Addressing

Safety & Performance

Industrial

- SSA Industrial Versions
- 30% of employees at risk
- SSA Industrial full report
- HFPlus+ Risk analysis
- SSA Report Options

SSA Suite of Industrial Tests

psyfactors

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Pete Rosenweg -
Registered Psychologist
Human Factors

One third at risk!

Ever wondered what is keeping the incident plateau up?

So you already know that unsafe conditions have given way to conclusive evidence about how unsafe acts outweigh all other causes in an ***80:20*** ratio Equipment is safety assessed, but do you know the limits of your people? The OHS Act makes you responsible.

*** Systematic safety and performance improvement must address behaviour**

A large scale survey and analysis of 54,168 persons from 1040 industrial, mining, construction and transport organisations in 2014 from the Australian region showed the following figures.

Capacity for	% of the 54,168 persons reporting poor capacity
Attention recovery - Resilience	24 %
Mental Alertness	27 %
Managing Fatigue	48 %
Perception & Comprehension of risk	41 %

The numbers show that on the **SSA** test of adequacy with respect to the four major risk measures, 15.7% of the total sample of 54168 persons tested were significantly below the minimum on all aspects and overall safe level of functioning. Specific deficits related to their ability to pay attention to what they are doing, low levels of alertness, poor self-regulation and management of fatigue was verified by nearly half as poor perception and ability to see the of risk. Consider - the impact on productivity and safety.

Psyfactors can help you address the risk

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SSA

SSA INV (INDUSTRIAL) v5.0
CLIENT REPORT

Client 2: PSYFACTORS PTY LTD (473)

Respondent 45807: Pete Examplez
Date of Birth: 01-01-1920
Telephone: 0396459800
Email: pnr@psyfactors.com
Address: Suite 615, 370 St Kilda Rd Melbourne 3004 VIC Australia

Assessment Date: **30 / 05 / 2013 09:26:01 PM**

Suite 615, 370 St Kilda Rd, Melbourne Vic Australia 3004 ph: +61 3 9645 9800

Report on: **Pete Examplez** 30 / 05 / 2013 9:26 PM

Overview and scale definitions of the SSA INV (INDUSTRIAL) v5.0

The SSA INV (INDUSTRIAL) v5.0 test is a 109 question test of ability to perform at the level of a well functioning and normal adolescent or adult, relative to the alert performance required in general manufacturing processes and machine operators. This instrument is used primarily for assessing mental functioning and basic capacity for recovery and maintenance of attention for safe behaviour.

The SSA test addresses the person's non technical safety skills through their ability to see and understand external risks, maintain attention of surrounding events, function with coordinated and reasoned action and to generally remain vigilant of any human factors degrading performance.

The respondent's risk of loss of situational awareness (SA) can be determined by transferring the Ai score to the 'risk probability curve' on the graph. A score of less than 50 would suggest a greater or growing risk of loss of SA with stress, fatigue and other disruptive factors. A score greater than 55 provides for increasing certainty of sustained safe behaviour.

ATTENTION AND RECOVERY

Mental Alertness
Measures the extent of every day slips in perception, memory and coordination that indicate a loss of situational awareness.
Personal Resilience
The capacity to recover and maintain a balanced emotional state due to adverse circumstances.

SELF MANAGEMENT

Defensive Safety Habits
Assesses behavioural habits as a personal defense to common hazards and unexpected adverse events.
Manages Fatigue
Extent of self management to avoid safety risks due to unrelieved stress or sleep loss.
Safety Self Awareness
Involves knowledge of the effects of various stressors and warning signs of loss of attention.

FUNCTIONAL ABILITIES

Executive Functioning
Measures the use of logic to detect errors and avoid developing hazards.
Perceptual Acuity
Ability to detect the unusual, a change or sudden events in common contexts.

SAFETY PERSPECTIVE

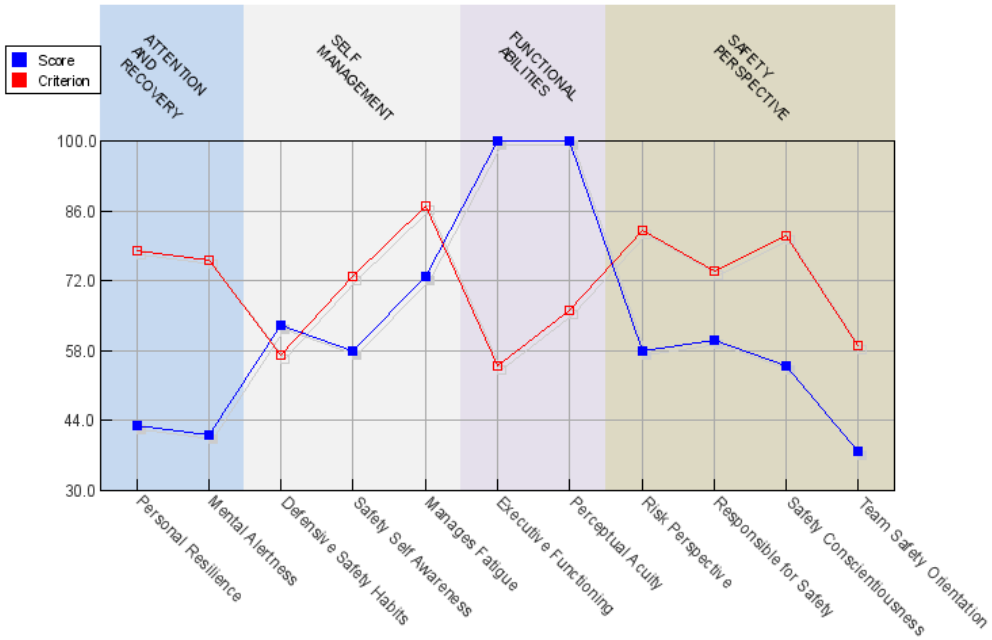
Responsible for Safety
Involves the individual's belief in their ability to influence their own safety.
Risk Perspective
Considers the individual's tendency to seek out or tolerate risky situations.
Safety Conscientiousness
Involves the capacity of the individual to display diligent and conscientious behaviour.
Team Safety Orientation
Involves the individual's capacity to care for the safety of team members.

Report on: **Pete Examplez** 30 / 05 / 2013 9:26 PM

SUMMARY OF RESULTS

Respondent Final Score (Assessment Index): 43 **Time taken:** 10 minutes **Expected:** 30 minutes

Pete's results indicate a below average capacity with respect to the benchmark for safety minded persons, to maintain his situational awareness and master or cope with the safety needs of the role, with a special cautionary significance to his capacity to maintain and recover a balanced emotional state with increased stress or exposure to adverse circumstances.



