Contents of Basic Behavioural Based Safety
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WHAT EXACTLY IS BEHAVIOR-BASED SAFETY (BBS)?

Basically, BBS is an established method of using positive reinforcement to change unsafe individual behaviors and reinforce safe behaviors.
Why do we take risk?

The chances of getting hurt are too low to prevent us from taking risk.

This low probability of injury allows behavior to drift towards behavior that:

- Gets the job done more quickly
- Requires less effort
- Provides greater comfortable

*It’s human nature!!!*
What is a Behaviour Based Safety Observation?

A behaviour based safety observation (BBSO) is a safety observation related to the **behaviour** of an Infineum **colleague** or **contractor** where the observation:

- is related to **safe or unsafe behaviour** (not unsafe conditions or facilities)

- provides **immediate feedback** to the colleague or contractor

- is **documented**
What are the aims and benefits of BBSO?

The aims of BBSOs are:

- to Intervene to reinforce safe behaviour or change unsafe behaviour or conditions
- to **Modify** behaviours such that safe behaviours are re-enforced, and at-risk behaviours are eliminated
- to recognizing both safe and at-risk behaviour
- not fault finding – it is a way to take care of others

The benefits of BBSOs include:

- the focus of attention and recognition on both safe and at-risk behaviours
- the “permission” to provide feedback and learn from one another
- the opportunity to enable all colleagues to make a contribution toward safety
- fostering of open communication about safety issues
- a constant reminder of workplace safety
- lower incident rates at Infineum locations where BBSO participation is high
What are the aims and benefits of BBSO? - Continued
Typical Bird’s Safety Triangle

Figure 1: Modified injury pyramid based on Heinrich’s Accident Triangle.
Behavior Based Safety

Operating Environment and Culture

Facilities
(Pumps, control systems, panels, valves, cranes, etc.)

Management Systems
(Procedures, risk assessment, incident investigation training, etc.)

People
(Human characteristics and behavior)
INCIDENT CAUSATION MODEL

HAZARD

• PEOPLE
• THINGS
• HEALTH EFFECTS

ENERGY

CONTROLS

• MANAGEMENT SYSTEMS (WHAT ?)
• PRACTICES / PROCEDURES (HOW ?)
• FACILITIES & TOOLS (HMI )
• PEOPLE & THINGS (ACTORS !)

TO PROTECT

• PEOPLE
• PROPERTY
• ENVIRONMENT

VULNERABLE OBJECT
WHAT IS BEHAVIOR

There are numerous definitions for “behavior”

For use in Behavioral Based Safety, we define behavior as:

“The Way People Act”

Observable, surfacing in the work place

Underlying, recognizable from prior work processes, (e.g. work planning, preparation, design)
Natural Laws of Behavior

If the SAFE way is the EASY way, then we will behave SAFELY - behavior has advantages and becomes habit.

If the SAFE way is DIFFICULT or uncomfortable, then we will be tempted to behave UNSAFELY - behavior has disadvantages - unsafe becomes habit.

If we really understand the consequence of our actions it will lead to SAFE behavior.
YOU CAN SEE BEHAVIOR!

Our values, attitudes towards safety results in:

BEHAVIOR

Behavior is what people actually do:

DO

What people actually do is what we observe:
Three Natural Behavior Laws

- Behaviors with advantages will be naturally reinforced and become a habit
  - Behavior has positive consequences

- Behaviors with disadvantages will be given up
  - Behavior has negative consequences

- Behaviors are influenced by expected outcomes
  - Behavior consequences need to be clear and important
Behavior Laws

- If a certain work method is the easiest way of doing the work, then it will become a habit.
  - The behavior results in positive consequences for the individual. If the easiest way is the safest way we are likely to see safe habits!
- If it is difficult to achieve something with a certain behavior the behavior will be given up.
  - The behavior has negative consequences for the individual.
- The potential/expected consequences will direct behavior.
  - The effect depends on certainty, timing and severity.
Observable & Underlying Behavior

Observable Behavior is associated with people doing physical activities in the plant, control rooms and offices etc.

