

Strategies for Understanding and Addressing

Risk Tolerance

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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



Risk Tolerance

Dave Fennell and the ExxonMobil Human Factors COE Task Force explored:

ExxonMobil



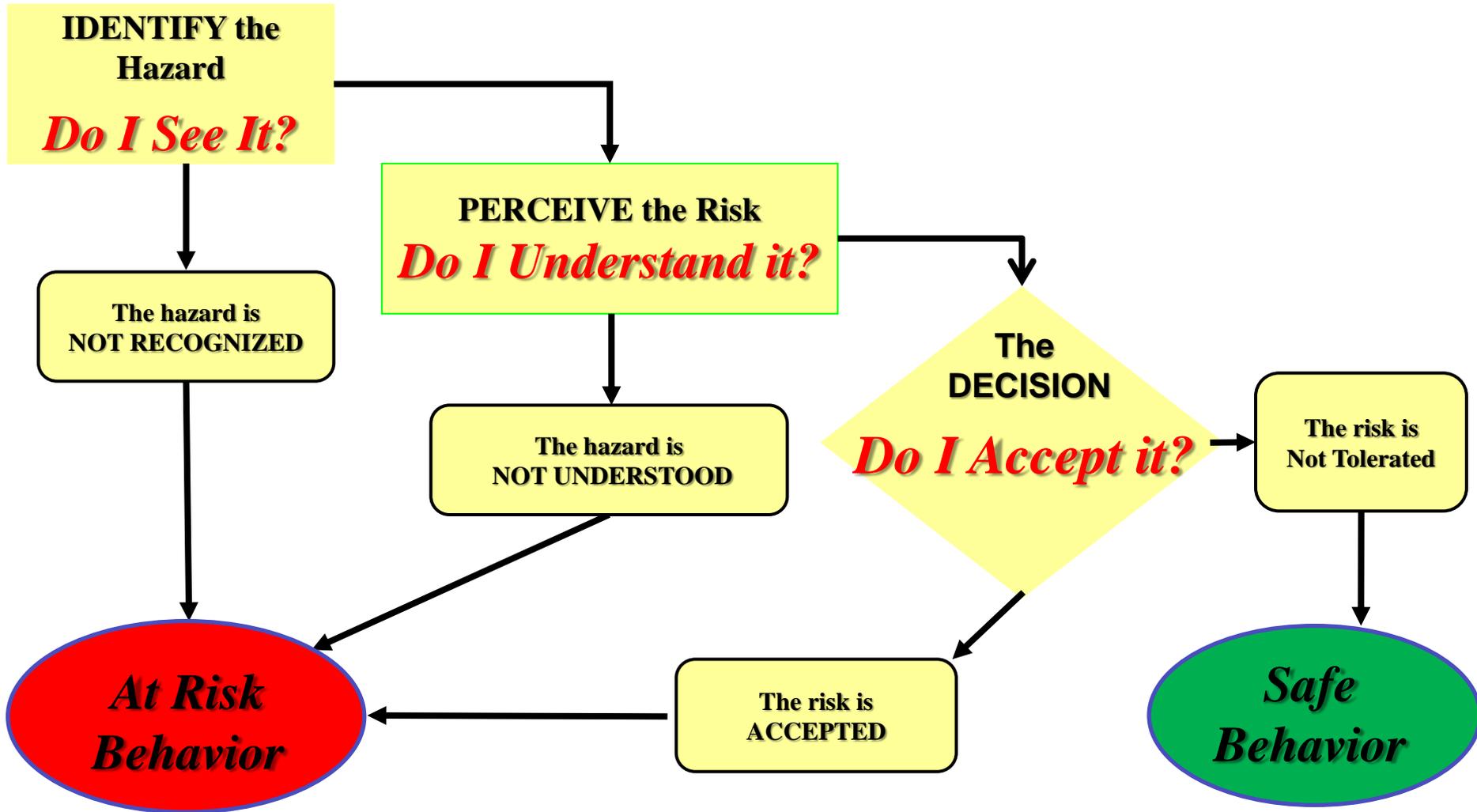
- Relationship between Hazard Recognition, Risk Perception and Risk Tolerance
- Factors that influence decisions to take chances
- Why people make the decisions they make
- How we can influence the choices others make



Risk Perception and Tolerance Model

The Cognitive Process

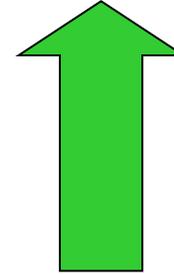
EXPOSURE



Risk Perception and Tolerance in the Workplace

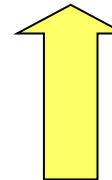
Hazard Identification

“Do I See it?”



Risk Perception

“Do I Understand it?”



Risk Tolerance

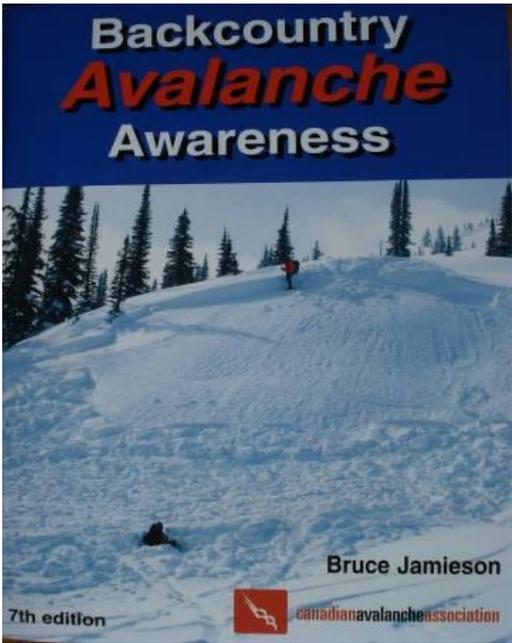
“Do I Accept or Reject it?”



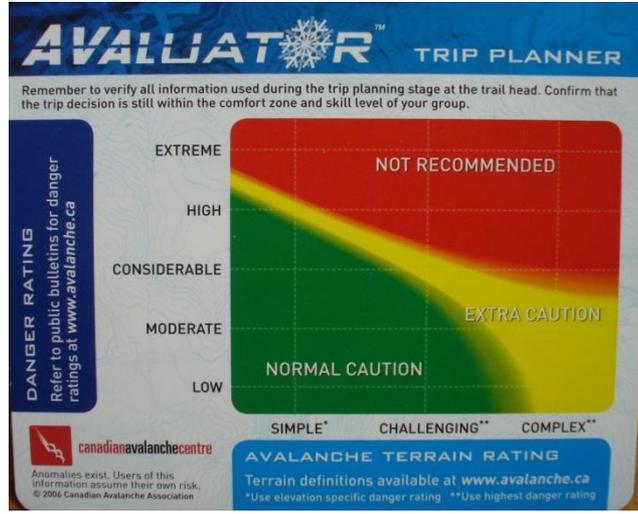
Risk Perception / Tolerance Model

Hazard Identification \neq Risk Tolerance





In the Classroom

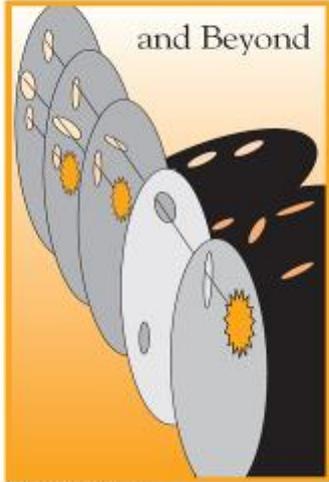


In the 'Workplace'



Safety 2000

and Beyond



January 2009

Esso Imperial Oil Near-Miss and Hazard Report

Date: / / Work unit: Location: Reported by:

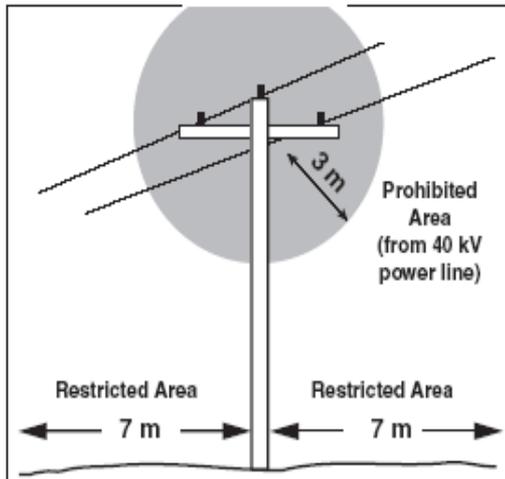
DESCRIPTION (Originator):
 Describe event (what happened?) or hazard (what's wrong?):

Risk evaluation: Consequence: Probability: Rating:

CAUSES	Assess Causes (Why did it happen?)	RCAF	Follow-up Action	Person Responsible	Expected Completion Date	Actual Completion
	Safety, Environment, H/D Cause Code: <u> </u>					