Pete reports a greater competency in

- Anticipating the hazardous effect of distractions, fatigue and variable diligence in self and others
- Ability to think ahead and project, detect errors, avoid pitfalls and infer developing hazards in the situation
- The capacity for mental and visual sharpness to detect the unusual or occasional event in common contexts

Pete's results indicate that caution should be exercised with respect to tasks requiring competent skills in

- Capacity to maintain and recover a balanced emotional state with increased stress or exposure to adverse circumstances
- Present extent of the capacity to avoid loss of perception and vigilance due to becoming mentally overwhelmed by fatigue, illness or overload
- Effectiveness in managing the self to avoid the cumulative or compounding effects of unrelieved fatigue.
- Being able to notice when various human factors are impacting own mental and physical performance
- Seeing the self as being actively responsible for the safety of self and others
- Identifying and avoiding risky situations that may seem to be within own capability in favour of caution.
- Avoiding expedient deviation from rules and procedures
- Display respect and care for the safety of others in the team

ATTENTION AND RECOVERY

Mental Alertness

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
The cognitive capacity scale measures the individuals prevalence of failure in mental functioning as evidenced by every day slips in perception, memory and physical functions. The person subject to cognitive failure shows up as easily distracted with poor short term memory and a tendency to clumsy uncoordinated behaviour. Cognitive failure can be seen to make the person vulnerable to errors of omission and through frustration to expedient behaviour rendering the person open to safety violations.	Pete reports a slight or lesser than average capacity, to maintain full and alert functioning being subject to every day slips in perception, memory and physical functions. Pete will likely show up with a tendency to be distracted, likely to forget things and a tendency to clumsy behaviour increasing his vulnerability to errors of omission and progressively through frustration to expediency and safety violations.

Personal Resilience

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Involves the stability of mood and affect of the person as it impacts safety oriented behaviour by way of their diligence, alertness and situational awareness, energy and responsiveness in addition to the adequacy of interaction with others.	Pete's coping skills appear to be very marginal at a slightly below average level suggesting a tendency to some emotional instability and possibly signs of anxiety or even depression when under stress. Typical behaviour of individuals with lesser coping skills is a loss of a sense of humour, sensitivity and tendency to project their dissatisfaction by being critical of others and to complain about the things that prevent them from full performance. A difficulty in relaxing and possibly slower recovery when under load would likely show up as growing fatigue affecting both vigilance and responsiveness.

SELF MANAGEMENT

Defensive Safety Habits

Contribution to Safety & Productivity	Effect on Performance (Rated as Average in range of 91-110)
Defensive safety habits refers to the person's perception and understanding of themselves and the environment. Involves monitoring developments resources, weather, fatigue, personality conflicts, etc.. Anticipates required actions. Asks the right questions. Tests assumptions, confirms understanding. Monitors workload distribution. Reports fatigue, stress and overload in self and others. Generally, has 'presence of mind' such that most events seem to be expected.	Pete's results indicate an average ability to monitor developments, to anticipate required actions, ask the right questions, check assumptions and confirm understanding. Monitor workload distribution, report fatigue, stress and overload in self and others.

Manages Fatigue

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Extent of the recognition that accumulated fatigue has on personal performance to prevent breakdown in safe behaviour and vigilance. Ability to take practical steps to achieve quality of sleep, diet and exercise to ensure the capacity to pay attention to events and surroundings, control emotions, reduce errors of judgement or inadvertent rule breaking.	Pete's results at the slightly below average level confirmed the potential for breakdown due to cumulative fatigue impacting performance, suggesting a poorer level of self management with respect to sleep, diet, exercise and relaxation needs. Pete may when under stress increasingly show decreases in attention, concentration, and some increase in emotional reactivity. Extended periods in this state inevitably results in lowered on the job performance and safe behaviour.

Safety Self Awareness

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
The self awareness scale identifies the individuals knowledge of the effects of various stressors and early signs of loss of attention, focus and vigilance that reduce their capacity to function and maintain alertness and awareness of errors or safety on the job.	Pete indicates a below average level of self awareness, insight or knowledge of the effects of various common stressors on the self that could reduce the capacity to function and maintain alertness to safety on the job.

FUNCTIONAL ABILITIES

Executive Functioning

Contribution to Safety & Productivity	Effect on Performance (Rated as Above Average in range of 111-200)
A person's 'executive' functioning involves the mental ability to plan, organise, project outcomes and discern a logical sequence in both practical and abstract tasks. The level of 'executive' functioning indicates the person's capacity which is essential to accurate and consistent task performance and in identifying and projecting the hazards in any context.	Pete indicates an above average ability to plan, organise, project outcomes and discern a logical sequence in both practical and abstract tasks. Contributing significantly to Pete's safety mindfulness and capacity to avoid risk.

Perceptual Acuity

Contribution to Safety & Productivity	Effect on Performance (Rated as Above Average in range of 111-200)
The perceptual acuity component assesses perception and judgment of spatial and textual propositions in the context of low contrast, detail perception, verbal ideation, identification with distraction and object sequencing, to elicit the ability to detect the unusual in a visual or cognitive context. Very low scorers would tend to have more difficulty distinguishing aspects in their environment that may represent or develop into a hazard.	Pete's results at the above average level on the basic test of perceptual and cognitive acuity suggest no difficulty in distinguishing unusual differences or objects in the environment that may represent a hazard.

SAFETY PERSPECTIVE

Responsible for Safety

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Involves the perception and belief the individual has in their ability to guide and influence what happens to them and others in the context of safety. Behaviour range is from the passive to the proactive with regards to safety.	Pete reports a below average level of belief in his ability to control or influence what happens to him and others and would generally tend to be passive and reactive with regards to own or others safety.

Risk Perspective

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Considers the tendency for the individual to purposefully seek out, respond to or avoid situations that are potentially uncontrollable, require considerable skill, represent 'quick and dirty' approach to work or may result in punitive action. Higher scorers indicate the capacity to observe the rules, follow procedures and maintain a consistent degree of integrity in their approach to the work.	Pete reports a below average preference to avoid risk with a tendency to respond to personally challenging situations that may be uncontrollable or unsafe. Pete may occasionally tend to ignore the rules and procedures or direct instructions when motivated by a challenge.

Safety Conscientiousness

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Involves the extent to which the individual is likely to display diligent and conscientious behaviour, avoiding rule breaking, expediency, group pressure and careless acceptance of others work to ensure consistently safe outcomes for themselves.	Pete indicates a below average capacity for conscientious behaviour with an occasional capacity to avoid rule breaking, expediency, group pressure and careless acceptance of others work to ensure consistently safe outcomes.

Team Safety Orientation

Contribution to Safety & Productivity	Effect on Performance (Rated as Slightly Below Average in range of 51-90)
Addresses the readiness and capacity for the individual to respect and care for the other members of the team, display patience and encourage safety by example.	Pete seems to have a below average level of positive-ness in attitude to others, with low interest in their safety needs indicating a very casual respect and caring for the other members of the team, or the capacity to display patience and encourage safety by example.

INTERVIEW GUIDE & ALERTS

Tendency to Complacency

Pete's responses indicate he is likely to accept and expect that the actions of others will be compliant and that the working environment will be inherently safe. This behaviour is often a consequence of the complacency that can develop when a person has little or no direct experience of workplace events that deviate from safety, compliance or procedural requirements.

