radar Chart.

There is a group of eight forms to be filled in, each of them corresponds to one of the health management system elements, and they are accessed by clicking the grey buttons from the main menu screen, shown below.



4.1.5. Elements



In the top of the figure, there is a chart with the definition of the element, the description of what is included by the element and the main aspects that need to be considered.

The four levels with the code in colours are at the bottom and at the right (in sky blue) the cells that need to be filled in with their corresponding percentages. That is, which percentage of the company is in level 1, which percentage is in level 2, 3 and 4 respectively.

For filling in the fields integers are required, from 0 to 100, remembering that, for each element, the addition of the 4 cells (level 1 to 4) should be necessarily 100%. If the addition does not add up to 100%, the Excel sheet will notify it through a pop-up message when the Main Menu button is clicked and we will not be able to leave the page until values are corrected.

Percentages attributed to each of the 4 levels show the distribution of the company results with regard to the fulfilment of the element that is being assessed. In this way, a company that is at the beginning of the process will have higher percentages in levels 1 and 2, while in a company in which processes are already implemented and the critical analysis is already done, results will be better in levels 3 and 4.

The assessment of each of the 8 elements will be carried out in a specific page, which is accessed from the main menu of the tool. After completing one element, the pages of the other elements should be successively selected with the corresponding buttons, from the main menu screen, so that they can be filled in. To return to the main menu screen from an element's page, the "Main Menu" button should be clicked, on the chart with the description of the element.

Data of each of the 8 elements should be filled in.



4.1.6. Radar charts

The chart allows us to see the average level of implementation of all the elements at the same time and shows us how far we are from 100% in each of them, that is, in which element is the company stronger or weaker as regards the implementation of a health management system; and it is built in this way:

Each octagon vertex represents one of the elements of the health management system.

The line that links the center and the vertex (the radius) is the "axis" of each element. Axes take values from 0 to 100% and the average values obtained for the corresponding elements will be assigned to them.

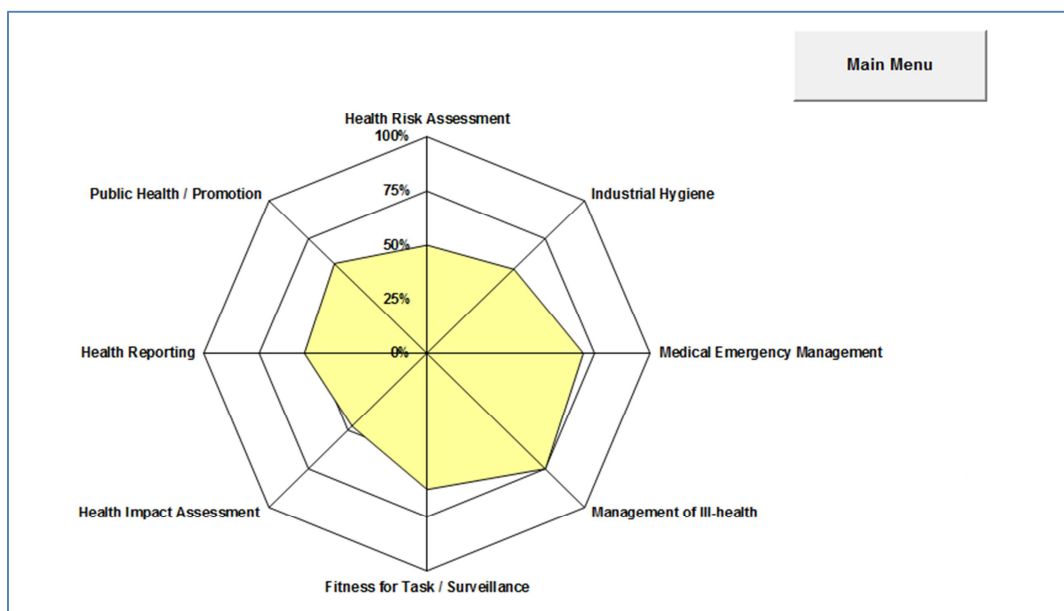
The junction of these points produces a figure coloured yellow (as shown in the example below.)

The closest the average is to the vertex, the company is closer to 100% in that element. Consequently, the bigger the yellow area is, the better is the company's position with regard to the health system implementation.

The global average of the element is calculated as a weighted average among the values given to each level:

$(\text{Percentage Level } 1 \times 1 + \%L2 \times 2 + \%L3 \times 3 + \%L4 \times 4) / 4$; being then 25% the minimum value obtainable in an element (as long as data for that element has been completed) and 100% the maximum value.