FOLLOWUP (Supervisor):
 Actions and timing approved:
 Decision Unit Manager: Date: / / Verify actions complete: Supervisor: Date:
 Other follow-up required No Yes Validation required Yes No
 If yes, describe:

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1 POTENTIAL CONSEQUENCES					2 PROBABILITY	
CONSEQUENCE CATEGORY	HEALTH SAFETY	CONSIDERATIONS			PROBABILITY CATEGORY	DEFINITION
		PUBLIC IDENTIFICATION	FINANCIAL IMPACT	ENVIRONMENTAL IMPACT		
I	Fatal/inchoreous impact on public	Large community	Corporate	Major/extended duration/full scale response	A	Possibility of repeated incidents
II	Serious injury to personnel/limited impact on public	Small community	Division	Serious/significant resource commitment	B	Possibility of isolated incidents
III	Medical treatment for personnel/no impact on public	Minor (harmless)	Department	Moderate/limited response of most duration	C	Possibility of occurring sometime
IV	Minor impact on personnel (first aid)	Minimal to none	Other	Minor/offsite or no response needed	D	Not likely to occur

CONSEQUENCE	PROBABILITY				
	A	B	C	D	E
I	1	2	5	8	10
II	3	4	7	11	
III	8	9		16	
IV				19	



- JSA often identifies the hazard
- Hazard is discounted or no mitigation

“BE ~~CAREFUL~~”



10 Factors That Influence Risk Tolerance

1. **Overestimating Capability/Experience** ↑
2. **Familiarity with the Task** ↑
3. **Seriousness of Outcome** ↓
4. **Voluntary Actions and Being in Control** ↑
5. **Personal Experience with an Outcome** ↓
6. **Cost of Non-Compliance** ↓
7. **Confidence in the Equipment** ↑
8. **Confidence in Protection and Rescue** ↑
9. **Potential Profit & Gain from Actions** ↑
10. **Role Models Accepting Risk** ↑

1) Overestimating Capability/Experience

“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”



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



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



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



“You get used to it after a while”

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?’

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



Imperial **ExxonMobil**

Before and during a task

- Stop**
 - What could go wrong?
 - How bad could it be?
- Think**
 - Do I clearly understand my task?
 - Has anything changed?
- Act**
 - Am I physically and mentally ready?
 - Do I have the right tools and equipment?
 - Make it safe.
 - Use right procedure.
 - Use right tools.
 - Reduce risks.

STOP & Think

Stop if it can't be done safely!

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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**



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 the 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

Excellent PPE can result in over confidence in it's ability to protect



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 be done to prevent it?



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"

 Imperial Oil

Before and During a Task

Stop

- 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?

Think

Act

- Make it safe.
- Use right procedure.
- Use right tools and equipment.
- Reduce risk.

Stop if it can't be done safely



& 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:

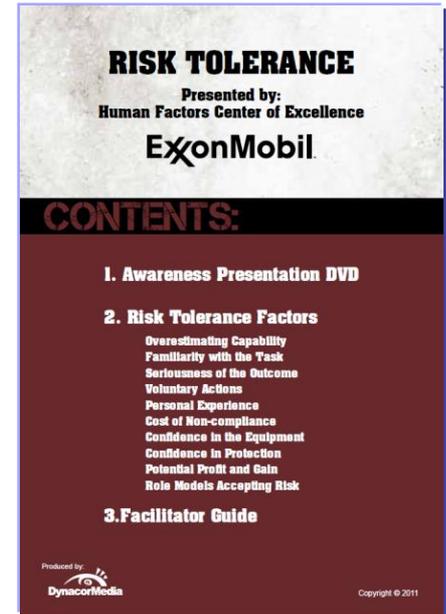
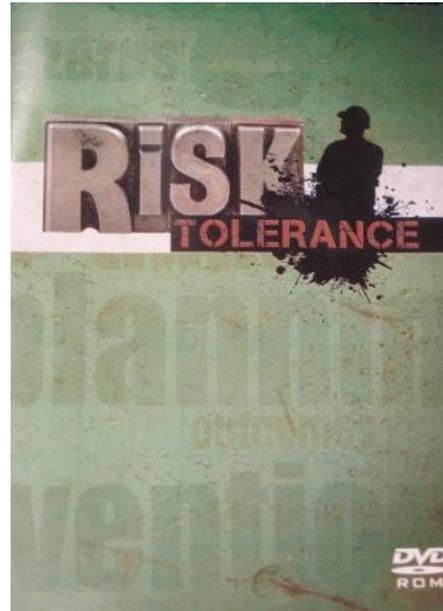
by (date)

Signature

Keep this card for a follow up discussion with your team.

Strategies and Resources

1. Risk Tolerance Awareness presentations 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



Resources to Get You Started




Before and during a task

Stop

Think

Act

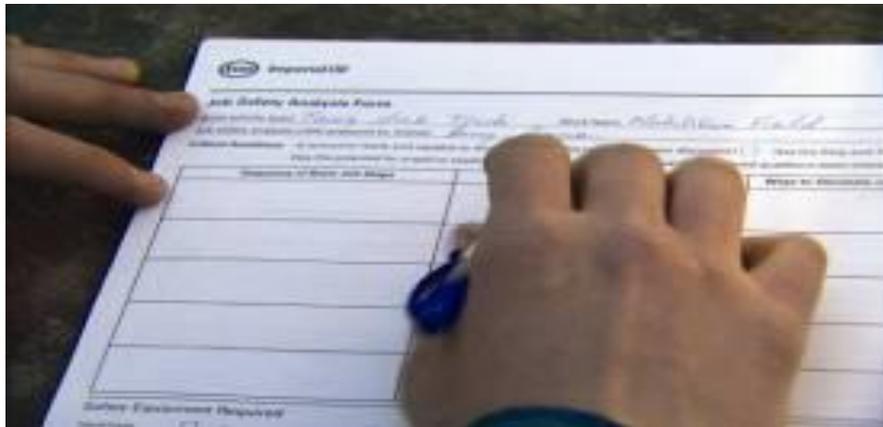
- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
- Am I physically and mentally ready?
- Do I have the right tools and equipment?
- Make it safe. • Use right tools.
- Use right procedure. • Reduce risks.

Stop if it can't be done safely!



STOP & Think

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Dave Fennell Safety Inc. 

10 Factors That Influence Risk Tolerance

- 1) **Overestimating Capability and Experience**
 - Reinforce the correct way of doing the job (LPO, Stop & Think)
- 2) **Familiarity with the Task**
 - What could go wrong THIS time?
 - How would I teach a new person how to do this tasks?
- 3) **Seriousness of Outcome**
 - How bad could it be?
- 4) **Voluntary Actions and Being in Control**
 - Integrate Stop & Think into personal and voluntary activities
- 5) **Personal Experience with an Outcome**
 - Keep the 'corporate memory' active
 - Find personal stories to reduce scepticism
- 6) **Cost of Non-Compliance**
 - Remove barriers to compliance
 - Increase cost of non compliance
- 7) **Confidence in the Equipment**
 - Stay informed on the limitations of the equipment
 - Stop and Think ... "What would happen if it failed?"
- 8) **Confidence in Protection and Rescue**
 - PPE is a last line of defence and has limitations
- 9) **Potential Profit & Gain from Actions**
 - Remove rewards for risk taking
 - Eliminate barriers to doing the tasks the 'right way'
- 10) **Role Models Accepting Risk**
 - Address risk takers immediately
 - Recognize "Erosion of Standard" address it immediately
 - Calibrate risk tolerance at every Stop and Think moment




Stop

Think

Act

Before and during a task

- What could go wrong?
- How bad could it be?
- Do I clearly understand my task?
- Has anything changed?
- Am I physically and mentally ready?
- Do I have the right tools and equipment?
- Make it safe. • Use right tools.
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Stop if it can't be done safely!



STOP & Think

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***We can create a safety culture that
lowers Risk Tolerance***

Dave Fennell

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Facilitator's Guide

10 Factors That Influence Risk Tolerance

Overview:

This package has been developed to help you create awareness for managers, supervisors, employees and contractors on the topic of Risk Tolerance. Risk Tolerance (or acceptance) has been identified as a key safety focus area across the ExxonMobil companies world wide and this package. The ExxonMobil Human Factors Technology Centre of Excellence has conducted research on this issue and has developed this package to communicate their findings.

Content:

1. **Introduction to Risk Tolerance** – an interview with a member of the Human Factors Technology Center of Excellence outlining the concepts of Hazard Recognition, Risk Perception and Risk Tolerance and how they related.
2. **The 10 Influencing Factors** – a series of 10 short presentations that summarizes each of the Influencing Factors.
3. **Workshop Packages** – 10 individual power point presentation packages each containing detailed facilitators guidance in the 'notes' pages.
4. **Workshop Participant worksheets** – 10 individual sheets that summarize each of the 10 factors and include spaces for workshop participants to capture personal action plans.