This creates a routine expectation that things will always be as they should and that verification is not necessary. This complacency results in reduced vigilance, and hence, lesser ability to respond when necessary, i.e. during an emerging risk or other hazardous situation. It is recommended that you verify the extent this could impact Pete's safety, hazard identification and compliance behaviour on the job.

Summary of possible indicators

- likely to daydream and not listen to people
- is easily distracted from their primary task
- fails to hear or ignores what is going on nearby
- avoids difficult or demanding tasks
- shows signs of fatigue
- has an incomplete mental picture of the situation
- not alert or mind goes blank when stressed
- failure to check leads to completion of wrong task
- will tolerate ambiguity and ignore uncertainty
- makes decisions based on incomplete facts
- is unlikely to recognise or challenge a visible problem
- tends not to inform others of important issues

Possible Impacts on performance

In general, people with a tendency to complacency (a form of mental laziness) have few checking or confirmatory behaviours that ensure they remain safe or compliant with any degree of certainty or precision. They typically show an easy acceptance for and reliance upon the words or actions of others and which is characteristic of people who perceive they have a low level of personal responsibility for outcomes. Their lack of any effective monitoring of what is going on around them, or the behaviour of others suggests a greater likelihood they will ignore the signs of a progressive buildup of risk in operations and a likelihood they will react with ineffective actions to emergencies.

How has this arisen in the past for Pete, how did he respond and what did he learn?
Example exploratory questions:

1. How do you keep people informed of your status, intentions, expectations and standards?
2. What sort of things do you often do to make sure everything is operating as it should?
3. How much time do you normally spend checking on what people tell you on each shift?
4. In what circumstances would you not follow instructions?
5. What do you do if you are given information by a more senior person that is different from what it usually is?
6. What should happen to someone who falls asleep while on duty?

Easily Distracted

Pete reports a greater tendency to be easily distracted and of losing track/awareness of his present task when interrupted. You should consider the severity of this by reviewing Pete's results on the Defensive Safety Habits scale. If Pete's results on both scales are low, it more strongly indicates that he is easily distracted.

Summary of possible indicators

- tendency to drift off and daydream
- easily diverted from their own primary task
- changes focus at mention of a favourite topic
- can be preoccupied with trivial issues
- shows signs of fatigue
- has tendency to cyclic 'worry thinking'
- has an incomplete mental picture of the situation
- mind goes blank when under stress
- becomes confused and forgetful
- tendency to make poor decisions due lack of facts

Possible impacts on performance

People with a tendency to be easily distracted are often emotionally prompted by some internal stress or a demanding task which could range from feelings of boredom to panic with a corresponding need for emotional release (this is different from externally generated and sudden multiple distractors demanding attention). The split of attention and loss of continuity in their circumstances may result in a loss of 'situational awareness'. Their perception and responses to sudden demands risk being confused, inappropriate or indecisive through fear of making the wrong decision.

How has this arisen in the past for Pete, how did he respond and what did he learn?
Example exploratory questions:

1. Distractions are a typical part of the job. What are the personal signs that tell you that you are about to lose sight of your task?
2. Do you have any sort of technique that helps you stay in touch with the task, the changing circumstances and actions of others around you?
3. Have you been in the situation where an emerging threat (or risk) demanded your attention whilst you were attending to another one in progress? What were the circumstances and what did you do?
4. What do you do if you notice that it is becoming hard to maintain sufficient awareness of your surroundings?
5. Do you do anything to prevent yourself from 'zoning out' when faced with tedious tasks?

Tendency to Ignore Risk

Pete reports a slightly higher than average tendency to operate outside the rules and at his emotional limits. It is recommended you consider whether this behaviour could result in reduced safety, hazard identification or compliance in the job or working environment. If Pete's result on the Risk Perspective scale result is above the "norm", you should consider whether Pete is experiencing prolonged fatigue as this could increase his tendency to sometimes ignore caution.

Summary of possible indicators

- tends not to anticipate or look forward on events
- tends to ignore signs of sleepiness and fatigue
- tends to tolerate being stressed
- doesn't challenge and gives in to group pressure
- operates out of habit
- tends not to be mentally alert
- has an incomplete mental picture of situations
- is unlikely to monitor others or the situation
- ignores hazardous potential (i.e. drives in fog)
- inability to challenege, check or test information

Possible impacts on performance

People who may be risk prone can typically be characterised as impulsive with an immediate need for gratification and are likely to avoid making the extra effort required to check or alter what they are doing. The inability to provide the mental effort may also result in a rebellious and non-compliant person with regard to the rules and protocols of the tasks and workplace. It should be noted that this characteristic is different from the behaviours of the person trained to manage various risks and hazards in their workplace (ie., aviation, public safety roles etc).

How has this arisen in the past for Pete, how did he respond and what did he learn?

Example exploratory questions:

1. What do you do to ensure you correctly understand the rules and SOPS that exist in your workplace?
2. When you notice others around you getting 'stressed out' what do you do?
3. When you notice that you are becoming 'stressed out' at work what do you do?
4. How do you balance the need to get things done with the need to following the rules and SOPS in the workplace?
5. When you have competing demands to 'get something done on time' but you have to follow a SOP which prevents you from doing that - how do you decide what is the 'right thing to do'?

Failure of Presence of Mind

Pete's responses suggest he has some tendency to lose 'presence of mind' or situational awareness (what is happening around him). You should explore this further with Pete to determine if there is any fatigue, illness, medication, lifestyle, task or emotional issues that could be interfering with his capacity to pay attention and remain constantly vigilant on the job.

Summary of possible indicators

- likely to daydream and not listen to people
- easily distracted from their primary task
- fails to hear what is going on around them
- is preoccupied with unimportant/unrelated factors
- shows signs of fatigue
- has a tendency for cyclic 'worry thinking'
- has an incomplete mental picture of the situation around them
- not mentally alert or mind goes blank
- completes wrong task or throws wrong thing away
- makes decisions based on incomplete facts

Possible impacts on performance

People experiencing a loss of 'presence of mind' also called 'situational awareness' typically become unaware of what is going on around them. Their perception and responses to sudden demands risk being confused, inappropriate or indecisive. They may show a natural 'knee jerk' tendency to fall back to 'old habits' which may result in the wrong decision being made or a failure to apply the correct solution to the situation.

How has this arisen in the past for Pete, how did he respond and what did he learn?

Example exploratory questions:

1. Pete, please tell us about a time in your past work or personal life when you felt that you had difficlty paying attention to what you were doing, for example, when driving at the end of a night shift or some other time. How did you recognise that? What did you do about the situation? What did you learn from that experience?
2. What sort of things do you normally do to stay in touch with the changing circumstances and actions of others around you?
3. How do you ensure that you stay alert and or recover your attention so as to be able to identify any emerging risks or sudden threats around you?
4. What do you do if you notice that it is hard to maintain your awareness of your surroundings?
5. Do you do anything to prevent yourself from 'zoning out' when faced with tedious tasks?