Underlying Behavior is related to conditions and work processes that may be “root Causes” of observable behavior e.g.
- how well facilities or systems are designed for people’s use
- clarity of management’s expectations to follow procedures
- the effectiveness of the risk assessments in understanding and managing hazards/risks
Lines plug regularly leading to incidents while the lines are being unplugged

Undesired: Operators are not flushing the lines thoroughly to remove material which cause plugging

Desired: Operators flush lines thoroughly to remove materials which cause plugging

There is no procedure or guidance issued on how to flush lines thoroughly, or there are no means provided to do flush lines thoroughly.
ABC Model
Why People Do What They Do

Antecedents → Behavior → Consequences

anything that prompts people to act in a given manner → what we do, how we act, what we accomplish → what happens to us during and after the behavior (payoff/punishment)

Consequences for current or past behavior have the strongest influence on our future behavior
BEHAVIOR & ANALYSIS PROCESS

Fourth by understanding behavior strategies

I. Increase Positive Reinforcement of Safe Behaviors
II. Remove Disadvantages of Safe behaviors
III. Influence Risk Perception
IV. Cancel Advantages of Unsafe Behavior

I. Reinforcing or creating positive consequences for desired behavior
II. Removing negative consequences of desired behavior
III. Clarifying and influencing perception of potential consequences
IV. Creating negative consequences for undesired / unsafe behavior
1. **Make it rewarding**
   Create more Positive Consequences for people to behave safely

2. **Make it easier**
   Remove the Negative Consequences for the desired Behavior

3. **Make it clear**
   Make sure people understand the potential consequences of their behavior

4. **Rules / Barriers**
   Make Undesired Behavior difficult or unattractive
Workplace Observation Objectives

Creating / Maintaining a safe Workplace through positive dialogue between observers & the observed

- Positive dialogue will only be established if we communicate openly and at same level:
  - Recognition of safe behavior
  - Reciprocal openness and trust (confidence, candor, honesty)
  - Cooperative learning
  - Shared identification of hazards and safe(r) work methods

- Application of the 4 intervention strategies
  - Dialogue makes it possible to direct behavior

- Data gathering
  - Findings are input into BBS Analysis
How often should we do observations?
Often, but aim for quality not for quantity

When?
Always, also during shift

How long does a good quality observation take?
Approximately 20 - 30 minutes
What BSSO is NOT...

- Audit
- “To Do” list for Maintenance
- Check in the box exercise
- Disciplinary
Dealing with Unsafe Behavior

- Explain behavior observed
- Discuss why it is unsafe
- Ask for suggestions
- Share your ideas
- Reach agreement on steps to be taken
- Express confidence that the job can be performed safely
- Ask for commitment to work safely
- Follow-up and give positive feedback when behavior is corrected
Feedback what you saw and agree on actions from the Observation

Provide feedback immediately, and discuss follow-up at the workplace e.g.

- Recognize / re-enforce safe behavior
- Discuss how to make safe behavior easier
- Influence risk perception if needed
- Correct unsafe behavior

Summarize dialogue and agreed follow-ups that you will write on the form.

Feedback to the Shift Leader on how things looked in the field.
Doing the Observation

The Observation

- Explain what you are there for,
  - Findings and conclusions are to improve safety
  - Tell Observee(s) that they are the job specialists
  - Both parties are expected to learn from the observation

- Give positive feedback on any good things you saw as you approached

- Encourage and allow the observee(s) to talk
Observation “don’ts”