Individual companies can compare their own radar charts with other companies that participate in the same assessment cycle, and with average results that come up from the consolidation of the data of all the companies participating in this assessment cycle.





4.2. Gap Analysis Tool

This second part of the chapter is focused on the second support tool of the health management system implementation assessment, called Gap Analysis Tool and that complements the percentage tool, and enables to carry out a gap analysis of the health management system implementation, providing more detailed information of the eight areas of interest (elements).

The assessment is also structured according to the eight elements of the health management system and the numeric scale is from 1 to 4.

1. Health risk assessment and planning
2. Industrial hygiene and control of workplace exposures
3. Medical emergency management
4. Management of ill-health in the workplace
5. Fitness for task assessment and health surveillance
6. Health impact assessment
7. Health reporting and record management
8. Public health interface and promotion of good health

A ninth page was included in the tool to provide the opportunity to each company, using the basic principles of the tool and using the same assessment criteria, to develop a specific input, determined by it and following its own internal needs.

1. Process under development
2. Process in place but not fully implemented and embedded
3. Process in place and implemented. System functioning, system procedures documented and results being measured
4. Process in place and implemented. System sustained and supported by an on-going improvement process

"Level 5" is also added and is for the sub-elements that "are not applicable" to the company/business area that is carrying out the assessment.

4.2.1. Guidance for the use and browsing of the tool.

The tool keeps the same logic as the Percentage tool, **macros should also be enabled** and you can browse through the tool by clicking on the grey buttons.

The tool has:

1. A home page
2. An instructions page
3. Main Menu of the Tool
4. A page for each of the 8 elements + a ninth page for specific inputs of the company (these are the pages to fill in)
5. A radar chart page for each of the 8 + 1 elements
6. A general summary page - includes averages and its respective Radar Chart
7. A summary menu page by sub-element
8. A summary page by sub-element for each of the 8 elements of the health management system.



4.2.2. Home page

It is exactly the same as the Percentage Tool, Name of Company, Scope or site of assessment and Date should be filled in and the Instructions page and the main menu of the tool can be accessed.

This Page can be accessed by clicking the "Home" button from the Main Menu or from the Instructions page.

4.2.3. Instructions

Just like with the Percentage tool, it is also recommended to read instructions carefully before browsing and filling in the forms.

Instructions for use [HOME](#)

This health performance tool can be used within individual companies at site and company level to measure health management. The data can be used for gap analysis and for comparison between sites within a company and for benchmarking between companies.

Navigate to the 8 element pages via the main menu, and fill in the questions according to the key at the top of the page with the values 1-5.

After you have completed an element, you can view your input in the corresponding radar chart, navigable from the main menu.

Once you have completed all 8 sets of questions, you can view a summary of your results on the Report Data Summary. This includes the data averages, and a link to the average radar chart, showing the company's performance in each element.

Finally, to view all sub-elements for which you have given a particular answer, eg all questions where the value 2 is given, then navigate to the Sub-elements Menu and click the different buttons (1-5) to view all the sub-elements of a particular value.

A ninth page is provided as a company specific Input page, where your own questions can be input and answers filled in, then the data displayed on the radar chart.

It is also possible to copy/paste to other applications or print parts of the OIHC HMS Gap Analysis Tool for your own use.



4.2.4. Main Menu

It is accessed from the Start page by clicking "Enter Tool" and we can always return to the Menu with the grey button that says "Menu" in the other pages.

Through the Menu we can have access to the elements, to the radar charts -unlike the percentage tool, here we have radar charts for each element-, to the data summary page.

HOME

OIHC HMS Gap Analysis Tool 2011

IPIECA IOGP
International Association of Oil & Gas Producers

1 Health risk assessment and planning	Radar Chart 1
2 Industrial hygiene and control of workplace exposures	Radar Chart 2
3 Medical emergency management	Radar Chart 3
4 Management of ill-health in the workplace	Radar Chart 4
5 Fitness for task assessment and health surveillance	Radar Chart 5
6 Health impact assessment	Radar Chart 6
7 Health reporting and record management	Radar Chart 7
8 Public health interface and promotion of good health	Radar Chart 8
9 Company Specific Input	Radar Chart 9

Report Data Summary

Sub-element Summary

4.2.5. Elements

They are the same 8 elements as in the percentages tool. Each of them should be filled in.

There is also a ninth element so that each company can include other specific aspects that are not included within the 8 elements of the system.