Facilitator's Guide:

Planning:

1. Review the roll out strategy with the Business Unit management.
2. Establish a time frame for the roll out of the complete package.
 - Option A – Provide the overview presentation and then follow up with each of the individual workshop packages in the same sitting (~ 1 day)
 - Option B – Provide the overview presentation and each of the clips on the 10 factors in an introductory session (~ 1 hour) and then follow up with individual work shops on each of the modules at future pre-determined meetings. Show the specific clip and conduct the interactive workshop (~ 35 minutes on each module). This can be done over a period of 6 months to 15 months).

Facilitator's Guide

10 Factors That Influence Risk Tolerance

Delivery:

Option A:

1. Prepare for the workshop by printing off the individual worksheets and the summary page of the 10 Influencing Factors for each participant
2. Play the overview presentation from the DVD.
3. Hand out the individual worksheets for Factor #1
4. Show the presentation for Risk Tolerance Factor #1 from the DVD.
5. Conduct an interactive workshop using the power point slides for Factor #1
6. Direct participants to fill out their individual work sheets and personal action plans.
7. Create a discussion on the individual action plans and extract common action plans to form the base for the business unit action plan.
8. Repeat steps 2 to 6 for each of the 10 Influencing Factors
9. Summarize follow up actions that will be worked by the business unit.
10. Establish a forum for follow up and stewardship of individual action plans.

Option B:

Introductory Session

1. Prepare for the workshop by printing hard copies of the 10 Factors Summary Sheet
2. Play the overview presentation.
3. Show the presentation for Risk Tolerance Factor # 1 from the DVD.
4. Have a short discussion on that factor (~5 minutes).
5. Repeat steps 2 and 3 for each of the Factors.
6. Establish a schedule for detailed workshops on each of the Factors

Individual Sessions on Each Factor

- Prepare for the workshop by printing hard copies of the specific worksheet for this Factor.
- Handout the individual worksheet for the specific Factor being reviewed
- Play the presentation from the DVD for the specific Factor being reviewed.
- Conduct an interactive workshop using the power point slides for the specific Factor
- Direct participants to fill out their individual worksheets and actions plans
- Create a discussion on common actions and extract these to form the base for the business unit plan to address that Factor.
- Schedule the next session to review the next selected Factor.
- At the beginning of the next scheduled session, review the outcomes from the individual and business unit actions on this Factor.
- Repeat steps 1 to 7 for each session on the individual Risk Tolerance Factors.

Risk Tolerance

Factor # 1 Over Estimating Capability or Experience

A belief that ones physical ability (strength or agility) will allow them to do the task without injury or that years of experience (wisdom) will prevent any adverse situations.

General Actions to Take:

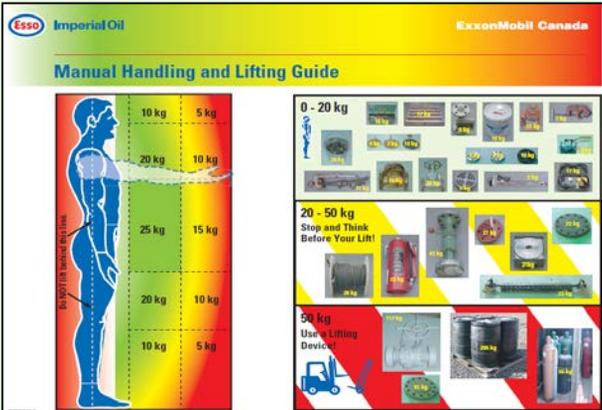
Reflect on your role as a mentor:

- the person watching may not have the same physical capability or experience, therefore do it the safe way so that they can learn

Acknowledge that the physical capability and skill may be sufficient but then reinforce the way it is supposed to be done.

Use the Manual Handling and Lifting Guide:

- to communicate the safe forces and weights for manual handling and lifting
- to reduce the risks of injuries through over exertion



Stop and Think ...

*Is this the best way to do this manual task?
Do I have the right tools and equipment?*

Exercise and Discussion

Are there loads in our work place that require us to exceed the manual handling and lifting guide? Be specific.

Is there a task that I have done for many years without incident where I have seen others have incidents with?

Are there any similarities in how I do the task to those who have had the incidents?

Do I know my own physical limitations and capabilities or manual tasks?

What specific action am I going to take to address this risk tolerance factor?

Risk Tolerance

Factor #2 Familiarity with the Task

A repetitive task can become routine and then risk awareness decreases. Complacency sets in when it is done many times without an incident.

General Actions to Take:

Verbalize the steps of the task as you are doing it.
Is this how I would teach a new person to do this task?
What does the procedure or JSA describe as the proper way to do this task?

Stop and Think ...

*What could go wrong **THIS** time?*

*How bad could it be **THIS** time?*

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Before and During a Task

- Stop**
 - What could go wrong?
 - How bad could it be?
 - Has anything changed?
- Think**
 - Am I physically and mentally ready?
 - Do I clearly understand my task?
 - Do I have the right tools and equipment?
- Act**
 - Make it safe.
 - Use right procedure.
 - Use right tools.
 - Reduce risks.

Stop if it can't be done safely!

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Exercise and Discussion

Identify a routine task that you have done more than 100 times in your job?.

What could happen if you loose focus on this task? How bad could it be?

Identify a routine task that you do more than 10 times per day?

What could happen if you loose focus on this task? How bad could it be?

Identify one task that you will do in the next week where you will use the verbalizing technique (talk your way through the task out loud)

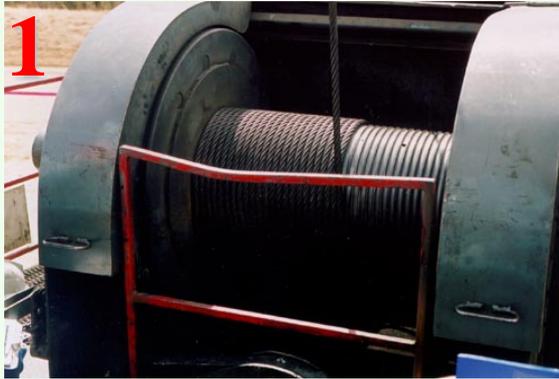
What specific action am I going to take to address this risk tolerance factor?

Risk Tolerance

Factor # 3 Seriousness of the Outcome

When we believe the outcome of an action could be serious, we have less acceptance for the risk. If we believe the outcome may not be serious, we accept more risk.

Stop and Think ...
*What could go wrong?
How bad could it be?*



Exercise and Discussion

For each picture, identify what type of incident could occur and how serious the outcome of an incident could be.

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Do you know of any situations similar to the photos above where there has been a serious incident.

- 1. _____

What specific action am I going to take to address this risk tolerance factor?

Risk Tolerance

Factor #4 Voluntary Activities and Being in Control

Control over an activity or engaging in an activity voluntarily results in the risk being perceived as lower.

Use the **Stop & Think** process for voluntary activities:

- the simple questions on the card will help in making an unbiased assessment of the risk
- the act of actually stopping the task and taking a minute to examine the card will engage the conscious mind in the decisions to continue

Use the **Stop and Think** process to engage a group in the assessment of the risk:

- engages a broader knowledge base on the activity
- provides a check and test of our assumptions on the level of risk

The *decision to voluntarily participate* in a task or activity will be based on our **perception** of the risk associated with the task.

The *desire to engage* in the activity may be great enough to discount the known risks.

Being in control of the task or activity reduces our reliance on other unknowns and therefore the risk is perceived as being lower.



Before and During a Task

- Stop**
 - What could go wrong?
 - How bad could it be?
 - Has anything changed?
- Think**
 - Am I physically and mentally ready?
 - Do I clearly understand my task?
 - Do I have the right tools and equipment?
- Act**
 - Make it safe.
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Stop if it can't be done safely!



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Exercise and Discussion

Voluntary Activities:

Identify a recreational/voluntary activity that you engage in that others might think is risky?

Why would others think it is risky? _____

What measures have you taken or will you take to reduce the risk of the activity? _____

Being in Control:

Assess the degree of control each worker would have over the task?



Risk Tolerance

Factor #5 Personal Experience with an Outcome

When we have had a personal experience in our past with a serious outcome, we will be less accepting of the risks associated with the activity. If not, we may be sceptical that a serious incident could actually occur.

Keep the ‘corporate memory’ alive:

- Inform newer workers of serious incidents that our company has experienced in the past involving the specific tasks
- Supervisors, ‘*expert observers*’, and the ‘*keepers of the corporate memory*’ have the obligation to share their experiences with newer workers
- Demonstrate that incidents have occurred because of not following a procedure - “*What could go wrong?*”
- Demonstrate that there have been serious consequences in the past – “*How bad could it be?*”
- Use *Safety Alerts* and *Incident Summaries* from within the company, from industry associations and from other companies to reinforce that incidents have happened and still could if standards are not followed.

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Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

STOP & Think

Stop if it can't be done safely!

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Exercise and Discussion

Personal Experience:

Have you had a personal safety experience in your past from which others could learn? What was the event? _____

What did it mean to you? _____

What would be the message to pass on to a newer worker so that it wouldn't happen to them? _____

Someone else's Experience that you have learned from:

Have you seen a recent safety alert, incident summary, or industry incident report that had particular impact on you? _____

What did it mean to you and what have or will you do about it? _____

Risk Tolerance

Factor # 6 Cost of Non-Compliance

Risk tolerance can be reduced when the cost of non-compliance to a standard is increased. The reverse is also a factor ... if the cost of compliance is high (\$\$ or effort) more risk will be accepted.