Fatigue Prone

Pete reports typical signs and symptoms of acute, and possibly (if prolonged) chronic fatigue. You should discuss this with Pete to determine its severity and what he does to minimise feelings of tiredness and loss of vitality and how this impacts on his job performance. This represent a significant potential risk factor in whether Pete is able to give sustainable performance at the required levels.

Summary of possible indicators

- likely to daydream and not notice people
- easily distracted from demanding tasks
- fails to hear what is going on around them
- preoccupied with unimportant/unrelated factors
- prefers low mental effort tasks
- tendency to be mentally slow
- tendency to be forgetful
- unlikely to retain a mental picture of a situation
- tendency to go mentally blank when under stress
- tendency to make reactive and poor quality decisons
- makes decisions based on incomplete facts

Possible Impacts on performance

People experiencing fatigue typically have reduced levels of performance, safety and productivity, they may fail to identify and appropriately respond to emerging situational risks and may inadvertently place or allow others to enter a situation of risk.

How has this arisen in the past for Pete, how did he respond and what did he learn?

Example exploratory questions:

1. Please tell us about a time when you felt a bit uncomfortable about what you were doing, like when driving home at the end of a night shift and how did you handle that?
2. What sort of things do you normally do to stay in touch with the changing circumstances around you?
3. How do you ensure your alertness or recover your attention so as to be able to identify emerging risks or threats?
4. What do you typically do if you notice that it is hard to stay focused on your tasks or your surroundings?
5. Do you do anything to prevent yourself from 'zoning out' when faced with tedious tasks?

Tendency to Impulsiveness

Pete reports a tendency to look for quick and easy solutions and and of being reactive when under pressure. This indicates he is likely to be quite impulsive. When also associated with poorer safety habits and self-awareness, this may represent a significant risk factor. You should confirm with Pete the extent and the circumstances when he is most likely to experience this.

Summary of potential indicators

- poor ability to anticipate events
- easily distracted and forgets intended actions
- expects or assumes particular outcomes
- can be disruptive and finds fault with everything
- doesn't assess personal capability and performance before deciding/taking action
- reacts quickly without fully thinking through things
- tendency to throw away the wrong thing
- unintentionally hits the wrong switches
- likely to take short cuts and ignore procedures
- displays a 'near enough is good enough' attitude

Possible Impacts on performance

The impulsive person is likely to operate on a 'short fuse' or a relatively intolerant mindset. A poorer ability to anticipate events and project consequences would likely mean that the wrong actions and decisions are made in a hurry. The low personal coping skills typically displayed by this type of person also suggests a reactivity and a tendency to blame others and to go looking for faults in others when when things go wrong. The person's inability to stay focused and monitor the capability and performance of the elements or people around them indicate a tendency to take short cuts and not fully apply procedures or safety controls.

How has this arisen in the past for Pete, how did he respond and what did he learn?

Example exploratory questions:

1. How do you maintain focus when the task is boring or repetitive?
2. How do you deal with having to finish something to a specific time and standard, but it is impossible to do both?
3. Have you ever found yourself in an undesirable situation you could have avoided? How would you avoid that in future?
4. When you feel pressured at work, what do you do about it?
5. What do you do to minimise doing things without thinking?
6. Do you sometimes consider and evaluate how good your decision-making has been?
7. What strategies do you put in place to slow yourself down before acting?

Makes Blunders

Pete reports he can be clumsy and uncoordinated in his movements and that he has a tendency to sometimes make rash emotional outbursts and be inattentive. If Pete's results on the mental alertness and coping scales are also low, it indicates a need to further investigate this result with him.

Summary of possible indicators

- uncoordinated eye-hand movements
- exercises poor judgement/decision making
- likely to daydream or not be attentive
- easily distracted
- drops things through hasty or careless actions
- fails to hear what is going on around them
- may report feeling overstressed
- may forget to fully complete tasks
- easily irritated by people or circumstances
- can't remember what they went to a particular place to do or get, i.e. the garage at home
- starts wrong machine or process
- throws the wrong thing away
- unintentionally hits wrong switches on machine
- has wandering thoughts due to fatigue and loses mental picture of what is going on around them

Possible impacts on performance

Making blunders is a physical sign of what is going on in the person's mind. The feelings of awkwardness and self conscious movements are a sign of mental tension. The person would likely have considerable difficulty in paying attention to what they are doing, switching rapidly from one task to another, remembering their most recent actions and intentions, together with a loss in the quality of their communication skills and ability to explain issues. This mental freeze interferes with coordination resulting in dropped, incorrect or ineffectual hand, eye and leg movements.

How has this arisen in the past for Pete, how did he respond and what did he learn?
Example exploratory questions:

1. Many people are clumsy and uncoordinated at some time. What do you think being clumsy is about?
2. When might you be most 'clumsy'?
3. How could you defend against clumsiness affecting your performance or safety?
4. If clumsiness is identified by the candidate as being about their mental blocks - ask them about the way they manage their stress.
5. When have you felt that your response to a situation or another person was 'over the top' (angry or emotional), what caused that and what did you do recover or repair the situation?

Failure of Memory

Pete reports a greater tendency to loss of memory about everyday things. This may be due to stress, illness or frequently changing task demands. If Pete has also achieved low results on the coping, maintaining mental alertness, fatigue management and short term memory scales, it indicates that further investigation is needed to establish his present mental state and stress levels. Alternatively, it may also be useful to explore for a possible prior head injury or medication.

Summary of possible indicators

- can't remember intentions, places or names
- can't remember the detail of procedures
- forgets where they put things
- forgets to complete tasks
- constantly preoccupied
- needs to constantly reread things to ensure proper understanding
- poor ability to recall information when needed
- repeatedly checks that they have done things - i.e. going back to check they have locked a door
- performs a familiar or obvious task in the wrong sequence
- puts something to the side to do later on and then forgets to go back and do it
- throws the wrong thing away

Possible impacts on performance

People experiencing a loss of 'presence of mind' also called 'situational awareness', typically become unaware of what is going on around them. Their perception and responses to sudden demands risks being confused, inappropriate or indecisive, the natural 'knee jerk' tendency to fall back to 'old habits' may result in the wrong decision being made and a failure to apply the correct solution to the situation.

How has this arisen in the past for Pete, how did he respond and what did he learn?
Example exploratory questions:

1. How would people that know you well describe your memory? Why?
2. Why do you think it is good/poor about your memory?
3. What sorts of things affect your memory for everyday things?
4. What things affect your memory in particular? How do you compensate for that?
5. Do you have a technique to remember names after meeting someone new? What are our names?
6. When do you find you have most difficulty remembering where you have put things?
7. Do you sometimes use checklists?
8. How do you think having a poor memory could affect this job?
9. Were you aware that you could do things to improve your memory?
10. What other sorts of things occur to you about your memory and the need to improve it?