Each element is a different questionnaire (see annex) in which the person who evaluates should decide the level of the company (from 1 to 4; or 5 if it is not applicable) for the question/sub-element in question. In the top of the screens of the elements the implementation levels to be used are specified -with their colour code- in order to fill in each question on the element that is being assessed.

Within the page of each element, when the cursor is moved on the blue cell on the right of the letter for each question, a window is opened with the options to be filled in (numbers from 1 to 5.) It can be done by selecting one of the options on the window or directly by typing the number on the cell. If a value different from 1; 2; 3; 4 or 5 was typed, the system will show a pop-up message showing that the value is not valid.

From the page of each element the data summary page can be accessed or you can return to the main menu.



Menu	OIHC Health Management System Assessment Form	Report Data Summary
------	--	---------------------

Key to Ratings used:	1	Process under development.
	2	Process in place but not fully implemented and embedded.
	3	Process in place and implemented. System functioning. System procedures documented and results being measured.
	4	Process in place and implemented. System sustained and supported by an on-going improvement process.
	5	Not applicable.

1 HEALTH RISK ASSESSMENT AND PLANNING (generally understood to relate to 'within the fence' activities)		
Workplace health hazards are identified, their risks assessed and a health plan addressing any risks is implemented for the following:		
all current activities and operations.	A	
during the development stage of all new projects.	B	
prior to modifications to plant and equipment.	C	
prior to acquisition or divestiture of sites, leases, plant or other processes or materials.	D	
to address changing public and environmental health conditions or new scientific information.	E	
Internal targets are set for the workplace health plans.		
The workplace health plans are reviewed regularly and progressed against the internally set targets.	F	
Product health hazards are identified, their risks assessed and a product health plan produced for the following:		
for all current products.	H	
during the development stage of all new products.	I	
prior to acquisitions.	J	
to address changing public and environmental health conditions or new scientific information.	K	
Internal targets are set for the product health plans.		
The product health plans are reviewed regularly and progressed against the internally set targets.	L	
	M	

"Element 9" is similar to the other elements but blank, as it is a page to be filled in with specific data of the company, keeping the same logic as the other questionnaires.

Menu	OIHC Health Management System Assessment Form	Report Data Summary
------	--	---------------------

Key to Ratings used:	1	Process under development.
	2	Process in place but not fully implemented and embedded.
	3	Process in place and implemented. System functioning. System procedures documented and results being measured.
	4	Process in place and implemented. System sustained and supported by an on-going improvement process.
	5	Not applicable.

9 COMPANY SPECIFIC INPUT		
	A	
	B	
	C	
	D	
	E	
	F	
	G	
	H	
	I	
	J	
	K	
	L	



4.2.6. Radar charts

The tool allows us to see Radar charts by Elements and a Radar chart for the average values of each element.