Increase the cost of non-compliance on critical tasks:

- Be selective and only apply this where the standard can always be applied.

Decrease the cost of compliance by:

- Removing barriers (cost or effort) that prevent conformance to standard

Increase the reward for compliance

- Incentives can be used as a positive motivator for compliance.

Exercise and Discussion

Are there standards we have in our work group where the risk of injury warrants a high cost (penalty) for non-compliance?

Are there standards in our work group that are difficult to conform to?

What are the barriers (costs, effort,) that make conformance difficult ?

Identify a specific action that you will take to remove a barrier that has made compliance to a standard difficult.

Is there a specific example from your work place (or off the job) where an increased cost of non-compliance has been effective in reducing the acceptance of risk?

Are there other costs to you personal for non-compliance?

Risk Tolerance

Factor # 7 Confidence in the Equipment

Risk tolerance increases when we have excessive confidence and trust in the equipment and believe the integrity and capability of the equipment can prevent an incident.

Indications of over confidence in equipment:
“It has never failed as long as I have used it”
“It’s fail safe”
“it’s brand new” or “It’s new and improved”
“... And then it will automatically ...”

Strategies to address this factor:

Know the limitations of the equipment such as ratings on lifting equipment, scaffolds, ladders, hand tools.

Know the limitations of the engineering of the equipment such as:

- Understand how shut downs and start up sequences work.
- Know the pressure ratings on the equipment both positive and negative (vacuum).

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Before and During a Task

STOP & Think

- 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?
- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!

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What will happen if it does fail?

Exercise and Discussion

Describe a piece of equipment that you have seen fail unexpectedly (operating equipment? scaffolds? hoses? slings? rigging?) _____

Describe a tool in your workplace that has been damaged or failed from excessive force. _____

Describe a piece of equipment in your work place where we push the operating limits knowing that if we exceed the limits the equipment will respond appropriately. (PSV will activate? Over speed will shut it down? Crown saver will activate? Anti lock brakes will prevent skid?) _____

Are there electrical circuits we use that could be over loaded but we expect the breaker to trigger if it is? _____

What do we need to do differently to prevent over confidence in our equipment? _____

What personal action will you be taking to address over confidence in equipment? _____

Risk Tolerance

Factor # 8 Confidence in the Protection and Rescue

Risk tolerance increases when we have excessive confidence in the personal protective equipment and when we believe rescue is imminent

This factor applies to **equipment** including:

- **Personal Protective Equipment** (hard hats, fire resistant work wear, safety boots, gloves, safety glasses)
- Breathing Apparatus, Detection Equipment
- Fall Arrest Equipment, life jackets

and the believe that **rescue** from a bad situation will be imminent and successful:

- Rescue from a confined space or high angle
- Emergency response from internal or external resources
- Self rescue

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Before and During a Task



Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.

Stop if it can't be done safely!

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Personal Protective Equipment and Rescue are 'a last line of defence'. They must not be used as the primary methods for preventing incidents.

Exercise and Discussion

Identify a task that, when wearing gloves, you place your hands but you would not do it if you had bare hands? Would your gloves actually protect your hands in that situation?

Describe a situation where your protective equipment prevented an injury. Could the event have been prevented completely? Were there limitations on the effectiveness of the PPE?

Is there a task you would do differently (or not at all?) if you knew there was no one available to rescue you or if medical facilities were a long way off?

Do you have any examples of recreational activities where this factor may be at play?

What personal action will you be taking to address over confidence in your personal protective equipment?

Risk Tolerance

Factor # Potential Profit or Gain from Actions

Risk tolerance increases when there are incentives, pay, rewards or other gains in place that encourage 'faster', 'more of', 'cheaper' or 'short cuts'.

Individuals are prepared to take more risks when there can be personal benefit and gain from their actions.

This could include:

1. Working longer hours for the increased overtime and pay.
2. Compromising on personal safety equipment (i.e. using a worn out pair of boots with no traction, using worn out tool).
3. Working a second job on rest days.
4. Short cutting to get the job done faster.
5. Responding to productivity bonuses.

Esso Imperial Oil

Before and During a Task

- What could go wrong?
- How bad could it be?
- Has anything changed?

STOP & Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.

Stop if it can't be done safely!

WC00246 07 04

1) Safety 2) Quality 3) Cost 4) Schedule

Exercise and Discussion

Are there tasks we do here for which there are incentives for getting the job done Faster? Cheaper? _____

Have there been situations in our work group when we have worked extended hours and where fatigue may have created risk? _____

Can you identify any examples from work or off the job where you can profit or have personal gain by **not** following the safety standards? _____

Is an 'adrenaline rush' a personal gain? Provide an example where this may have been a factor in a risk you have taken. _____

What personal action will you be taking to address a risk that has been created because of an incentive, reward or gain that compromised the safe way of doing the task? _____

Risk Tolerance

Factor # 10 Role Models and Mentors Accepting Risk

The level of risk accepted by the mentors and role models in a work group will impact the level of risk accepted by the group as a whole.

A role model's behaviour and the way they do a task will be viewed by others as the acceptable way of doing it.

The role model's method will often be viewed as the method that has an acceptable level of risk.

It is important to know who the role models are in a work group and what their level of risk tolerance is.



'Erosion of Standards' occurs when role models accept risk and then others follow that example.

Exercise and Discussion

Describe a situation where you have seen a more senior worker engaged in a task that you thought was being done unsafely? _____

How would you address that situation? Would it be an easy discussion to have? Why? Why not?? _____

Can you identify a standard in our work place where you believe we are not following the standard as it was prescribed? _____

What safety processes or tools are at our disposal to help us approach others and address situations where we believe a role model or mentor is accepting risks that may be too high? _____

What personal action will you be taking to address a risk a role model in your work group has accepted? _____

Identify a risk that you have taken that may have been copied by someone in the work group that considered you as a role model? What specific action will you take to correct that situation? _____

Strategies for Understanding and Addressing

Risk Tolerance

Factor # 1 Over Estimating Capability or
Experience

10 Factors That Influence Risk Tolerance

1. **Overestimating Capability or Experience**



A belief that ones physical ability (strength or agility) will allow them to do the task without injury or that years of experience (wisdom) will prevent any adverse situations.

2. **Familiarity with the Task**
3. **Seriousness of Outcome**
4. **Voluntary Actions and Being in Control**
5. **Personal Experience with an Outcome**
6. **Cost of Non-Compliance**
7. **Confidence in the Equipment**
8. **Confidence in Protection and Rescue**
9. **Potential Profit & Gain from Actions**
10. **Role Models Accepting Risk**

Over Estimating Physical Capability

1. A belief that an incident or injury can not occur due to excellent physical ability

- Strength to be able to exert extreme forces
- Strength to lift heavy loads without injury



“I can lift 75 kg in the gym ... this won’t be a problem!”

2. A belief that pure physical ability can over come an adverse situation

- Agility and reflexes to avoid injury
- Ability to react fast enough to get out of the way of trouble



Over Estimating Experience

1. A belief that an incident or injury can not occur due to knowledge of the task

- Knowledge to be able to predict an incident
- Knowledge of previous experiences where the task was done the same way and no incident occurred

Root Cause Analysis Factor 4:

Not following the standard or procedure and procedure, not mitigating the risks has not resulted in an incident in the past.

2. Relying on years of experience to predict and prevent incidents

- Previous experience with the task resulted in no incident (whether or not it was done correctly)



“I’ve driven in worse conditions than this and did just fine!”





Over Estimating Capability and Experience

Strategies for addressing risk created through over estimating capability and experience:

1. Reflect on your role as a mentor:

- the person watching may not have the same physical capability or experience, therefore do it the safe way so that they can learn

2. Acknowledge that the physical capability and skill may be sufficient but then reinforce the way it is supposed to be done.

3. Use the Manual Handling and Lifting Guide:

- to communicate the safe forces and weights for manual handling and lifting
- to reduce the risks of injuries through over exertion



Esso Imperial Oil ExxonMobil Canada

Manual Handling and Lifting Guide

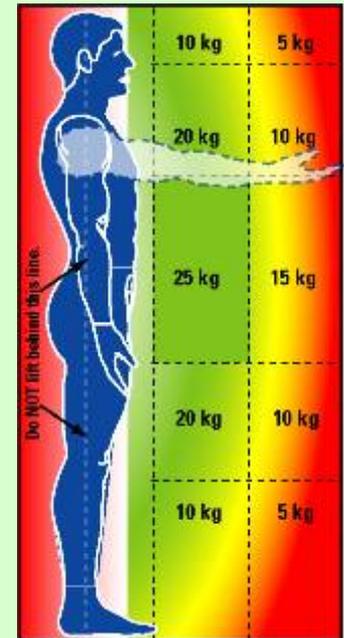
Weight Range	Examples of Items
0 - 20 kg	Small tools, containers, and equipment.
20 - 50 kg	Medium-sized equipment, drums, and heavy tools.
50 kg	Large equipment, drums, and heavy machinery.