Poorer Safety Attitudes

Pete's results indicate a complacent attitude and lack of involvement with safety concerns or issues. Pete sees others as being responsible for ensuring safety and for responding to emerging risks. It is strongly recommended that you explore this with Pete to identify the extent that he is likely to avoid responsibility for his own safety and that of others.

Summary of possible indicators

- more accident prone
- unlikely to monitor the safety of others
- unlikely to double check safety infoormation
- considers that the 'ends' justifies the 'means'
- believes everyone cheats on safety rules
- has unrealistic expectations regarding safety
- frequently reports feeling overstressed
- likely to give in to group pressure
- considers that people injured at work are just less lucky
- overlooking things due to pressure of work
- doesn't believe that paying attention affects safety
- thinks 'you need a real instinct for it to be safe at work'
- has attitude that personal safety is the responsibility of the organisation

Possible impacts on performance

People with a 'poor safety attitude' tend to show up as inattentive and careless with a low appreciation of the risks to them in the workplace. They will justify that view with how ineffective or unworthy everything is of their personal contribution and commitment, Their discontent can come from a more physical source that resembles chronic fatigue or medical conditions where the person is affected by prescribed or illicit drugs. They can sometimes withhold personal effort or contribution due to suppressed frustration with a situation.

How has this arisen in the past for Pete, how did he respond and what did he learn?

Example exploratory questions:

1. How often have you found yourself doing whatever is necessary to get the work done no matter how irritating?
2. How do you deal with people who push you to do things?
3. How do you manage getting things done when it seems impossible to meet both the time and quality standard set for you?
4. What sort of situations can you think of where corners can be cut so that you can get things done more quickly?
5. Have you found that there were circumstances where you have not reported a safety risk? Why didn't you report it?
6. Do you have a special way to deal with your fatigue or in letting your feelings (frustrations) go?

HFA Plus+

HFA Plus+ Risk Analysis
CLIENT REPORT

Client 2: PSYFACTORS PTY LTD (473)

Compiled By: Pete Surveytest#10
Job Title: Assembly Line Technician
Location: R & D
Telephone:
Email: pnr@psyfactors.com
Address:

Date Compiled: 29 / 09 / 2014 10:23:00 PM

Suite 615, 370 St Kilda Rd, Melbourne Vic Australia 3004 ph: +61 3 9645 9800

Report on: **Assembly Line Technician / R & D** 29 / 09 / 2014 10:23 PM

SURVEY DESCRIPTION

The HFA plus+ survey is a Human Factors Analysis which is designed to identify the human contribution to incidents. The tool is augmented with a 'Workload' score as an aid to understanding the potential severity and likely reduction in safe performance in specific roles. The inclusion of the differentially assessed workload measure assists in dimensioning the human variable in an investigation process or as the target for training and prevention efforts. The HFA Plus+ is a comprehensive human error framework for rapid risk analysis through 12 major categories of role related human failure and limitations in safety performance and compares with the Reason model of latent and precursor attributes and the HFACS taxonomy of errors and violations by Weigmann and Shappell.

SUMMARY OF RESULTS

Job Title
Assembly Line Technician

Location
R & D

Brief description of the job.
Conducts tests of mechanical systems and assembles and installs mechanical assemblies

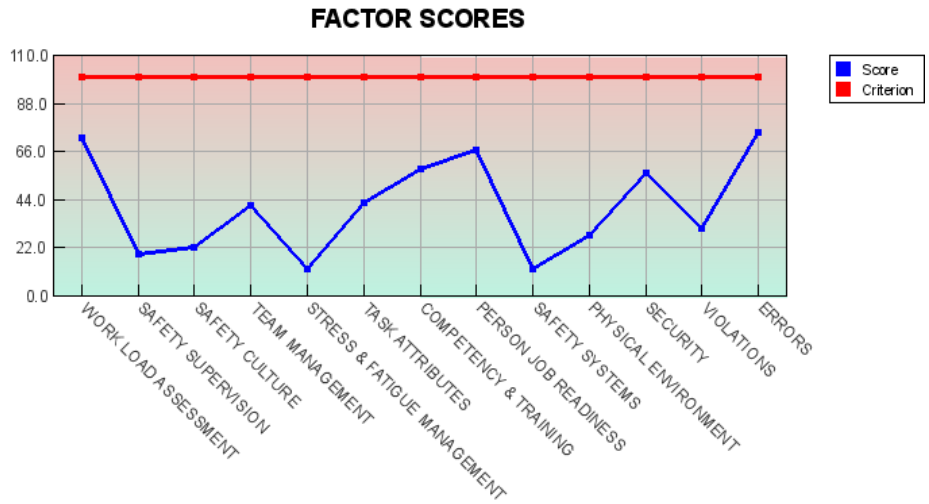
Credentials & Experience Required for the Role
The requirement for this occupation is an AQF Certificate IV or higher qualification or at least 3 years relevant experience.

Nature of Major Hazards in the Role
Human factors dimensions. Distractions, Fatigue, Preoccupation, Complacency, Deferred intentions Habits, Expediency, Overload, Rushing, slowed responses due to age and medical issues.

Specific OHS Skills Required
Situational safety awareness and physical fitness.

Job Risk Index: 38 / 100

Responses on this survey indicate perceptions of a moderate level of safety in the role indicating a lower risk level. The subjective load index rating of 72% primarily involving Mental Demand indicating perception of the stress level experienced due to the mental effort required to do the job, as in thinking, calculating, remembering, searching, etc., should be reviewed to ensure sustainable performance in achieving job objectives.



Analysis indicates the following identified areas of risk:

- Errors resulting from complacency, boredom or habituated responses due to task repetitiveness
- Managing the potential for carelessness and expediency from developed habit or complacency.
- Management of safety diligent behaviours and motivation due to task fatigue.
- Increased mental load and risk due to simultaneous and distracting demands on attention.
- Conducts competency reviews to arrest declines in task safety competence.
- Utilising well designed selection criteria to identify skilled, motivated competent persons for critical roles.
- Provision of training provided to improve dietary and exercise habits to complement task performance
- Determining task limitations of individuals when rotating or changing jobs in the organisation.
- Defending against drug or medication induced performance degrades.
- Screening of individuals from major hazard facilities.
- Extent of risk of unexpected distractions from people through-traffic or unscheduled operations

- Extent of discomfort in heating and cooling potentially affecting personal performance.
- Screening for neurotic motivation or pathological behaviours.
- Screening for purposeful rule breaking due to an anti-authority agends.
- Measures the vulnerability to operator breakdown and cognitive failure.
- Guarding against incompetence or non-compliance in tasks and procedures.

