Proactive safety practices at S&B Industrial Minerals S.A.

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S&B Industrial Minerals S.A., Greece

SDIMI 07, 17-20 June 2007, Milos
Number of incidents in Milos & Fokida

1982 - 1986: 400
1987 - 1991: 250
1992 - 1996: 100
1997 - 2001: 50
2002 - 2006: 0

The graph shows a decreasing trend from 1982 to 2006, with a peak in 1982-1986 and a decline in subsequent years.
Accidents’ indices evolution

FREQUENCY INDEX

SEVERITY INDEX

Milos – Fokida H&S Indices

Milos - Fokis (Ritsona only for 2006)
Frequency and Severity indices

S&B PERSONNEL PLUS CONTRACTORS (supervised by S&B)
Good practices introduced and parties involved

<table>
<thead>
<tr>
<th>Practice</th>
<th>Parties involved</th>
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<tbody>
<tr>
<td>Incidents’ investigation</td>
<td>Top management</td>
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<td>Line management</td>
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<td>Management safety visits</td>
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<td>Safety barometer</td>
<td>Line management</td>
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<td>Employees</td>
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</tbody>
</table>
S&B values

- Integrity
  - We keep our promises

- Customer Intimacy
  - We strive to understand and satisfy our customers' needs and to share their aspirations for the future.

- Respect for People
  - We value our people and we foster their development within a safe working environment of mutual trust and respect.

- Social responsibility
  - We gain the respect of our stakeholders with our professional and responsible conduct.
Proactive safety practices

Scope of MSV's and safety barometer
Accidents’ Frequency Rate vs. Time

- Safety coordinator
- Top Management involvement
- Structured Safety Management System
- Line Management involvement
- Employees’ involvement

FR vs. Time
Definition

- The management safety visit, is a visit paid by two successive management levels \((n+1)\) and \((n)\), to a shop floor operation in order to review together with the employee a specific work carried out at his work post, the purpose being to:
  - Re-inforce safe practices
  - Identify unsafe practices and implement corrective action immediately or within a short period (up to 3 months) to remedy the status and improve the working environment.
Management safety visits (MSVs)

Stages involved

1. Selection of the activity to be witnessed
2. Study the work procedures and instructions applicable for the activity to be visited and all reports from previous MSVs made on that activity.
3. Visit the employee at the shop floor and explain the purpose of the visit. It is important to clarify in the beginning, that discussion is confined to the work activity and not to other general issues.
4. Witness implementation of the work activity selected.
   - Intervene, when safe practices are followed, to congratulate the employee.
   - Intervene when a deviation from safety requirements is observed, asking the employee to describe the risks in which he is exposed or exposing others, prompting for implementation in the correct way.
   - Take immediate corrective measures to remedy risky conditions witnessed during the visit and assist, or seclude the area until measures are taken. It is important that our actions are aligned with the stated value, not permitting to undertake the work in an unsafe way.
5. Ask the employee to summarize the safe practices followed in implementing the work activity, the immediate corrective actions implemented and the unsafe actions that should not be repeated.
6. Issue the visit report within the day and communicate a copy to the employee.
Management safety visits (MSVs)

Value of the practice

- Management commitment
- Involve management with shop floor activities
- Re-inforce safe practices used by employees
- Chain management motivation (the (n+1) level clarifies his expectations from the (n) level)
- Emphasize the safety importance through implementation of immediate corrective actions.
Principles

- Focus on the daily risk exposure of employees, prior to any incidents’ occurrence.
- Quantification of “behaviours”
Safety Barometer

Implementation stages

- **Selection of safety requirements**
  - Related with "behaviour"
  - Observable with no employee involvement
  - Compliance verification with a “Yes” or “No” answer

- Design implementation and monitoring
- Evaluate results
- Communicate results and schedule actions
Safety barometer – Underground mines

List of safety requirements

1. Sign the “In - Out log book” upon entering/exiting the underground mine.
2. Put on your safety helmet and light.
3. Park the supervision vehicle with the rotary light on, or with flashing alarm lights.
4. Maintain internal – external communication with the lodge out of the mine and with head offices at 51km (telephone, VHF radio).
5. Maintain the necessary first aid material (pharmacy, blankets, stretcher) at the lodge.
6. Stay into the drilling machine cabin (operator) during the drilling operation.
7. Stay behind (i.e. all other employees present, apart from the operator) the drilling machine during the drilling operation.
8. Always charge drill holes in the presence of another employee.
10. Keep aside a scaling bar during drilling operation.
11. Use (i.e. the employee responsible for charging) the scaling bar to remove all loose rock-mass present in the charging area.
12. Short circuit explosive’s caps after finishing the charging operation.
13. Isolate a charged face with label or tape.
14. Put the firing conductor on wooden sticks.
15. Carry out drilling and charging operations separately, while in the same face.
16. Drive the loader only in reverse.
17. Put on the safety belt while working with the scaling vehicle.
18. Secure mined out areas and uneven working levels with tapes, wire mesh or a rock pile.
19. Commence scaling, standing under an already scaled roof.
20. Wear working suits with reflecting straps.
Safety Barometer

Implementation stages

- Selection of safety requirements
  - Related with “behaviour”
  - Observable with no employee involvement
  - Compliance verification with a “Yes” or “No” answer

- Design implementation and monitoring
- Evaluate results
- Communicate results and schedule actions
# Safety barometer – Observation sheet

<table>
<thead>
<tr>
<th>Site or Department:</th>
<th>Date</th>
<th>Hour</th>
<th>Shift</th>
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<tbody>
<tr>
<td>Person in charge of measurement:</td>
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<th>Safety Requirement</th>
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Observations:

Total "measurable" Safety Req'ts A = 0

Total Safety Req'ts measured "conform" B = 0

% Proactive Safety Performance = (100 x B / A)
Safety Barometer

Implementation stages

- Selection of safety requirements
  - Related with “behaviour”
  - Observable with no employee involvement
  - Compliance verification with a “Yes” or “No” answer

- Design implementation and monitoring

- Evaluate results

- Communicate results and schedule actions
### Safety Barometer – Underground mines

[Percentage of compliance with safety requirements]

#### MAY 2007

<table>
<thead>
<tr>
<th>Code Number of Safety Requirements</th>
<th>Percentage of Compliance</th>
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<tbody>
<tr>
<td>1</td>
<td>99%</td>
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<td>2</td>
<td>98%</td>
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<td>91%</td>
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**Percentage of compliance with safety requirements:**

1. 99%
2. 98%
3. 91%
4. 87%
5. 96%
6. 92%
7. 100%
8. 100%
9. 78%
10. 89%
11. 50%
12. 92%
13. 100%
14. 100%
15. 88%
16. 90%
17. 25%
18. 100%
19. 81%
20. 100%
Safety Barometer – Underground mines

[ Total percentage of compliance per week ]

Overall compliance percentage per week (arithmetic average)
Safety Barometer – Underground mines
[Evolution of safety requirements compliance]

Underground mines
Evolution of safety requirements compliance

3: Park the supervision vehicle with the rotary light on, or with flashing alarm lights
13: Isolate a charged face with label or tape
20: Wear working suits with reflecting straps
Safety Barometer

Implementation stages

- Selection of safety requirements
  - Related with “behaviour”
  - Observable with no employee involvement
  - Compliance verification with a “Yes” or “No” answer

- Design implementation and monitoring

- Evaluate results

- Communicate results, seek feedback and schedule actions