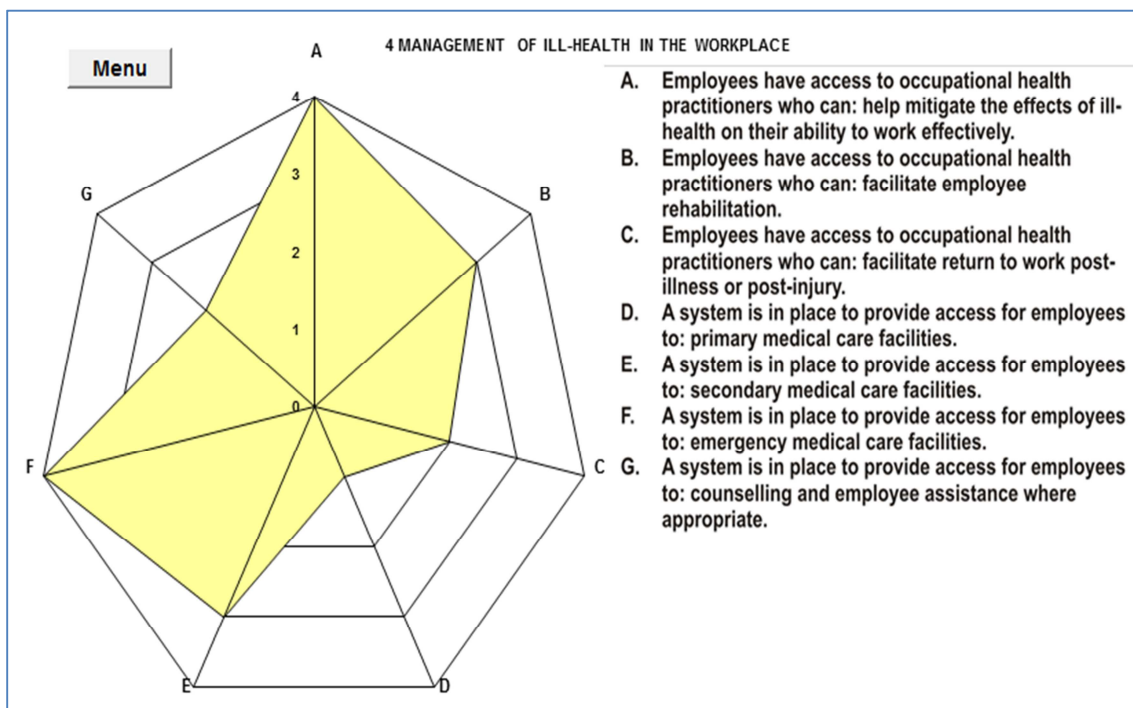
A. Charts by element

It is accessed from the Main Menu and the logic of the chart is the same as the one explained in page 11 / Section 4.1.6 of this Manual.

In this case, each vertex will correspond to each sub-element (question) of the respective element and each "axis" will take values from 0 to 4, being 0 equivalent to "does not apply" (that it, that the question was answered with value 5) and 4 is the highest value.

The bigger the yellow area is, the better is the company's position with regard to that element in question.

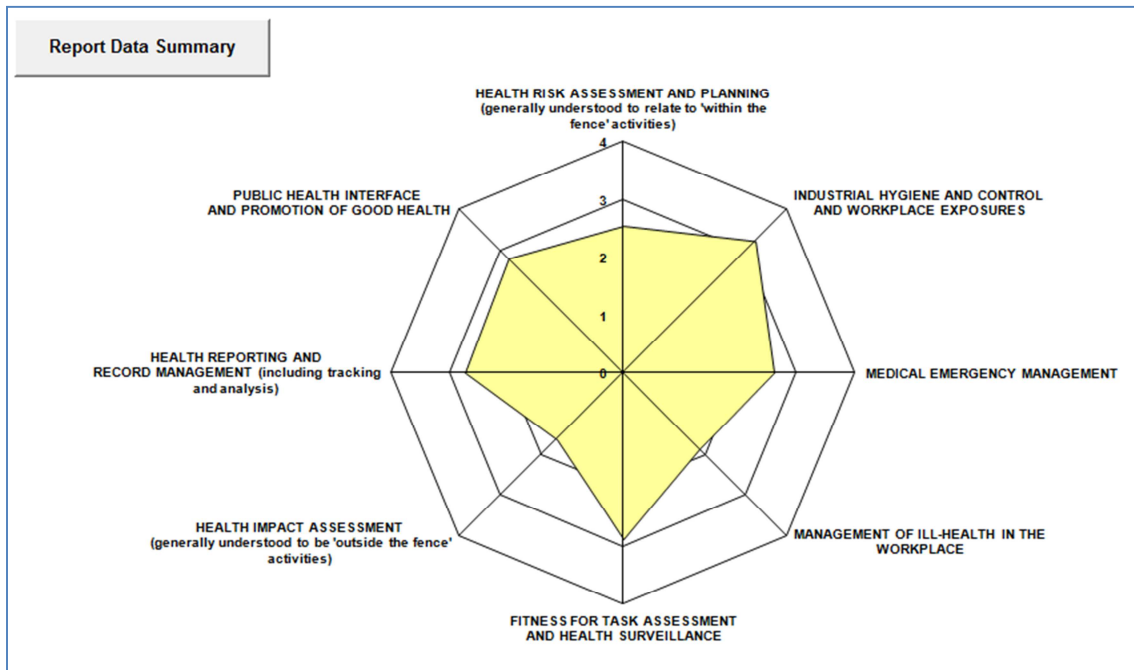
The chart's caption is listed on its right, that is, what question/sub-element corresponds to each vertex.



B. Global summary chart

In this summary chart vertexes correspond to each of the 8 elements (element 9 is not included in the global.) Just like in the individual charts, axis values are between 0 and 4 and the points will correspond to the average obtained for each element.

Averages can be found in the "Report data summary" page. They are calculated for each element and it is just the simple average of the values assigned to each sub-element. If a question is answered with value 5 (not applicable) it will not be included in the average calculation.



4.2.7. Report Data Summary page

It is a matrix that shows us the value assigned to each sub-element and the average value of each element.

This page is automatically filled in as the person completes each form, and it is accessed from the main menu as well as from the pages of each element.