- not introduce yourself, or inform people on the purpose of your visit
- say nothing and just fill in your checklist
- involve only your partner in discussions about the observees
- just ask for observee’s name and Company name and leave
- try to prove you know everything better and tell people this
- not listen to what the observee has to say
- not bother about your own safety and PPE
- assume/assign blame, and create threatening atmosphere
<table>
<thead>
<tr>
<th>PERSONAL PROTECTIVE EQUIPMENT</th>
<th>STATUS</th>
<th>State Observation and Your Intervention For UNSAFE ACT or CONDITION</th>
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</thead>
<tbody>
<tr>
<td>Hard Hat / Gloves / Safety Shoe or Boots</td>
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<tr>
<td>Safety Glasses / Goggles / Face Shield</td>
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<td>Protective Clothing / Suit / Apron</td>
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<td>Fall Protection / Safety Harness</td>
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<td>Hearing Protection</td>
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<td>Respirator Protection</td>
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<td>Others</td>
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<tr>
<th>BODY USE / POSITIONING</th>
<th>STATUS</th>
<th>State Observation and Your Intervention For UNSAFE ACT or CONDITION</th>
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<tbody>
<tr>
<td>Lifting / Pushing / Pulling Posture</td>
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<td>Ascending / Descending</td>
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<td>Overexertion</td>
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<td>Others</td>
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<th>STATUS</th>
<th>State Observation and Your Intervention For UNSAFE ACT or CONDITION</th>
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<tbody>
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<td>Housekeeping / Storage</td>
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<tr>
<td>Barricades / Warning Devices / Fire Extinguishers</td>
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<td>Safe and Secure Work Area</td>
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<td>Ventilation and Overcrowding</td>
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<td>Others</td>
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<tr>
<th>PROCEDURES</th>
<th>STATUS</th>
<th>State Observation and Your Intervention For UNSAFE ACT or CONDITION</th>
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<td>LockOut / Tag Out</td>
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<td>Work Permit System</td>
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<tr>
<td>Gas Testing / Periodic Monitoring</td>
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<tr>
<td>Communication (eg Tool Box Meeting)</td>
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<td>Interfaces with Other Functions</td>
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<tr>
<td>Job Assessment / Hazards Identification</td>
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<td>Job Safety Analysis</td>
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<td>TOOLS / EQUIPMENT</td>
<td>State Observation and Your Intervention For UNSAFE ACT or CONDITION</td>
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<td>Hand Tool Selection, Use and Condition</td>
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<td>Power Tool Selection, Use and Condition</td>
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<td>Gas Cutting Tool Condition</td>
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<td>Lifting Equipment / Machine Selection, Use, Condition</td>
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<td>Electrical Cables / Connections / Grounding</td>
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<td>Others</td>
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<th>ENVIRONMENTAL PROCEDURES</th>
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<td>Precautions Taken to Avoid Environmental Damage</td>
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<td>(eq. Spill Containment etc)</td>
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<td>Proper Storage / Disposal of Waste Materials</td>
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<td>Others</td>
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**OPTIONAL**  KEY IN HERE, IF YOU HAVE ANY LONG TERM ISSUES WHICH REQUIRE SAFETY DEPARTMENT INTERVENTION (OPTIONAL)

Your Input if Any!

**Percentage Safe [Total Safe / (Total At Risk)] * 100**
Observe the Behaviour and Intervene
Do Not Look the Other Way
Write down and discuss:

What would be safe behavior:

What would be unsafe behavior:

What are the circumstances behind the behavior (underlying behavior):
EXAMPLE OF BEHAVIOR

Write down and discuss:

What would be safe behavior:
..............................................................................................................

What would be unsafe behavior:
..............................................................................................................

What are the circumstances behind
the behavior (underlying behavior):
..............................................................................................................
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EXAMPLE OF BEHAVIOR

Write down and discuss:

What would be safe behavior:
..........................................................................................................

What would be unsafe behavior:
..........................................................................................................

What are the circumstances behind the behavior (underlying behavior):
Write down and discuss:

What would be safe behavior:

What would be unsafe behavior:

What are the circumstances behind the behavior (underlying behavior):
WHAT IS THE SAFE BEHAVIOR

Identify the safe behavior:

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What are the circumstances behind the behavior (underlying behavior):

........................................................................................................................................
Look at 2 Video Clips and write down the following:

- The Safe Behavior,
- The Unsafe Behavior
- The possible Underlying Causes
ACKNOWLEDGEMENT

• EXXONMOBIL
• WSHC COUNCIL
THANK YOU