WORK LOAD ASSESSMENT

Subjective Estimate of Work Load
Contribution to Safety & Productivity
The multidimensional, evaluation of subjective experience of workload provides an index score based on specific sources relevant to task strain contributing to a global workload rating. Elements include mental demand, physical demand, temporal demand, performance, effort and frustration level.
Effect on Safety & Performance (Risk score of 72%)
Responses on the multidimensional, evaluation of subjective experience of workload indicates a higher impact global workload rating of 72% primarily involving 'Mental Demand' indicating perception of the stress level experienced due to the mental effort required to do the job, as in thinking, calculating, remembering, searching, etc. in achieving job objectives.

SAFETY SUPERVISION

Peer Support & Review
Contribution to Safety & Productivity
Safety reinforced by team members through vigilance, responsibility for each other and preparedness to meet or exceed specified standards of safety. Addresses the issue of informal group norms and any risk subculture.
Effect on Safety & Performance (Risk score of 0%)
Pete's reported a perception of a high degree of safety awareness by team members by way of vigilance, responsibility for each other and preparedness to meet or exceed specified standards of safety. Suggests a positive safety environment with a strong sense of responsibility to safety.

Safety Monitoring (OHS Staff)
Contribution to Safety & Productivity
Cooperation and compliance with OHS reporting procedures to ensure all incidents become known and are targeted by responsible persons. Addresses the issue of accountability through open declaration.
Effect on Safety & Performance (Risk score of 25%)
Pete's perception of cooperation and compliance with OHS reporting procedures to ensure all incidents become known and are targeted by responsible persons through open declaration was reported at a moderate to aceptable level indicating an infrequent tendency for individuals in this area to hide mistakes and near misses.

Supervisor Role
Contribution to Safety & Productivity
Denotes the authority, vigilance and consultative aspects of the role impacting safety behaviour, process, equipment and timely information. Addresses the behavioural consequence and accountability for workgroup members.
Effect on Safety & Performance (Risk score of 33%)
Pete's perception of the authority, vigilance and consultative aspects of the supervisor role, impacting safety behaviour, process, equipment and timely information to members was reported at a moderate to acceptable level generally reinforcing positive compliance with safety rules for workgroup members.

SAFETY CULTURE

Area Safety Culture
Contribution to Safety & Productivity
The established normative behaviour at the workgroup level, emphasized by the prioritization, communication and immediacy of action regarding safety matters. Addresses the behavioural motivation of the groups.
Effect on Safety & Performance (Risk score of 17%)
Pete perception regarding the safety of the area involving attitudes, involvement and responsive of others was at a very high level indicating a particularly low risk and a high need for persons to comply with the safety culture being promoted in the area..

OHS Procedures
Contribution to Safety & Productivity
Safety procedures reinforce the workgroup and organizational safety cultural norm by being actionable, clear and comprehensive. Addresses the functional issue of reducing ambiguity and confusion.
Effect on Safety & Performance (Risk score of 17%)
Pete perception of safety procedures as being actionable, clear and comprehensive, in turn addressing the potential for ambiguity and confusion was at a significantly high level indicating a very low risk for the area.

Organisational Safety Culture
Contribution to Safety & Productivity
Visibility of the organizations commitment and imperatives regarding safety. Identifies the background normative behaviour for a high safety culture. Addresses the safety belief system through unified language and action.
Effect on Safety & Performance (Risk score of 33%)
Pete's perception of the visibility of the organisations commitment and imperatives regarding safety by way of a background of normative behaviour and unified common language safety belief system, was at the accepatble or good level indicating a good awareness of relevant safety comunication and action in the area.

TEAM MANAGEMENT

Grievance & Harrassment Procedures
Contribution to Safety & Productivity
Extent of the organizations preparedness to hear members complaints and protect them. Addresses the trust and compliance dimension
Effect on Safety & Performance (Risk score of 42%)
Pete's perception and awareness of the organisations preparedness to hear members complaints and protect them, ensuring trust and compliance by members, was at a moderate level suggesting an occasionally cooperative relationship between management and the team.

Team Development & Training
Contribution to Safety & Productivity
Involves safety specific instruction and development of teamwork. Addresses safety through awareness, participation and involvement.
Effect on Safety & Performance (Risk score of 58%)
Pete's perceptions of the extent of safety specific instruction and teamwork development in the work area which addresses safety through awareness, participation and involvement was indicated at the moderate level, suggesting that relevant safety focused programs were seen as having some impact in the workplace and on individual behaviour.

Work Group relations
Contribution to Safety & Productivity
Defined by team members relationships through the authority, contribution and cooperation in working together. Addresses safety motivation through the readiness for members to do their part.
Effect on Safety & Performance (Risk score of 25%)
Pete's perception of work group relations as defined by team members relationships through the authority, contribution and cooperation in working together to enhance safety motivation and compliance, was at a good to excellent level suggesting a high level of cohesion and cooperation within the team.

STRESS & FATIGUE MANAGEMENT

EAP Programs
Contribution to Safety & Productivity
Concerned with the reduction of risk by providing stress debriefing and counseling facilities.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a moderate to good awareness of access (if the hazard level of workplace or environment requires) to stress debriefing and counseling professionals suggesting a reduced potential for this area to compound catastrophic events with further individual breakdowns rather than contain them.

First Aid Facilities
Contribution to Safety & Productivity
Concerned with the capacity for suitable first aid response and competent attention for injuries on site in the event of incidents or accidents.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a high level of awareness of the availability of a suitable response by way of competent first aid attention in the event of accidents, suggesting a reduced level of risk due to a the availability of attention and appropriate action in the event of a disaster.

Shift Work Management
Contribution to Safety & Productivity
Concerned with the breakdown in safety performance behaviours due to sleep-loss fatigue through the diminished ability to identify and respond in an appropriate and timely way to emerging or escalating risks.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a moderate to good level of awareness regarding the potential for breakdown in safety behaviours due to sleep-loss fatigue resulting from shift work changes and timing, in this area, suggesting a reduced potential for incidents due to forgetfullness, poorer coordination, interpersonal cooperativeness and a lack of responsiveness to critical operations or events.

Work Breaks & Meals
Contribution to Safety & Productivity
Concerned with the need to maintain energy, attention and general physiological comfort by breaks and meals.
Effect on Safety & Performance (Risk score of 0%)
Pete reports excellent and consistent access to work breaks and meals (food) in this area, suggesting a significantly reduced risk potential for incidents due to decreases in energy, attention span and general physiological comfort impacting individual performance and capability.

TASK ATTRIBUTES

Multitasking Requirement
Contribution to Safety & Productivity
Concerned with potential for error through split attention and inadequate mental processing due to excessive and simultaneous cognitive demands
Effect on Safety & Performance (Risk score of 75%)
Pete reports a concern with the potential for error resulting from the high mental load experienced in the area (on the task) such that split attention and excessive and simultaneous cognitive demands could fatigue, distract or confound sound safety behaviour.