Elements are found in rows (horizontal) and the letter for each sub-element is found in columns (vertical). If it is desired to know what value was assigned in element 3, question (sub-element) D, the box in which the corresponding row and column meet should be read.

Each question can be accessed by clicking on the corresponding box. That is, if the cell of element 3, sub-element D is clicked, the form displays automatically the corresponding questionnaire (element 3-question D.)

If a question is answered with value 5, the cell in the summary matrix corresponding to that question will be blank (like in box 7F/7G of the example.)

In the second column, on the right next to the element there is its average that, as it was mentioned for the radar chart, it is the simple average of the values assigned to each sub-element.



Menu		Report Data Summary														Go to Averages Chart				
Elements	AVG	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q		
1 HEALTH RISK ASSESSMENT AND PLANNING (generally understood to relate to 'within the fence' activities)	2,54	2	3	3	2	4	1	3	2	2	3	4	1	3						
2 INDUSTRIAL HYGIENE AND CONTROL AND WORKPLACE EXPOSURES	3,22	3	3	2	3	4	4	3	3	4										
3 MEDICAL EMERGENCY MANAGEMENT	2,60	1	2	4	4	3	2	2	3	4	1									
4 MANAGEMENT OF ILL-HEALTH IN THE WORKPLACE	1,86	2	2	2	1	2	3	1												
5 FITNESS FOR TASK ASSESSMENT AND HEALTH SURVEILLANCE	2,88	1	2	3	4	4	4	3	2											
6 HEALTH IMPACT ASSESSMENT (generally understood to be 'outside the fence' activities)	1,63	2	2	1	1	2	1	3	1											
7 HEALTH REPORTING AND RECORD MANAGEMENT (including tracking and analysis)	2,73	2	4	4	4	3			3	3	2	2	3	4	1	1	2	3		
8 PUBLIC HEALTH INTERFACE AND PROMOTION OF GOOD HEALTH	2,80	2	3	3	4	2														
9 COMPANY SPECIFIC INPUT																				

4.2.8. Sub-Element Summary.

If the "Sub-element summary" button is clicked from the Main Menu, a sub-menu in which the 8 elements are listed will be displayed -very similar to the main menu, but without the option of the radar charts or element 9-.

By clicking on the grey button of each element the summary by sub-element is accessed.

Menu
Sub-element Summary

1 Health risk assessment and planning

2 Industrial hygiene and control of workplace exposures

3 Medical emergency management

4 Management of ill-health in the workplace

5 Fitness for task assessment and health surveillance

6 Health impact assessment

7 Health reporting and record management

8 Public health interface and promotion of good health



4.2.9. Summary menu by sub-element pages.

They are not editable sheets and provide another way to see the data summary. In this case it allows to list by element the sub-elements that were given a certain score.

Click to view sub-elements by rating		Currently Displaying All Answers with Value 2
Menu	1	2
	3	4
	5	Medical emergency management 3
3 MEDICAL EMERGENCY MANAGEMENT		
A		
B	There is a medical emergency plan based on competent medical advice and level of risk, and it is in alignment with existing local provisions.	
C		
D		
E		
F	A process is in place to ensure that lessons learned are acted upon as a result of drills or incidents.	
G	Appropriate response times are established for first aid, emergency medical care and evacuation.	
H		
I		
J		

If it is desired to know, for example, which were given value 2, the grey button with value 2 on the top left of the screen should be clicked. After this, a pop-up message will say what is being listed. Immediately after, questions which were given value 2 for an answer will appear in the corresponding boxes.

On the top right, the value that is being shown (1; 2; 3; 4 or 5) can always be seen in blue. By clicking on the grey buttons values can be listed as many times as desired within the same element.

Also on the top right there is a grey button that is a direct access to the form of the element in question.

As it was already mentioned, these are not-editable sheets, so no value can be filled in.



4.3. Analysis of Results

The main objective of these tools is that the person who evaluates describes the position of the Company in terms of implementation of an Occupational Health Management System and if it fully covers the eight categories (elements). The process involves a systemic approach and uses an iterative process that grows in experience and knowledge in a cycle (iteration) to improve and adjust expectations during the next cycle (iteration).

The assessment criteria is shared by both tools and the main difference is in the level of detail and scope of the application. The use of the "traffic lights colors system" and radar charts provide a simple visualization of the Company performance, that can be easily incorporated and understood due to its simplicity.