Do NOT lift behind this line

Exercise and Discussion on

“Over Estimating Capability and Experience”

1. Are there loads in our work place that require us to exceed the manual handling and lifting guide? Be specific.
2. Is there a task that I have done for many years without incident where I have seen others have incidents with? Are there any similarities in how I do the task to those who have had the incidents?
3. Do I know my own physical limitations and capabilities for manual tasks?



What are we going to do about these?

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



& Think

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Stop and Think ...

Is this the best way to do this manual task? Do I have the right tools and equipment?



Strategies for Understanding and Addressing

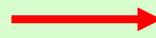
Risk Tolerance

Factor # 2 Familiarity with the Task

“Complacency”

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
- 2. Familiarity with the Task**
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk



COMPLACENCY

“Self-satisfaction especially when accompanied by unawareness of actual dangers or deficiencies.”

Merriam-Webster Dictionary

Root Cause Analysis Factor #4

“Not following the standard or procedure, not mitigating the risks has not resulted in an incident in the past”

1. Complacency Due to Familiarization

- Repetitive tasks
- Long duration tasks
- Getting ‘comfortable’ working near a hazard

2. Scepticism of Potential Hazard – “There was no incident when I did it this way the last time



Familiarity with the Task (Complacency)



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



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

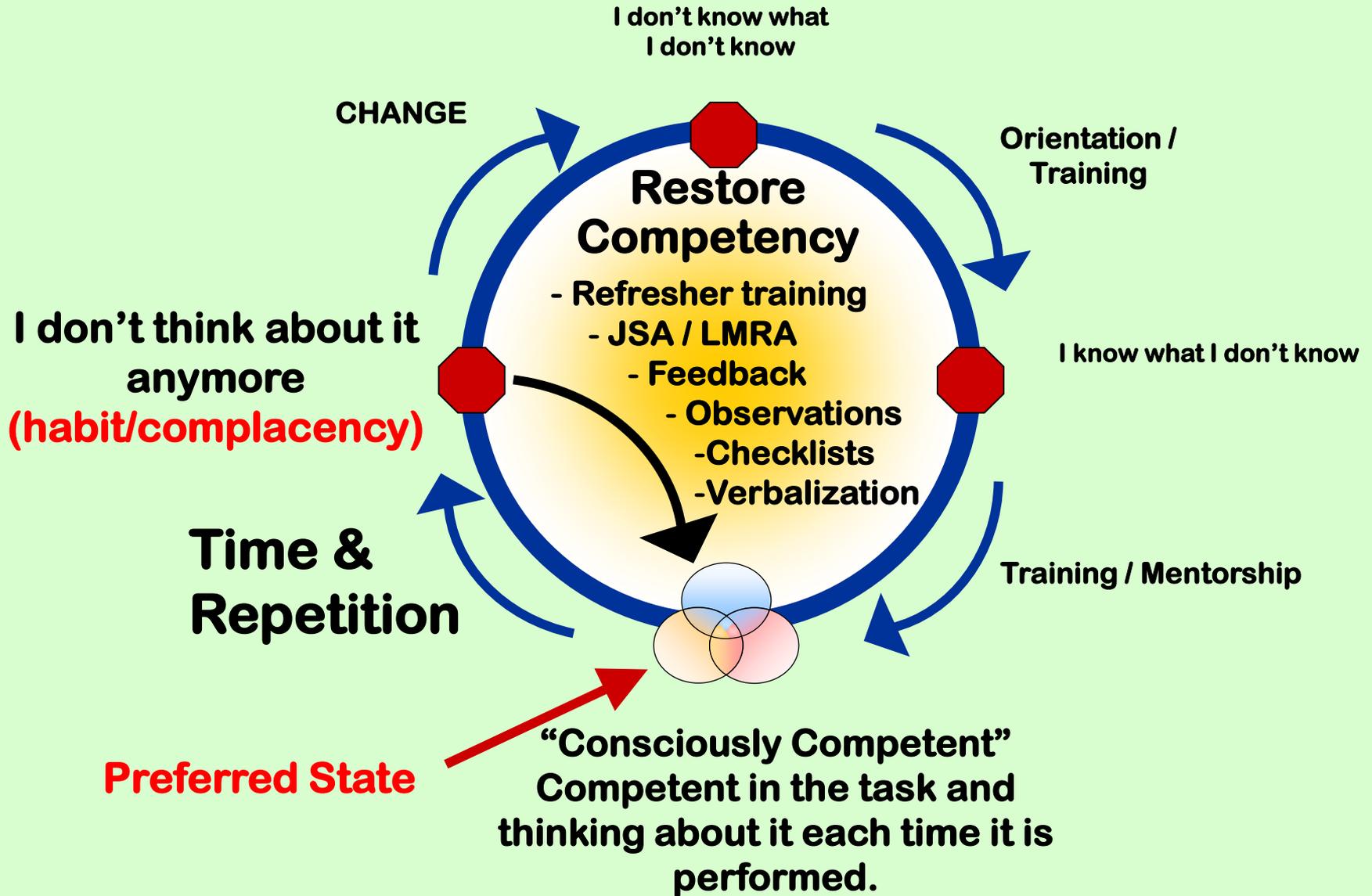


“I do it about 10 times every day”

Strategies for Reducing Tolerance

- **Situational Awareness** – Treat 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?
- Verbalize the task steps of the task while doing it

Competency Cycle





Tools and Processes for Addressing Complacency

Refresher training:

Review existing procedures and processes.

Complete attest of skill

JSA:

Develop or review JSA pre-job

Feedback:

Provide worker with feedback on performance

Observations:

Complete an LPO on work execution

Assignments:

Assign worker as mentor for new worker

Provide worker an opportunity for a special project

Checklists:

Develop a checklist/work aid to ensure procedural steps are adhered to during work execution

Verbalization:

Voice out loud the steps you are completing while executing the task.

Exercise and Discussion

Identify a routine task that you have done more than 100 times in your job?.

What could happen if you loose focus on this task? How bad could it be?

Identify a routine task that you do more than 10 times per day?

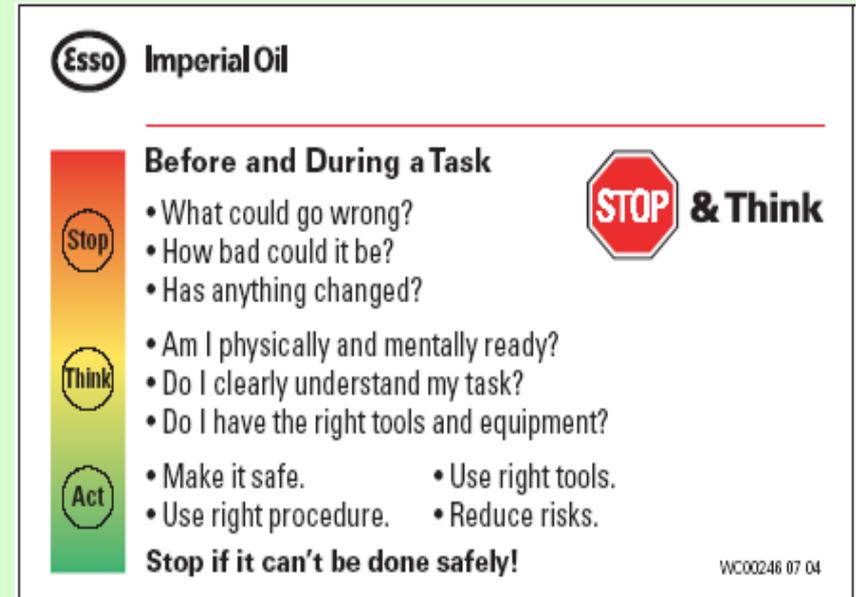
What could happen if you loose focus on this task? How bad could it be?

Identify one task that you will do in the next week where you will use the verbalizing technique (talk your way through the task out loud)

What specific action am I going to take to address this risk tolerance factor?

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
- 2. Familiarity with the Task**
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk



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Before and During a Task

- What could go wrong?
- How bad could it be?
- Has anything changed?

STOP & Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

• Make it safe. • Use right tools.
• Use right procedure. • Reduce risks.

Stop if it can't be done safely!

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Stay tuned for additional strategies to help reduce risk tolerance on the other factors.

Strategies for Understanding and Addressing

Risk Tolerance

Factor # 3 Seriousness of the Outcome

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. **Seriousness of Outcome**
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk

→ “How bad could it be?”

When we believe that the **outcome of our actions will not be serious, we are prepared to accept more risk. If we believe the outcome to be serious, risk tolerance goes down.**

Seriousness of the Outcome

The seriousness of the outcome from an action may be underestimated or understated due to:

- Having seen a negative outcome but the consequences were minimal:
 - i.e. seen H₂S leaks but nothing worse than a bad smell was experienced
 - over pressured a vessel but nothing worse than a PSV releasing occurred

2. Using language and descriptors that trivialize the true nature of the risk:

- referring to a consequence as a ‘pinch’ when it is actually a ‘crush’
- referring to gas as ‘sweet’ when it is actually ‘explosive’.