Task Ambiguity
Contribution to Safety & Productivity
Concerns the potential for error in judgments through indecision due to ambiguity in tasks, methods and instructions increasing the potential for error in perceptions and judgments, hesitation and indecision risking operator impulsivity or freezing (non-action).
Effect on Safety & Performance (Risk score of 0%)
Pete's reports little or no ambiguity contained in the assigned tasks suggesting a negligible possibility for error in judgments leading to hazardous behaviours due to critical inaction (freezing) or impulsive (poorly considered) decisions.

Task Attention
Contribution to Safety & Productivity
Concerned with potential for error in hazardous areas, due to the environmental conditions and variability of the operator to maintain attention and the necessary level of concentration required to accomplish the assigned task(s).
Effect on Safety & Performance (Risk score of 50%)
Pete's indicates a slight concern for potential error due to the extended period of concentration needed to accomplish the assigned task(s), suggesting a vulnerability to fatigue and wandering attention which may be hazardous because of the work of the area.

Task Complexity
Contribution to Safety & Productivity
Concerns the opportunity for error due to complexity of the task requiring constant attention and with demands on cognitive abilities in maintaining short term memory and recall of intentions under distracting conditions.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a lesser to negligible concern for the opportunity for error because of the complexity of the task and excessive demand on cognitive abilities including memory, suggesting a reduced possibility of risks such as expedient short cuts, mistakes due to forgetting, stress and reduced capacity from the pressure and fatigue.

Task Documentation
Contribution to Safety & Productivity
Concerns the potential for error stemming from the extent to which information regarding the tasks are readily available, accurate and current for the work of the area with respect to safety requirements and operation.
Effect on Safety & Performance (Risk score of 25%)
Pete indicates a slight concern for the potential for error stemming from any lack of accuracy and currency of instructions and procedures regarding the tasks or work of the area, suggesting a very minor possibility of safety requirements being ignored and of hazards being created through unverified equipment settings, components and operation.

Task Equipment Usability
Contribution to Safety & Productivity
Concerns the risk of non compliance with designated procedures and inexpert use of specific tools and equipment due to ambigious methods and instructions of equipment required to accomplish the assigned task.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a lesser concern regarding the ease of use or unambigious usability of specific tools and equipment required to accomplish the assigned task, suggesting very minor risk of hazardous assembly, dismantling, maintenance and correction. activities to equipment leading to personal injury and system disruption.

Task Process Compliance
Contribution to Safety & Productivity
Non compliance concerns the potential to ignore standard operating procedure and expand the level of risk in the task by finding unauthorized and expedient shortcuts to procedures.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a low to negligible concern for this area, for the potential to ignore standard operating procedure by finding unauthorized shortcuts to procedures, suggesting that the possibility of either production pressures, task and equipment usability, inadequate training to impact committment to safety in the area is viewed as unlikely.

Task Repetitiveness
Contribution to Safety & Productivity
Concerns the potential for error through complacency generated by habits and boredom due to repetitiveness in tasks or the area overall, leading to careless actions and assumptions regarding the equipment and environment.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a concern for the potential for error resulting from boredom or habituated responses due to repetitiveness in tasks or the area overall, resulting in thoughtless actions and assumptions regarding the equipment and environment, suggests the need for investigations for either periodic job rotation, increased frequency of work breaks, physical re-arrangement of the workers position, changes to temperature, sound and light in the immediate work area.

Task Rotation
Contribution to Safety & Productivity
Concerned with the need for variety and skill development through changing perspective, to diminish the potential for carelessness and expediency from habit, assumption and loss of motivation.
Effect on Safety & Performance (Risk score of 75%)
Pete reports little ability to rotate tasks in this area, which if necessary could reduce the potential risk from carelessness and expediency resulting from habit, assumption and loss of motivation to adhere to specified procedures.

Task Work Period
Contribution to Safety & Productivity
Concerns the potential for breakdown in attention span, motivation, safety diligent behaviours and motivation due to task fatigue resulting from extended or unrelieved work periods.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a concern with the task work periods in the area, suggesting the risk of task fatigue causing a breakdown in attention span, motivation and safety diligent behaviours.

COMPETENCY & TRAINING

Competency Review
Contribution to Safety & Productivity
Activity related to regular and timely review of task competency preventing the possibility of risk in decline in task performance and corresponding safety diligence.
Effect on Safety & Performance (Risk score of 75%)
Pete reports an occasional review of task competency suggesting a high risk of decline in task performance and corresponding safety diligence.

Job & Task Training
Contribution to Safety & Productivity
Concerned with the need to avoid the development of non safety compliant task procedures from 'hand-me-down training'.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a moderate to acceptable level of formal job and task training, suggesting a low risk of development of non safety compliant task procedures due to 'hand-me-down training'.

Role Selection Criteria
Contribution to Safety & Productivity
Concerns the potential for gross error by utilising poorly skilled, motivated, or less competent persons in specific roles. ('square pegs in round holes').
Effect on Safety & Performance (Risk score of 75%)
Pete reports minor selection criteria for the role only, suggesting a significant potential for safety errors and poorer task performance by utilising lesser skilled, motivated, or less competent persons in the area.

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PERSON JOB READINESS

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Balance, coordination and visual acuity
Contribution to Safety & Productivity
Concerned with the reduction in risk emanating from physiological limitations in operating safely in the role. Iinvolving ability to balance, physical coordination and visual acuity, depth perception and colour as may be required to prevent mishaps and errors.
Effect on Safety & Performance (Risk score of 50%)
Pete reports a moderate awareness of job readiness assessments for this area, involving examination for ability to balance, physical coordination and visual acuity, depth perception and colour as may be required for the role, suggesting a lesser risk potential for safety incidents where individual limitations are exceeded or capacity reduced due to other factors such as fatigue etc.

Exercise & Diet
Contribution to Safety & Productivity
Concerns the reduction of risk through advice, instruction or training provided to ensure required cognitive-physiological performance through better dietary and exercise habits and to defend against degrades in alertness and responsiveness.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a low awareness of any advice, instruction or training provided to modify dietry and exercise habits to complement task needs, in this area, suggesting where functions are performance critical in terms of relying on alertness and responsiveness of an operator, a greater risk potential through possible degrades in cognitive-physiological performance resulting from poor diet and exercise habits. (for example; typical after lunch sluggishness produced by fatty foods and poor exercise habits).

Job Change Medical & Infirmity Checks
Contribution to Safety & Productivity
Concerned with physical incapacity hazard trapping at the job / role change interface.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a low awareness of any medical checks to determine task limitations when rotating or changing jobs in the organisation, suggesting a greater risk potential for a hazard to be introduced due individuial limitations acceptable in one area but becoming functionally critical in another non equivalent area.

Medical & Infirmity Checks
Contribution to Safety & Productivity
Concerned with the elimination of hazard by establishing physical capacity for the role at selection.
Effect on Safety & Performance (Risk score of 25%)
Pete reports an awareness of medical checks conducted to determine physical and task limitations at time of selection and placement within the organisation, suggesting a minor risk potential for a hazard to be introduced due to individual limitations not evident at interview or in the candidates biographical data.

