

CASE STUDY

A WAL-OHS Management system for the Petroleum Industry

This is a summary of a project in the Oil & Gas industry

Programme Summary

Trinidad and Tobago is the most southerly island in the Caribbean and is considered one of the wealthiest countries in the Caribbean as a result of its abundant natural oil and gas resources. For over one hundred years, Trinidad and Tobago has been involved in the exploration and production of petroleum. Its operations are no different to that of other countries in terms of the level of risk and exposure to OHS issues and challenges by employees, who are directly involved in exploration and production operations.

Programme Background/Problem

The organisation where the project was undertaken was a Petroleum Services Company, a Well Workover organisation. This organisation had an OHS Management System (OHSMS) aligned to Occupational Health and Safety Assessment Series (OSHAS) 18001 and the Plan-Do-Check-Act model. The OHS performance at the organisation was one that continued to cost the organisation significant financial loss both directly from the occurrences of accidents and indirectly from loss of contracts. Additionally, the loss of human resources and its reputation as an organisation that operates in a safe manner in the high risk petroleum industry was being severely compromised.

Some Health and Safety issues were:

- Exposure to Hazards
- Inappropriate/incorrect/worn machinery and equipment
- Inappropriate/incorrect use of Personal Protective Equipment (PPE)
- Incompetence
- Poor Supervision
- Poor Risk Perception
- Human Error
- Poor/lack of communication
- Poor/lack housekeeping
- Poor/inappropriate Risk Assessment
- Lack of accountability

Purpose of the WAL programme

The purpose of this project was the development and implementation of a Work-Applied Learning – Occupational Health and Safety Management System (WAL-OHSMS).

The project sought to:

- Develop and implement a WAL-OHSMS for the organisation
- Make a recommendation to improve Policy and Practice in relation to OHS management for the organisation.

The WAL Programme and Process

In this project, the Work-Applied Learning (WAL) Programme took the form of two Major Cycles. These Major Cycles had mini cycles built into them. The mini-cycles were of a cyclical format with components of Plan, Act, Observe, Reflect, with provisions for evaluation and re-planning. Data collection was conducted at the project site in the form of both participation and direct observation by the WAL facilitator and Action Research group members. Focus group discussion with the Action Research group and members of the rigs crews; action deliverables during the work-based phase; reflection and evaluation of the implemented plans, and field notes and reflection by the WAL facilitator.

A key component of the validation process was the Validation Committee (VC) meetings which were conducted at the end of Major Cycle 1, the middle of Major Cycle 2 and the end of Major Cycle 2.

The Action Research (AR) group consisted of four members from the company and the WAL facilitator. The Validation Committee comprised six members of senior and middle management including the owner and Managing Director. Other key operations personnel were invited to the VC meetings as guests.

The Design Stage

The planning and design stage was as follows:

1. To seek support from the project site, approval for the development and implementation of the WAL-OHSMS for the organisation;
2. The establishment of an Action Research Group made up of relevant personnel in the organisation who were interested in this project and its significance; and
3. The establishment of a Validation Committee comprising representatives of the organisation (based on recommendations from the AR Group).

The phases and related elements of the planning and design stage were:

PHASE 1: Support from the Client Organisation	PHASE 2: Establishment of the AR Group	PHASE 3: Establishment of the Validation Committee
<ul style="list-style-type: none">- Determining who should be contacted- Contacting relevant persons- Briefing of relevant persons on an individual bases- Briefing of relevant persons on a group basis- Obtaining documented approvals and support to conduct the project	<ul style="list-style-type: none">- Selecting of potential AR Group members- Contacting potential AR Group members- Briefing selected AR Group members- Obtaining documented approval and support from the AR Group members	<ul style="list-style-type: none">- Selecting of potential VC members- Contacting potential VC members- Briefing selected VC members- Obtaining documented approval and support from the VC members

The selection of the Action Research Group and Validation Committee members was influenced by the organisational culture of the project site and the protocols and hierarchy of the organisation.

The Implementation stage

The implementation stage was made up of two Major Cycles with mini cycles and two knowledge workshops at the beginning of each Major Cycle. The duration of the first Major Cycle was 8 months and resulted in the development of the WAL-OHSMS. This Major Cycle also consisted of 15 mini cycles and 16 Action Research group meetings.