‘Low speed incident’ or ‘fatality’??



‘Pinch’ or ‘Amputation’??



Seriousness of the Outcome

Common language that discounts the seriousness of the outcome includes:

1. 'Pinch Point'

- Is a 'pinch' the worst that could happen or is it a 'crush' that will break bones or result in an 'amputation'
- Could this 'pinch point' result in a fatality?



2. 'Sweet Gas'

- Is it really 'sweet' or should we refer to it as 'explosive' or 'flammable'?



3. 'Hot Water'

- Is it just 'hot' like a Jacuzzi or hot tub or is it 'scalding' hot like condensed steam?





Seriousness of the Outcome

Strategies for addressing risk created by under estimating the seriousness of the outcome:

1. Use incident communications and safety alerts to demonstrate the seriousness of the outcome:



WORK SAFE BC WORKING TO HOLD A DIFFERENCE www.worksafebc.com **HAZARD ALERT**

Worker dies after being struck by reversing dump truck

A new road was being preloaded with sand and gravel. An engineer walked across a dump truck staging area next to the road while talking on his cellphone. A spotter was using hand signals to direct a loaded dump truck backwards along the staging area. The truck driver was maintaining visual contact with the spotter in his side-view mirror. The dump truck's backup alarm was working normally. Two or three similar backup alarms were also sounding from other nearby mobile equipment.

The spotter turned away from the dump truck for about 10 seconds to check for other vehicles. He continued to motion the dump truck to reverse, without maintaining visual contact with it. During this 10-second interval, the engineer stepped onto the staging area between the spotter and the reversing dump truck. Still talking on the cellphone, he stopped directly behind the reversing vehicle with his back to it. The driver could not see the engineer and continued to reverse as directed by the spotter. The spotter did not see the engineer.

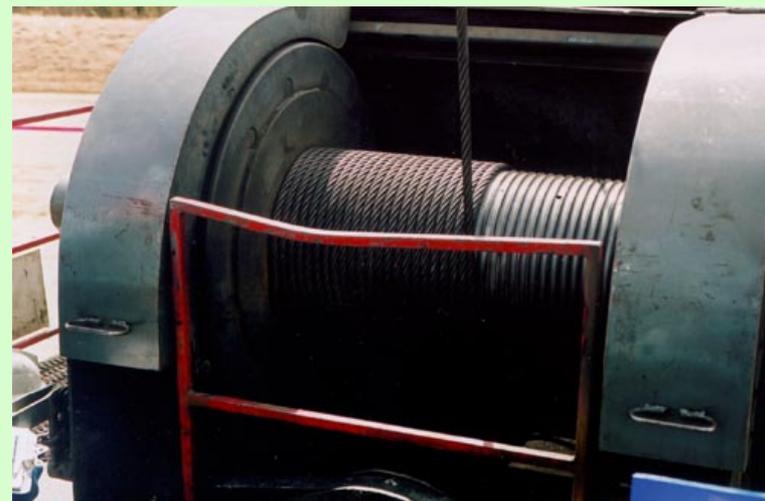
The engineer was unaware that the dump truck was approaching. One of the dump truck's rear tires snagged the back of the engineer's leg, pulling him under the truck. He died from his injuries.

Safe work practices:

- Establish and enforce safe work procedures for working around mobile equipment, including the following:
 - the use of cellphones and other communication devices

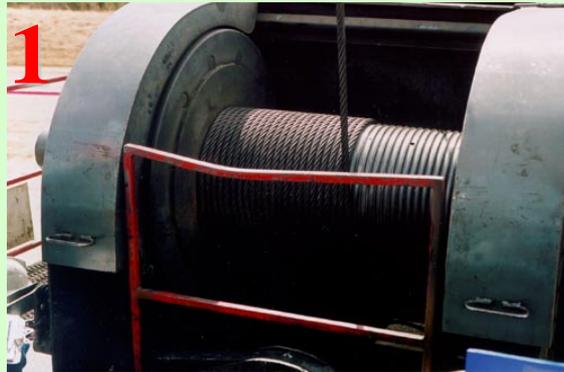
2. Use language that more appropriately describes how serious the outcome could be:

- **'crush'** instead of 'pinch point'
- **'industrial or scalding hot'** instead of just 'hot'
- **'explosive'** instead of 'sweet gas'
- **'death trap'** instead of 'unguarded rotating equipment'



Exercise and Discussion on *“Seriousness of the Outcome”*

1. Ask the question for each of the pictured scenarios **“How bad could it be?”**



2. Relay actual events similar to these shown where the outcomes have been extremely serious.



What are we going to do about these?

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



& Think

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Stop and Think ...

How bad could it be ...

really, how bad?



Strategies for Understanding and Addressing

Risk Tolerance

Factor # 4 Voluntary Actions and Being in Control

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. Seriousness of Outcome

4. Voluntary Actions and Being in Control

—————> Control over an activity or engaging in an activity voluntarily results in the risk being perceived as lower.

5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk

Voluntary Actions and Being in Control

1. The *decision to voluntarily participate* in a task or activity will be based on our perception of the risk associated with the task.



2. The *desire to engage* in the activity may be great enough to discount the known risks.



3. *Being in control* of the task or activity reduces our reliance on other unknowns and therefore the risk is perceived as being lower.





Voluntary Actions and Being in Control

Strategies for reducing the tolerance of risk when engaged in voluntary activities and being in control:

1. Use the *Stop & Think* process for voluntary activities:

- the simple questions on the card will help in making an unbiased assessment of the risk
- the act of actually stopping the task and taking a minute to examine the card will engage the conscious mind in the decisions to continue



2. Use the *Stop and Think* process to engage a group in the assessment of the risk:

- engages a broader knowledge base on the activity
- provides a check and test of our assumptions on the level of risk



Exercise and Discussion on

“Voluntary Actions and Being in Control”

1. Is there a recreational activity that you engage in where you believe the risk to be lower but someone else in this group may view it differently?
2. In each of the pictures shown below, assess the degree of control each of the workers would have over the task.



3

What are we going to do about these?

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Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



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Use *Stop and Think* ...
*on the job, for voluntary
activities and for your
personal recreational
activities!*



Strategies for Understanding and Addressing

Risk Tolerance

Factor # 5 Personal Experience with an
Outcome

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control

5. Personal Experience with an Outcome



6. Cost of Non-Compliance
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk

When we have had a personal experience in our past with a serious outcome, we will be less accepting of the risks associated with the activity.

Personal Experience with an Outcome

A personal experience with an outcome will make us less accepting of risk with a related activity or task.

The challenge:

- As our operations become safer, new workers may never have had a personal experience with the outcome and may be sceptical that it actually could occur.
- We need to ensure that workers who have not had a personal experience with an outcome still know that it is possible to have an incident with that type of activity.



Personal Experience with an Outcome

If we have never witnessed a serious outcome we may perceive that it couldn't happen at all.

- 1. Have workers really been injured while working on the ground around moving equipment?**
- 2. Is 'hot water' really able to cause serious burns?**
- 3. Can static electricity actually cause a fire?**
- 4. Is H2S as dangerous as it is made out to be?**



Personal Experience with an Outcome

Strategies for addressing reducing risks acceptance when there has been no personal experience with a serious consequence:

Keep the ‘corporate memory’ alive:

- the serious incidents that our company has experienced in the past need to be communicated to newer workers
- Supervisors, ‘*expert observers*’, and the ‘*keepers of the corporate memory*’ have the obligation to share their experiences with newer workers

Demonstrate that incidents have occurred because of not following a procedure – “*What could go wrong?*”

Demonstrate that there have been serious consequences in the past – “*How bad could it be?*”

Use *Safety Alerts* and *Incident Summaries* from within the company, from industry associations and from other companies to reinforce that incidents have and could happen.



Exercise and Discussion on

“Personal Experience with a Serious Outcome”

1. Is there a Personal Experience that anyone here has had they may have a valuable lesson for a newer worker?
2. Is there something we should be doing differently or improving based on this personal experience?
3. What does this meant to me?
4. What am I going to do about it?



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Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



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Stop and Think ...

Is there a lesson from my past or that I know of that I can use to demonstrate to a newer worker the risks of this task?

Strategies for Understanding and Addressing

Risk Tolerance

Factor # 6 Cost of Non-Compliance

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
- 6. Cost of Non-Compliance**
7. Confidence in the Equipment
8. Confidence in Protection and Rescue
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk



When there is a high cost or penalty for not complying (e.g. not performing to the predetermined standard), a person may be more reluctant to take that risk.

Cost of Non-Compliance

A greater cost of non compliance can lower risk tolerance.

Example:

A speeding ticket of **\$200** – may be viewed as acceptable by some drivers.



A ticket of **\$10,000 and confiscation of the vehicle**

Would a driver be willing to accept that?