Data analysis should be carried out in two stages. The first stage (Internal Analysis) is carried out within the Company, and it starts during the assessment process and continues after it finishes, analysing results using the resources included in the tool itself or other developed by the company. Meanwhile, the second stage (External Analysis) will be carried out by ARPEL, comparing the data received and preparing consolidation charts with average values of the group of companies that send their data.

4.3.1. Internal analysis

As any assessment system, the most interested one and the one who will be benefited should be the person in charge of executing the activity, who will use the results of the assessment to consolidate positions and identify matters to be improved. In this way, the internal analysis should be more detailed and sensible than the external assessment. The external assessment complements, but does not replace, the internal assessment.

The stated tools provide some input to carry out this analysis, through their summary chart, radar charts and summary by sub-elements.

The results of this internal critical analysis should be discussed by health managers and, where appropriate, by the line management. It is key that this assessment provides input for the health area or specialists in SMS, but it should also be part of the integrated management system that includes other technical disciplines (for example, safety, environment.)

4.3.2. External analysis

This assessment is carried out from the data sent by the different companies and its is more general than the internal analysis. It allows not only the analysis of the data of a specific company but also to compare it with other companies' results.

As the assessment cycles take place, data will be available to create records that allow identification of trends and of the ongoing improvement process.

The results obtained in the internal and external analysis should be used as an input for the critical analysis process, oriented towards the ongoing improvement of the health management system in Companies.



5. Final considerations

It is worth highlighting that besides the direct profits of the application of these tools, during the whole planning, execution and analysis process of the results obtained, it will be possible to carry out a discussion that involves the entire health team and that this leads to indirect and significant profits and from which improvement action proposals will emerge.

It should also be taken into account that the actions taken to improve the health management performance need to be cost-effective. In the short term, it is unlikely that the processes related to the use of these tools lead to financial gains, but in the medium and in the long term, they will lead to saving and loss control.

The line management responsibility is essential for the improvement of the health management system.

Each company should assess the pertinence of the use of the tools and of the level of implementation, if it is global or by area/unit. It should also be considered if the collection and dissemination of data or the performance criteria could be affected by legal issues. So companies should decide case by case, what to adopt, when and under which circumstances.

The exchange of experiences among companies is desirable and contributions to the process improvement should be encouraged and shared.



Annex 1: Glossary and references

A. Acronyms

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

CASYSIA – ARPEL HSE Committee

EPSO – ARPEL Occupational Health Project Team

HPI – Health Performance Indicators – (HPIs)

IPIECA – The global oil and gas industry association for environmental and social issues

OGP – International Association of Oil & Gas producers

OIHC - OGP/IPIECA Health Committee

HMS – Health Management System

B. Terms

Assessment cycles – Frequency with which an assessment process should be carried out in the course of an instructive program. The purpose of this assessment may be to improve the tool or to obtain performance results in the company.

Benchmarking – Assessment carried out by a company to compare its performance or product with competitors or companies of reference in the market (according to current standards) for improvements.

Business area – Way in which the activities of a Company are organized and grouped, considering expertise, scope and geographical distribution.

Control of exposures – Elimination or reduction of aggressive agents of chemical, physical or biological nature in the work environment, that can cause work-related illnesses or any other damage to the employee's health. The control should be carried out taking technical and financial resources into consideration.

Elements of the management system – They are the eight key areas of the health management system, which are: Health risk planning and approach, Industrial hygiene and control of workplace risks, Medical Emergency Management, Management of health problems in the workplace, Fitness for task assessment and health surveillance, Sanitary impact assessment, Health reporting and record management, Public health interface and promotion of health.

Fitness for task – Health condition of the employee compatible with the activity performed in his workplace.

Health management system – It is a set of performance indicators, applied to the oil and gas industry as part of a strategy to achieve excellence in the efficient management of health actions. It is based on the document “Health Performance Indicators” (OGP/IPIECA)

Health surveillance – Constant monitoring of the distribution and trends of the effects of illnesses and health problems through the systematic collection, consolidation, and assessment of mortality and morbidity reports, as well as of other relevant data, and the regular dissemination of this information to all those who need it.



Implementation level – Numeric scale used to assess the implementation level of the health management system, which categorisation is the following: Level 1 – Process under development. Level 2 – Process in place but not fully implemented and embedded. Level 3 – Process in place and implemented. System functioning. The system procedures are documented and results are being measured. Level 4 – Process in place and implemented. System sustained and supported by an ongoing improvement process.

Management of ill-health – Set of actions which aim to ensure that the employee has access to occupational health professionals and to a health system.