The second Major Cycle lasted for 11 months which involved the implementation and evaluation of the WAL-OHSMS throughout two implementation phases. This cycle consisted of 17 mini cycles and 18 Action Research group meetings.

Coming out of the Action Research group meetings, the Action Research group members went back to their respective departments during the Work-Based phase, where they engaged with personnel in their departments (Learning Teams). There was continued evaluation throughout the mini cycles and validation exercises. Validation Committee meetings were conducted at the end of each Major Cycle. All plans, actions, observations, reflections and re-plans were documented as the chain of evidence.

Performance Outcomes

Performance outcomes included...

- Development and implementation of an OHSMS to address the OHS issues and challenges
- Enhanced commitment by employees to the organisation
- Appreciation of the effectiveness of WAL
- Improve accountability by Middle Management

Project Outcomes

The accidents statistics prior to the development and implementation of the WAL-OHSMS were compared to the statistics after its implementation. It was found that there was a total of 49 accidents over the previous period, and at the end of the project, after the implementation of the WAL-OHSMS, there was only one minor accident that was not a lost time accident.

Since the occurrence of accidents and the related statistics were used as a measure of effectiveness and success, it was determined that the WAL approach worked in the WAL-OHSMS design, implementation and evaluation of a WAL-OHSMS and change was achieved, consistent with the WAL approach.

Based on the components that are considered fundamental for any OHMS, the key components that comprised the final WAL-OHSMS were:

Key components	Details
Policy and Procedure review	<ul style="list-style-type: none"> • Risk Assessment • Toolbox Talk • Personal Protective Equipment (PPE)
Human Resource	<ul style="list-style-type: none"> • Recruitment process • Employee database • Performance Assessment • OHS Awareness • Reporting of Near Misses
Industrial Relations	<ul style="list-style-type: none"> • Employee participation • Employee Feedback
Review and assessment of currently used OHSMS	<ul style="list-style-type: none"> • Accident Statistics

Key components	Details
Procurement Process	<ul style="list-style-type: none"> • Audit of Material and Equipment • Enhanced procurement database
Management Commitment	<ul style="list-style-type: none"> • Validation Committee
Employee Buy-in	<ul style="list-style-type: none"> • Accident Investigation Team • Rig Move Safety Team • Safety Audit Team • Recruitment / Interview Panel
Training	<ul style="list-style-type: none"> • Supervisory Training • Training of Operational Personnel • Refresher Training – First Aid, CPR, Emergency Medical Responder (EMR)
Rig site and Accommodations Assessment	<ul style="list-style-type: none"> • Risk Identification • Welfare Facilities

Process Outcomes

Process outcomes included...

- Collaboration among personnel from different departments and levels in the organisation to address a workplace problem
- Improved relationships and communication between employees and management
- Relevant data obtained in a timely manner as a result of regular meetings

Learning Outcomes

Noticeable learning and change was identified on an individual, group and organisational basis. There was greater management support and employee buy-in as the project progressed and the challenges in relation to the resistance to change from some members of staff was gradually altered when the positive impact at all levels of the organisation started to emerge and progressively continued.

Other learning outcomes included...

- Reduction in conflict between personnel
- Improved capabilities in problem solving
- Improve and developed confidence and capabilities
- Improved and developed communication skills, problem analysis, group participation

Reflections on WAL programme

This project developed and implemented a Work-Applied Learning – Occupational Health and Safety (WAL-OHSMS) programme for a Petroleum Services Company in Trinidad and Tobago. Since the petroleum industry is a significant contributor to the country's revenue and Gross Domestic Product, any changing condition in this industry would have an impact on the economy and financial stability of Trinidad and Tobago.

Secondly, accidents/incidents result in the loss of production, down time, loss of man hours, loss of life and ultimately reduced revenue. Therefore, the management of OHS issues and challenges is critical and significant for this organisation.

The WAL-OHSMS took the form of a fused action research method and an action learning process which is the basis for WAL. The findings of the two Major Cycles indicated that there was positive change in OHS performance which was a measure based on the accident statistics. Therefore, this WAL-OHSMS was effective in enhancing the OHS performance in the organisation.

This was the first project of this kind in the petroleum Industry in Trinidad and Tobago, and it can be used as a practical model to be implemented in other similar organisations and possibly other companies in the petroleum industry that have similar OHS issues.