Risk Tolerance: Strategies for Understanding and Addressing Risk Tolerance

Dave Fennell, IOL Senior Safety Advisor
Risk Tolerance

Overview

- Insights into Risk Tolerance
- 10 Influencing Factors
- Application in the work place
- Supporting tools, resources and strategies

Risk Tolerance

- Risk tolerance involves weighing a number of factors that influence a decision to either accept or reduce risk
- How these factors are perceived and weighed in the mind of the worker and the work group affects safety behavior
Human Factors COE Task Force explored:

- Relationship between Hazard Recognition, Risk Perception and Risk Tolerance
- Factors that influence decisions to take chances
- Why people make the decisions they make
- How we can influence the choices others make

Risk Tolerance
Risk Perception/Tolerance Model

EXPOSURE
IDENTIFY the Hazard
Do I See It?
The hazard is NOT RECOGNIZED

PERCEIVE the Risk
Do I Understand it?
The hazard is NOT UNDERSTOOD

The DECISION
Do I Accept it?
The risk is ACCEPTED
Safe Behavior
The risk is Not Tolerated

At Risk Behavior
Risk Perception and Tolerance in the Workplace

Hazard Identification

“Do I See it?”

Risk Perception

“Do I Understand it?”

Risk Tolerance

“Do I Accept or Reject it?”
Incident, Near Miss or Questionable Item Occurs – Why?

Root Cause Analysis Flow Chart

Personal Factors

1. Lack of skill or knowledge
2. Doing the job according to procedures or standards takes more time and effort
3. Short-cutting the procedure or standards has been tolerated
4. In past, not following procedure or standards did not result in an incident

External Factors

5. Lack of or inadequate procedures
6. Inadequate communication of expectations regarding procedures or standards
7. Inadequate tools or equipment (availability, condition & use; workplace design)

Is risk tolerance an issue?

- Lack of skill or knowledge: 42%
- Doing the job according to procedures or standards takes more time and effort: 40%
- Short-cutting the procedure or standards has been tolerated: 38%
- In past, not following procedure or standards did not result in an incident: 46%
Workers are generally good at Hazard Recognition:

Imperial Oil 2008 Safety Perception Survey

- Do workers understand the hazards? - 92%
- Do you initiate action to correct hazards? - 99%
- Did you receive adequate safety training? - 92%
Hazard recognition and risk tolerance

Hazard Recognition and Risk Tolerance

Hazard Recognition ≠ Risk Tolerance
- JSA often identifies the hazard
- Hazard is discounted or no mitigation

“BE CAREFUL”
<table>
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<th>1. Overestimating Capability/Experience</th>
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<td>9. Potential Profit &amp; Gain from Actions</td>
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<td>10. Role Models Accepting Risk</td>
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"I can lift 75 kg in the gym ... I can lift this nitrogen bottle"  
"I have driven in worse conditions than this and did just fine"

1) Overestimating Capability/Experience

Strategies for Reducing Tolerance
- Reflect on your role as a mentor
- Acknowledge that despite your ability, the **exposure** is still there.
- Acknowledge that the capability or skill may be sufficient and then reinforce the way that it should be done.
2) Familiarity with the task - Complacency

Strategies for Reducing Tolerance

- ‘Situational Awareness’ – Every time like the first time .... ‘Stop and Think’
- ‘What could go wrong this time?’
- ‘How would I teach a new person to do this?’

“He had done this task 500 times without hurting himself”

“We had stack about 200 of them when ...”

“I do it about 10 times every day”
3) Seriousness of the Outcome

‘Pinch Point’ ... what about ‘Crush’ or ‘Amputation’ point

“Sweet gas” ??

“Hot Water” ??

Strategies for Reducing Tolerance

• *Stop and Think* “How bad could it be? Really ...How bad could it be?”
4) Voluntary Actions and Being in Control

Key factor in off the job risk – **28 times** more likely to be hurt off the job

“While managing the risks on the road can be a difficult challenge, ‘Stop & Think’ is my most valuable tool. Every intersection, blind corner, congested area… What could go wrong? How bad could it be?”

**Strategies for Reducing Tolerance**

- Integrate ‘**Stop and Think**’ into your personal activities
5) Personal Experience with an Outcome

If you have seen a serious outcome, you will be less tolerant of the risk

**Challenge:** As Incident Rates improve, fewer people will have had personal experience and leads to **Scepticism**

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**Strategies for Reducing Tolerance**

- ‘Expert observers’, supervisors, ‘keepers of the corporate memory’ have the obligation to ensure workers know:
  
  a) Incidents **have** occurred because of not following that standard
  
  b) Demonstrate that there **have** been serious consequences
6) Cost of Non Compliance

Greater cost for non-compliance can lower risk tolerance
Effective when used selectively

Strategies for Reducing Tolerance
- Identify the cost of non compliance and increase it where necessary
- Remove barriers and increase reward for compliance
7) Confidence in Equipment

“Ladder is twice as stable, therefore ...”

- 1995 US Study – Drivers of vehicles with ABS and airbags have more accidents
- Parachuting – ‘Failure to deploy’ replaced with ‘late deployment’

Strategies for Reducing Tolerance

- Training on limitations of the equipment and engineering
- Stop and Think ... What will happen if it does fail?
8) Confidence in Protection and Rescue

Strategies for Reducing Tolerance

- Understand the **limitations of protection & rescue measures**
- See them as ‘**last lines of defence’, or ‘not to be relied upon’**?
- “Every job should be able to be done safely by a 65 year old with a bad back and ...” Howie Dingle
9) Potential Profit and Gain from Action

- US Highways Study – deaths on highways tracks directly with the economy
- Alberta WHS – fatalities and lost time incidents in the oil patch increase and decrease with the price of oil.

Strategies for Reducing Tolerance
- Remove rewards for risk taking
- Eliminate barriers to doing it the ‘right way’
10) Role Models Accepting Risk

- When Role Models in a work group accept a certain level of risk, they influence the decisions to accept risk by other members of the group.

Strategies for Reducing Tolerance

- Identify and address the risk takers (including yourself – where are you on the ‘risk-taking’ scale?)
- Recognize ‘Erosion of Standards’ and address immediately
Move to Action

What Could Go Wrong?

How Bad Could It Be?

What can I do about this?

Hebron

ExxonMobil Eastern Canada Projects Contractor SSH&E Forum
Conversations about Risk Tolerance

... during Behaviour Observations
... during Stop and Think moments
... at Safety Meetings
... refresh the ‘corporate memory’
... which Influencing Factor could be impacting our decisions?
"I Choose to Reduce Risk"

**Before and During a Task**
- What could go wrong?
- How bad could it be?
- Has anything changed?
- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

**Stop & Think**

**I Choose to Reduce Risk**
Identify one personal behaviour that you know presents a risk at your work site:

______________________________

I am committing to take the following action to eliminate that risk from my work:

______________________________

by (date) _____________________ Signature _______________________

Keep this card for a follow up discussion with your team.
1. Risk Tolerance Awareness videos as introduction to the topic

2. Risk Tolerance Facilitators Guide to establish an implementation strategy

3. Engage the workforce through workshops on each of the 10 Factors

4. Reinforce worker participation by using the worksheets
We can create a safety culture that lowers Risk Tolerance.

For more information:

1) ExxonMobil Human Factors Center of Excellence

2) Dave Fennell, Imperial Oil Resources