Cost of Non-Compliance

Commercial Passenger Aviation – Very high cost of non-compliance, strictly regulated - low tolerance for risk



Private Aviation – Minimal cost for non-compliance, minimal regulation, voluntary – significantly higher acceptance of risk



Cost of Non-Compliance

Costs of non-compliance in our company can include costs at the corporate level and costs at the individual level.

Corporate:

- Loss of 'license to operate'
- Loss of reputation
- Fines, penalties
- Other??

Supervisor/Manager/Technical:

- Limitations on promotion
- Other??

Individual Worker:

- Loss of privileges (i.e. driving)
- Limitations on jobs that can be done
- Loss of pay
- Other??



Costs of Non-Compliance

Strategies for using the cost of non-compliance as a means for reducing the acceptance or tolerance of risk:

- 1. Increase the cost of non-compliance on critical tasks:**
 - Be selective and only apply this where the standard can always be applied (do not use this where exemptions or deviations to the standard exist or have been allowed).
- 2. Remove barriers that prevent the conformance to standards**
 - Inadvertently rewarding non-compliance can be a barrier
- 3. Increase the reward for compliance**
 - Incentives can be used as a positive motivator for compliance.



Exercise and Discussion on *“Cost of Non-Compliance”*

1. Are there standards we have in this group where the risk of injury warrants a high cost (penalty) for non-compliance?
2. Are there standards in this group that are difficult to conform to? What are the barriers to conformance?
3. Can you identify any examples from work or off the job where an increased cost of non-compliance has been effective in reducing the acceptance of risk?



What are we going to do about these?

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Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



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Use *Stop and Think* ...

Is this the safest way to do this task! Would I be doing it this same way if my supervisor or the OH&S officer were watching?



Risk Tolerance Factor #7

Over Confidence in the Equipment

10 Factors That Influence Risk Tolerance

- | | | |
|--|---|---|
| 1. Overestimating Capability/Experience | ↑ | |
| 2. Familiarity with the Task | ↑ | |
| 3. Seriousness of Outcome | ↓ | |
| 4. Voluntary Actions and Being in Control | ↑ | |
| 5. Personal Experience with an Outcome | ↓ | |
| 6. Cost of Non-Compliance | ↓ | |
| 7. Over Confidence in the Equipment | ↑ | <i>“Excessive trust
that the equipment
will always perform
as designed and
never fail”</i> |
| 8. Confidence in Protection and Rescue | ↑ | |
| 9. Potential Profit & Gain from Actions | ↑ | |
| 10. Role Models Accepting Risk | ↑ | |

Over confidence in the equipment can be recognized by statements such as:

“It has never failed as long as I have been using it”



“It’s fail safe”



“It’s brand new! Of course it will hold!”

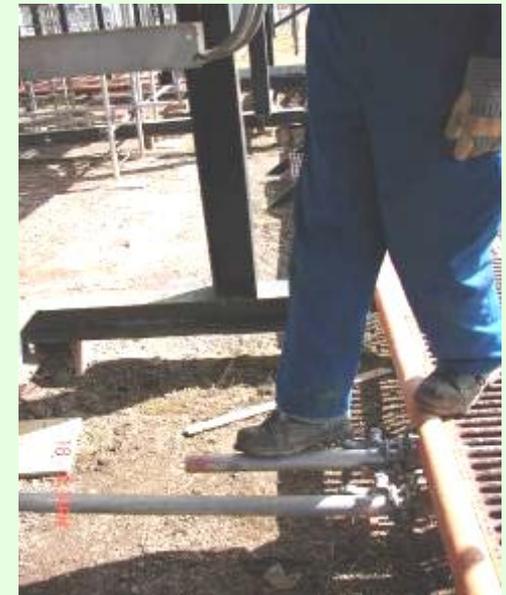


“... and then the equipment will automatically ...”

7) Over Confidence in the Equipment

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

- 1995 US Study – Cars with ABS have more accidents, no safety gain with airbags because drivers became more aggressive.
- Parachuting – ‘Failure to deploy’ replaced with ‘late deployment’



Have any of these failed? A hot stick? A bungee cord? A brace?

Strategies for Reducing Tolerance

- Training on **limitations of the tools**

- ratings on lifting equipment
- ratings on ladders
- ratings on scaffolds



- Training on **limitations of the engineering**

- knowing how shut down sequences work
- pressure ratings on equipment (including negative pressure – vacuum)

- *Stop and Think* ... What will happen **if** it does fail?



Exercise and Discussion on

“Over Confidence in the Equipment”

1. Do you drive differently (i.e. more aggressively) on winter roads when you put high quality winter tires on your vehicle?
2. Is there a tool in our work place that we have damaged from excessive force?
3. Is there a piece of equipment that we push to the operating limits knowing that if we go beyond the limits the equipment will respond appropriately? (PSV will activate? Over speed will shut it down? Crown saver will activate?)
4. Are there electrical circuits we use that could be over loaded but we expect the breaker to trigger if it is?

What are we going to do about these?

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!

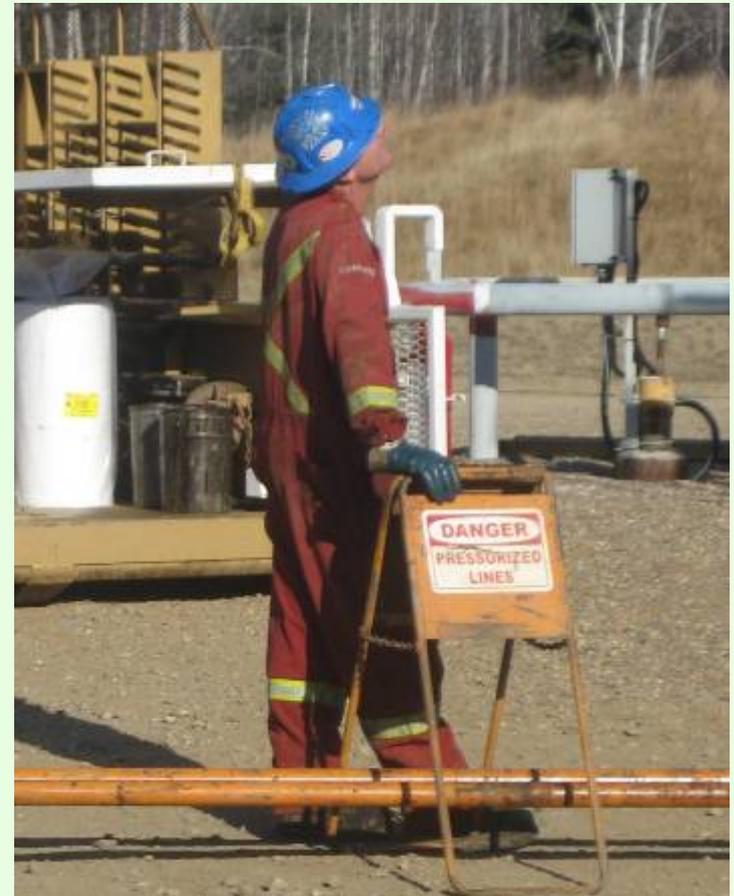


& Think

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Stop and Think ...

What will happen if it does fail?



Strategies for Understanding and Addressing

Risk Tolerance

Factor # 8 Confidence in Protection and Rescue

10 Factors That Influence Risk Tolerance

1. Overestimating Capability/Experience
2. Familiarity with the Task
3. Seriousness of Outcome
4. Voluntary Actions and Being in Control
5. Personal Experience with an Outcome
6. Cost of Non-Compliance
7. Confidence in the Equipment
8. **Confidence in Protection and Rescue**
9. Potential Profit & Gain from Actions
10. Role Models Accepting Risk



When we believe that our safety equipment will protect us or that rescue will be imminent if we do get in trouble, our acceptance of risk increases.

Risk Tolerance Factor # 8

Over confidence in the protective equipment and rescue



This factor applies to **equipment** including:

- Personal Protective Equipment (hard hats, fire resistant work wear, safety boots, gloves, safety glasses)
- Breathing Apparatus, Detection Equipment
- Fall Arrest Equipment, life jackets

and the believe that **rescue** from a bad situation will be immanent and successful including:

- Rescue from a confined space or high angle
- Emergency response from internal or external resources
- Self rescue

Confidence in Protection

Examples of over confidence in protective equipment

- British study – workers wearing back belts tend to lift greater weights believing that the belt would prevent an injury
- 1989, the year that IOR began full time use of fire retardant clothing (FRC), there were more burn injuries than in any other year.
- Workers who perceive their PPE as ‘armour’ will take more risks.



Confidence in Rescue

Examples of over confidence in being rescued

- Workers in close proximity to emergency services have been seen to take more risks than those where emergency response is more distant.
- Workers who have practiced confined space rescue techniques and understand the difficulty of performing a timely rescue have been seen to be more diligent about the pre-job checks to prevent a situation that would require a rescue.
- Solo outdoor adventurers take less risk than those in groups or those in close proximity to rescue services



Strategies for addressing over confidence in protective equipment and rescue:

- 1. Know the limitations of the PPE**
 - the working range of a gas monitor
 - how FRC works in a flash fire
 - cut or chemical resistant properties of a glove
- 2. View PPE as a ‘last line of defence’** and ensure that workers understand that it does not have ‘incident prevention’ properties
- 3. Know the limitations of a rescue** or emergency response.
- 4. Visualize the risks of the job** and how it would be done if the PPE was not available.

