IUPAC-UNESCO-UNIDO
Safety Fellowship.

Learning experience by
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Shell Petroleum Development
Company.
Port Harcourt, Nigeria.
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Where? SASOL Chemical Industries Republic of South Africa.

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**Training Highlights:**

1. Aspects of responsible care and integrated approach for SHE (Safety, Health & Environment).

2. Occupational hygiene.


4. Material Safety Data Sheets (MSDS).


6. Topset accident investigation technique.
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Introduction:

Corporate Preview of SASOL SHE (Safety, Health and Environmental activities) by SASOL, General Manager.

Process Safety Framework (Sasols experience) based on

United States occupational Safety & Health Administration (OSHA).
Incorporated Responsible Care Concept, initiated in Canada in 1984.


**KEY FACTORS.**

- Seen as Fundamentals of Chemical Industry ethic or philosophy for continual improvement in performance of Safety, Health & Environmental aspects.

- Considered key to Public acceptance.

- Guiding principles essential to the policy of a management System.
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Care of the Environment (Summary of SASOL’s Approach)

- Environmental Management System in Place.
- Actions include Ground Water Monitoring (PH, Connectivity, Sodium, Cyanide analysis etc).
- Sasol is shifting from Coal to Natural Gas Processing (more environmental friendly feed / technology).

Waste Management.
- System in place for tracking Waste and control on Waste generated in the Company.
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**Occupational Hygiene:**

**Five Stress Categories Highlighted.**

1. Chemical - e.g Benzene exposure.
2. Physical - e.g Noise, Illumination.
3. Ergonomics.
4. Psychological.
5. Microbiological.
HAZOP Awareness.

HAZOP Hazard and Operability Study.

Originated from the United Kingdom.

HAZOP carried out for all major projects of SASOL.

MSDS Material Safety Data Sheets.

- All products have a chemical abstract service (CAS) number.
- It provides chemical product information under 16 standard headings.
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**Hazard identification risk assessment (HIRA)**

- Risk is classified into Low, Medium and High based on a structured matrix.
- This enables effective decision to be taken in order to give priority to higher risks.

**Topset Accident Investigation tool.**

- Invented in Scotland.
- Diagnostic system that establishes causes of failure in incidents, sequence of events & root causes.
- Timeline charting, incident profiling.
- Works on an interviewing methodology which identifies immediate cause, root causes and contributing factors.
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CONCLUSION:

This fellowship is a worthwhile investment.

- Has sensitized me to a greater commitment to Safety and Environmental issues.
- Hope to build on this and contribute to best practice in Safety, Health and Environment in Shell, Nigeria.

Part of my Actions include:

- Bench mark practice in Shell with those of Companies in similar operations.
- Improved contribution to HSE Plan, Audits and Projects supervision.
- Make contributions to Training of Staff and Contractors in my Company.
A Typical HSE Training summary of Shell Petroleum Development Company (Staff, Contractors) in a Single location by HSE Function.

In addition to a structured learning and development program.

Quarter 1, 2002 (number of people trained).

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<th>Month</th>
<th>SPDC Staff</th>
<th>Contractors</th>
<th>Stakeholders</th>
<th>TOTAL</th>
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<td>257</td>
<td>1262</td>
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<tr>
<td>February</td>
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<td>TOTAL</td>
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</tbody>
</table>
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Figure 1

Number Trained Q/1 2002

Number of Personnel

January February March

SPDC CONTRACTOR STAKEHOLDER
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Fellow: Tersoo C. Gwaza

Where? SASOL Chemical Industries, Republic of South Africa

Some Key Challenges

✓ Rapidly changing technology in HSE tools & application
✓ Challenges of new business areas of Gas & Offshore business
✓ HSE Competence of Line HSE personnel...