Medical emergencies – Situation or problem that poses an immediate risk to a person's life or that can cause a serious permanent incapacity and may require assistance very quickly, usually in a few minutes.

Occupational hygiene – It is the science and the art devoted to the anticipation, recognition, evaluation and control of existing or potential environmental risks in the workplace, aiming at the preservation of the employees' health and integrity.

Operational unit – The different service or production units that make up a business area.

Promotion of health – Set of actions taken for adopting a healthy lifestyle and prevent people from being exposed to health determining and conditioning factors.

Public Health – It is the application of knowledge, in order to organize health service systems, from the point of view of the State, working on conditioning and determining factors of the ill-health process controlling the effect of illnesses on the population through surveillance and government intervention actions.

Sub-element of the management system – Each issue of the eight key areas of the health management system that corresponds to each of the questions that should be answered during the assessment process.

Subsidiary – A company that is controlled by another company that owns most or all its shares.

Within/outside the fence activities – It refers to the activities carried out within the limits of the Company facilities (within the fence) / those activities carried out outside the Company facilities (outside the fence)

Workplace – Position, facilities or environments in which the employee carries out his professional activities on a daily basis.

C. References

- Health Performance Indicators -a guide for the oil and gas industry- (2008), carried out by OIHC (OGP/IPIECA Health Committee) available at IPIECA and OGP websites (<http://www.ogp.org.uk/pubs/393.pdf>) // <http://www.ipieca.org/publication/health-performance-indicators> (consulted in April 2012)



Annex 2: Gap Analysis Tool Questionnaire

1 HEALTH RISK ASSESSMENT AND PLANNING (generally understood to relate to 'within the fence' activities)		
Workplace health hazards are identified, their risks assessed and a health plan addressing any risks is implemented for the following:		
all current activities and operations.	A	
during the development stage of all new projects.	B	
prior to modifications to plant and equipment.	C	
prior to acquisition or divestiture of sites, leases, plant or other processes or materials.	D	
to address changing public and environmental health conditions or new scientific information.	E	
Internal targets are set for the workplace health plans.	F	
The workplace health plans are reviewed regularly and progressed against the internally set targets.	G	
Product health hazards are identified, their risks assessed and a product health plan produced for the following:		
for all current products.	H	
during the development stage of all new products.	I	
prior to acquisitions.	J	
to address changing public and environmental health conditions or new scientific information.	K	
Internal targets are set for the product health plans.	L	
The product health plans are reviewed regularly and progressed against the internally set targets.	M	
2 INDUSTRIAL HYGIENE AND CONTROL OF WORKPLACE EXPOSURES		
The workplace environment meets legal requirements for protection of human health.	A	
Industrial hygiene and occupational health expertise is used to assess the following and advise on the implementation of appropriate controls and work practices to eliminate or minimize exposures for the following:		
all chemical health hazards.	B	
all physical health hazards.	C	
all biological health hazards.	D	
all ergonomic health hazards.	E	
all psychological health hazards.	F	
Workplace exposure monitoring is used to confirm ongoing effectiveness of control measures.	G	
Material safety data sheets are in place and kept current.	H	
Employees are trained to understand the health risks, preventive measures and emergency procedures associated with their work.	I	
3 MEDICAL EMERGENCY MANAGEMENT		
Provision is made for the management of medical emergencies associated with company operations and activities.	A	
There is a medical emergency plan based on competent medical advice and level of risk, and it is in alignment with existing local provisions.	B	
The medical emergency plan is integrated into other emergency procedures.	C	
The medical emergency plan is communicated effectively.	D	
The medical emergency plan is practised regularly with drills and reviews as appropriate.	E	
A process is in place to ensure that lessons learned are acted upon as a result of drills or incidents.	F	
Appropriate response times are established for first aid, emergency medical care and evacuation.	G	
Adequate resources have been made available to meet established response times for first aid, emergency medical care and evacuation.	H	
All staff are provided with emergency contact numbers for medical assistance on each work site.	I	
All staff are provided with emergency contact numbers for medical assistance during travel.	J	
4 MANAGEMENT OF ILL-HEALTH IN THE WORKPLACE		
Employees have access to occupational health practitioners who can:		
help mitigate the effects of ill-health on their ability to work effectively.	A	
facilitate employee rehabilitation.	B	
facilitate return to work post-illness or post-injury.	C	
A system is in place to provide access for employees to:		
primary medical care facilities.	D	
secondary medical care facilities.	E	
emergency medical care facilities.	F	
counselling and employee assistance where appropriate.	G	