“Every job should be able to be done safely by a 65 year old with a bad back and ...” VP Production 2007





Exercise and Discussion on

“Confidence in the protective Equipment and Rescue”

1. Do you place your hands in situations when wearing gloves where you would not place them if you had bare hands?
2. Have you had a situation where your protective equipment prevented an injury from occurring? Could the event have been prevented completely?
3. Is there a task you would do differently (or not at all?) if you knew there was no one available to rescue you or medical facilities were a long way off?
4. Do you have any examples of recreational activities where this factor may be at play?

What are we going to do about these?

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



& Think

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Stop and Think ...

Would I do this task differently if there was no PPE to protect me or no one to save me?

Strategies for Understanding and Addressing

Risk Tolerance

Factor # 9 Potential Profit or Gain from Actions

10 Factors That Influence Risk Tolerance

1. **Overestimating Capability/Experience**
2. **Familiarity with the Task**
3. **Seriousness of Outcome**
4. **Voluntary Actions and Being in Control**
5. **Personal Experience with an Outcome**
6. **Cost of Non-Compliance**
7. **Confidence in the Equipment**
8. **Confidence in Protection and Rescue**
9. **Potential Profit & Gain from Actions**
10. **Role Models Accepting Risk**

A person (or corporation) will accept a higher level of risk if there is substantial profit or personal gain from the risky action.

Potential Profit and Gain from Actions

Companies are prepared to take more risks when there is more profit to be made.



1) **US Highway Study:** Deaths on highways tracks directly with the health of the economy. More to gain, more chances taken.



2) **Alberta Workplace Health and Safety:** Fatalities and lost time injuries increase and decrease with the price of oil.



Potential Profit and Gain from Actions

Corporate cost cutting decisions can also impact the acceptance of higher risks.

Management and supervisors may respond to this demand to reduce costs by:

- 1) Saving money on site or equipment preparation
- 2) Finding 'creative' ways of getting the job done that will save money.



Potential Profit and Gain from Actions

Individuals are prepared to take more risks when there can be personal benefit and gain from their actions.

This could include:

1. Working longer hours for the increased overtime and pay.
2. Compromising on personal safety equipment (i.e. using a worn out pair of boots with no traction, using worn out tool).
3. Working a second job on rest days.
4. Short cutting to get the job done faster so that they can finish earlier.
5. Responding to productivity bonuses.



Strategies for reducing risk tolerance that is created by Potential Profit and Gain from Actions:

1. Identify situations where the pay system may be rewarding at risk behaviours:
 - Identify work where the pay is by the load, volume, or ton
 - Identify contracts (either corporate or individual) that promote short cutting through the reimbursement method.
2. Remove incentives for schedule
3. Ensure reimbursement methods for personal safety equipment are not a barrier to replacing worn out clothing or tools.
4. Reinforce the corporate priorities of:

1) Safety 2) Quality 3) Cost 4) Schedule



Esso Imperial Oil ExxonMobil

- 1) Safety
- 2) Quality
- 3) Cost
- 4) Schedule

Exercise and Discussion on

“Potential Profit and Gain from Actions”

1. Are there tasks we do here where there are incentives for getting the job done:
 - Faster?
 - Cheaper?
2. Are there situations in our work group where we have worked extended hours and fatigue may have created risks?
3. Can you identify any examples from work or off the job where we can profit or have personal gain by **not** following the safety standards?
4. Is an ‘adrenaline rush’ a personal gain?



What are we going to do about these?

Esso Imperial Oil

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?
- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!

STOP & Think

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Esso Imperial Oil **ExxonMobil**

- 1) Safety**
- 2) Quality**
- 3) Cost**
- 4) Schedule**

Use ***Stop and Think*** ...

Am I gambling that there will be a profit or personal gain by taking this action? Is there a risk associate with this action? Is it acceptable? What is the potential loss?



Strategies for Understanding and Addressing

Risk Tolerance

Factor # 10 Role Models Accepting Risk

10 Factors That Influence Risk Tolerance

1. **Overestimating Capability/Experience**
2. **Familiarity with the Task**
3. **Seriousness of Outcome**
4. **Voluntary Actions and Being in Control**
5. **Personal Experience with an Outcome**
6. **Cost of Non-Compliance**
7. **Confidence in the Equipment**
8. **Confidence in Protection and Rescue**
9. **Potential Profit & Gain from Actions**
10. **Role Models Accepting Risk** →

The level of risk accepted by our role models and mentors will impact our own level of risk acceptance.

Role Models Accepting Risk

A **‘role model’** can include:

- A more senior worker
- An individual that the work group turns to for the answers
- Informal leader in the group
- Individual respected by the work group
- Individual in a position of authority



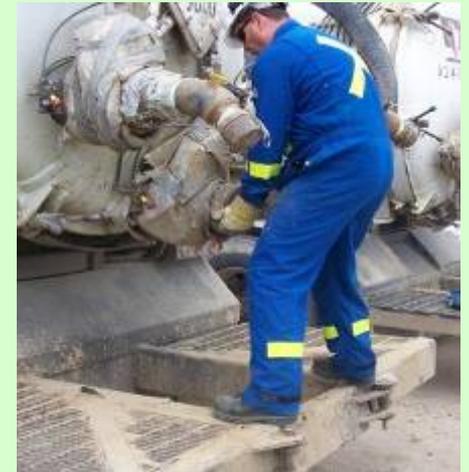
Role Models Accepting Risk

1. A role model's behaviour and the way they do a task will be viewed by others as the acceptable way of doing it.



“I didn't know how it was done around here so I just watched my mentor”

2. The role model's method will often be viewed as the method that has an acceptable level of risk.



“It didn't seem like the safe way but that's the way he does it so I assume he is doing it the way that is the safest”

Role Models Accepting Risk

Strategies for addressing situations where role models accept a higher level of risk:

- 1. Know who the role models are in the group:**
 - Assess the group dynamics to identify the informal role models
 - Identify those who have formal roles as group leaders
 - Assess the risk acceptance of senior workers

- 2. Assign mentors that have a proven record of low risk tolerance**



Role Models Accepting Risk

Strategies for addressing situations where role models accept a higher level of risk:

3. Identify situations where *‘Erosion of Standards’* has occurred.

4. Immediately address situations where the role models have taken unacceptable risks.

5. Reinforce the behaviour of role models when it demonstrates the correct and safe practices.



Exercise and Discussion on

“Role Models Accepting Risk”

1. Have you ever experienced a situation where you have seen a more senior worker engaged in a task that you thought was being done unsafely?
2. How would you address that situation? Would it be an easy discussion to have? Why? Why not?
3. Can you identify a standard in our work place where you believe we are not following the standard as it was prescribed?
4. What safety processes or tools are at our disposal to help us approach others and address situations where we believe a role model or mentor is accepting risks that may be too high.

What are we going to do about these?

Before and During a Task

Stop

- What could go wrong?
- How bad could it be?
- Has anything changed?

Think

- Am I physically and mentally ready?
- Do I clearly understand my task?
- Do I have the right tools and equipment?

Act

- Make it safe.
- Use right tools.
- Use right procedure.
- Reduce risks.

Stop if it can't be done safely!



& Think

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Stop and Think ...

Am I setting the right example as a role model and mentor in my work group?





Stop

Think

Act

Before and during a task

- What could go wrong?
- How bad could it be?

- Do I clearly understand my task?
- Has anything changed?

- Am I physically and mentally ready?
- Do I have the right tools and equipment?

- Make it safe.
- Use right procedure.
- Use right tools.
- Reduce risks.



STOP & Think

Stop if it can't be done safely!

“Safety is a personal commitment and belief in working safe and looking out for one another”

Why do I work safely? What activity do I do on days off or what person(s) are waiting for me at home?

What actions will I take to keep my co-workers and myself safe?

What actions will I take off the job to keep my family and myself safe?

Name

Company

Date



Before and during a task

- What could go wrong?
 - How bad could it be?

 - Do I clearly understand my task?
 - Has anything changed?

 - Am I physically and mentally ready?
 - Do I have the right tools and equipment?

 - Make it safe.
 - Use right tools.
 - Use right procedure.
 - Reduce risks.
- Stop if it can't be done safely!



Ten factors influencing risk tolerance

1. Overestimating capability/experience
 2. Familiarity with the task
 3. Seriousness of outcome
 4. Voluntary actions and being in control
 5. Personal experience with an outcome
 6. Cost of non-compliance
 7. Confidence in the equipment
 8. Confidence in protection and rescue
 9. Potential profit and gain from actions
 10. Role models accepting risk
-

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:

Date

Signature

Keep this card for a follow-up discussion with your team.