5 FITNESS FOR TASK ASSESSMENT AND HEALTH SURVEILLANCE		
FITNESS FOR TASK (to ensure employees' health status is compatible with the work that they do)		
A check-list identifying fitness requirements by task is in place covering each appropriate job category.	A	
Health assessments (i.e. to match people with task) are performed by a competent health practitioner who has knowledge of the work for the following:		
prior to placing an employee in a task with fitness requirements.	B	
periodically as dictated by legal or company requirements.	C	
as part of change management.	D	
Wherever practicable, work is adapted so individuals are included rather than excluded from work.	E	
HEALTH SURVEILLANCE (to ensure employees are working safely where their work is known to be associated with the development of a recognized health problem for which there is a valid method for testing)		
All activities that require health surveillance are defined.	F	
Surveillance is conducted by a competent health practitioner and meets legal requirements:		
prior to an employee starting the work (e.g. to establish a baseline).	G	
periodically as dictated by the nature of hazard.	H	
6 HEALTH IMPACT ASSESSMENT (generally understood to be 'outside the fence' activities)		
HIAs are initiated during the development stage of all new projects and expansions.	A	
Prior to the start of a new project, baseline data are established on the following:		
demography (age distribution and key social characteristics).	B	
community health status (e.g. nutritional status, disease prevalence, vulnerable groups).	C	
key environmental factors affecting human health including air, soil and water quality.	D	
Health impact assessors are assigned to work with social and environmental impact assessors in order to outline the range and types of hazard and potential beneficial impacts from the new project / expansion.	E	
External stakeholders are identified.	F	
Project staff communicate with external stakeholders (e.g. local community) and consult with them on a regular basis.	G	
Relationships are developed with joint ventures, contractors and local government to create a common, cost-effective approach to health management.	H	
7 HEALTH REPORTING AND RECORD MANAGEMENT (including tracking and analysis)		
Health information on all operations is accurate, secure and readily available and meets legal requirements.	A	
Health information on all products is accurate, secure and readily available and meets legal requirements.	B	
Records are maintained on the following:		
raw materials and products (Material Safety Data Sheets - MSDS).	C	
work duties.	D	
health risk assessments.	E	
workplace monitoring results.	F	
personal exposure monitoring.	G	
fitness for task health assessments.	H	
health surveillance.	I	
Personal health records are retained confidentially in line with any legal requirements on access and data protection.	J	
Health records are retained for a minimum of 40 years after an individual leaves employment.	K	
Significant health incidents (including occupational illness) and significant near misses are:		
investigated.	L	
root causes determined.	M	
corrective actions identified.	N	
corrective actions tracked to completion.	O	
reported to appropriate authorities as required.	P	
Health data is analysed routinely to identify any necessary changes to operations or products.	Q	
8 PUBLIC HEALTH INTERFACE AND PROMOTION OF GOOD HEALTH		
An effective interface between public health and occupational health is maintained to mitigate major business risks and identify key sources of epidemiological information.	A	
Communications are maintained with local governments and health authorities to plan timely response to major outbreaks of infectious diseases.	B	
A programme is in place to:		
identify key employee health and wellness (e.g. smoking, obesity, heart disease, high risk behaviour) issues.	C	
develop programmes to educate employees on prevention and risk reduction (e.g. anti-smoking and fitness campaigns).	D	
Where appropriate extend these programmes beyond the workforce to include the community (e.g. HIV, tuberculosis, malaria and vaccination programmes).	E	

 **IPIECA (International Petroleum Industry Environmental Conservation Association)**

IPIECA is the global oil and gas industry association for environmental and social issues. It develops, shares and promotes good practices and knowledge to help the industry improve its environmental and social performance, and is the industry's principal channel of communication with the United Nations.

Trough its member-led working groups and executive leadership, IPIECA brings together the collective expertise of oil and gas companies and associations. Its unique position within the industry enables its members to respond efectively to key environmental and social issues.

<http://www.ipieca.org/>



OGP (International Association of Oil & Gas Producers)

OGP represents the upstream oil & gas industry before international organisations including the International Maritime Organisation, the United Nations Environment Programme (UNEP), Regional Seas Conventions and other groups under the UN umbrella. At the regional level, OGP is the industry representative to the European Commission and Parliament and the OSPAR Commission for the North East Atlantic. Equally important is OGP's role in promulgating best practices, particularly in the areas of health, safety, the environment and social responsibility.

<http://www.ogp.org.uk/>

 **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.

<http://www.arpel.org>

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