Medication & Substance Abuse
Contribution to Safety & Productivity
The elimination of unpredictable or hazardous behaviours consequent to therapeutic prescriptions and drug abuse.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a minor awareness of checks conducted to determine medication or unauthorised substance usage either at time of selection and placement or periodically within the organisation, suggesting a greater risk potential for a hazard to be introduced (when in proximity to production or mobile equipment, chemicals or control switches) due to marked performance degrades which may not be immediately evident to other team members or supervisory personnel.

Psychological Evaluations
Contribution to Safety & Productivity
Concerned with the reduction in potential hazards by screening out unpredictable individuals from major hazard facilities.
Effect on Safety & Performance (Risk score of 100%)
Pete reports little or no awareness of psychological evaluations conducted to detect propensity to critical instability at time of selection and placement or once working within the organisation, suggesting a significant risk potential for a hazard to be introduced into the work area (when in proximity to production or mobile equipment, chemicals or control switches) due to a marked degrade in peformance.

SAFETY SYSTEMS

Area Restricted Access
Contribution to Safety & Productivity
Concerned with the potential for individuals lacking in area specific safety knowledge and training to enter and violate safety rules.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a negligible concern regarding the potential of individuals lacking in area specific safety knowledge to enter and create a hazard by violating safety rules, suggesting some need to maintain (if in a major hazard environment) safeguards to unauthorised entry to the area.

Emergency Procedures Training
Contribution to Safety & Productivity
Concerned with the existence of the adequacy of task and emergency safety training, procedures and periodic reinforcement in the role.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a negligible concern regarding the existence of emergency procedures training, suggesting only the need to maintain safeguards to avoid breakdown in safety in the area.

Equipment Safety Certification
Contribution to Safety & Productivity
Concerned with the potential for use of unauthorized tools which could create a hazard (ie, sparks, breakage or wear), possibly due to scarcity or usability issues with tools necessary for specific tasks.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a minor concern only with the potential and opportunity for the use of unauthorized tools (possibly due to scarcity or usability issues of tools) to create a hazard (ie, cause sparks) in the area, suggesting the need to maintain the facilities for the area where they are required.

Informed Area Safety System
Contribution to Safety & Productivity
Concerned with the hazard created through the existence of generalized safety procedures rather than a systematic and fully documented process, fully informed of the special needs of the local area.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a negligible concern only for any hazard potential created for individuals because of a generalised and poorly informed local area safety procedure, suggesting only the need to maintain the workability of safety response procedures for the area.

Protective Clothing
Contribution to Safety & Productivity
Concerned with the potential for hazard because of the non-use of recommended non flammable, non electrostatic, non absorbant, acid repellant garments, boots, gloves and hard hats where specified for the area.
Effect on Safety & Performance (Risk score of 50%)
Pete's perception of the potential for hazard because of the non-use of recommended clothing (ie non flammable, non electrostatic, non absorbant, acid repellant, hard hats etc) where specified for the area, suggests a moderate need to review the safety requirements, facilities and reasons for non compliance.

Safety Incident Reporting
Contribution to Safety & Productivity
Concerned with the need for 'safety intelligence' from the workplace safety incidence reporting system to rapidly identify remedial or preventative action, and ensuure that workplace hazards are addressed.
Effect on Safety & Performance (Risk score of 0%)
Pete reported a high awareness of the existance of the organisations safety incidence reporting system to gather 'safety intelligence' from the workplace for remedial and preventative action, suggesting the need only to maintain commitment to the flow of information so that workplace hazards would continue to be addressed as necessary.

PHYSICAL ENVIRONMENT

Heating, Cooling & Drafts
Contribution to Safety & Productivity
Concerned with the potential for degrade in performance due to distraction and discomfort in working in the area caused by changes in heating, cooling and drafts, potentially affecting the accuracy of observations, communications, physical responsiveness and preoccupation.
Effect on Safety & Performance (Risk score of 75%)
Pete reports the existence of minor defenses to discomfort and distraction caused by changes in heating, cooling and drafts, suggesting a greater risk and potential of incomplete observations, mistakes in assimilating or communicating data, poor responsiveness and preoccupation affecting the accuracy of tasks in the area.

Housekeeping & Cleanliness
Contribution to Safety & Productivity
Concerned with safety by eliminating the potential for non process related hazards such as trips, slips and other impact or contamination incidents due to poor housekeeping.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a high level of attention to the maintenance of an uncluttered, obstacle free and clean environment where components are not stored in random spaces, discarded objects are promptly removed and spilled materials are quickly mopped up, suggesting a negligible risk or potential for trips, slips and other impact or contamination incidents.

Lighting
Contribution to Safety & Productivity
Concerned with the potential for error caused by poor vision, identification of process or equipment status and judgment.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a high level of consistent attention to the quality of the lighting of the area, suggesting a negligible potential for error caused by poor vision, identification of process or equipment status and judgment.

Mobile Equipment
Contribution to Safety & Productivity
Concerned with the hazard potential emanating from unpredictable fast moving machinery in proximity to people and materials.
Effect on Safety & Performance (Risk score of 0%)
Pete reports the widespread existence of alerting mechanisms such as distinctive sound tones, signals or lights warning of machinery in operation in this area, suggesting a negligible level of risk potential emanating from unpredictable fast moving machinery (plant or trucks) in proximity to people and materials.

Noise Levels
Contribution to Safety & Productivity
Concerned with the degrade in cognitive performance and mood due to excessive or prolonged noise.
Effect on Safety & Performance (Risk score of 50%)
Pete reports that there is a moderate level of protection against high and sustained noise levels in the area, suggesting a lesser risk and potential for degrade in cognitive performance and mood due to excessive or prolonged noise.

Open to Distractions
Contribution to Safety & Productivity
Concerned with the potential for error and injury because of unexpected distractions due to the open-ness of the task area to bypassing pedestrian traffic, people, animals, environmental conditions or unexpected or unscheduled operations.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a low awareness of any safeguards or procedures that prevent unexpected distractions from people, animals, environmental conditions or unexpected or unscheduled operations, suggesting (where operations requiring close attention and intervention or operation by the worker are critical) a greater degree of risk or potential for error and injury in the area.

Proximity to Chemicals & Gases
Contribution to Safety & Productivity
Concerned with the potential hazard created by noxious or debilitating chemicals and vapors or gases.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a lower level of unprotected exposure to noxious or debilitating chemicals, vapors or gases in the area, suggesting a minimal risk of degrade in human performance, judgement and coordination with prolonged exposure, creating a short and long term safety hazard

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Vibration & Oscillation
Contribution to Safety & Productivity
Concerned with the degrade in cognitive performance and physical sensitivity with prolonged vibration and movement.
Effect on Safety & Performance (Risk score of 0%)
Pete reports a high level of protection from vibration and/or oscillation due to equipment operating in the area, suggesting no risk or potential for a degrade in cognitive performance and physical sensitivity with prolonged exposure, to create a safety hazard.

Weather Exposure
Contribution to Safety & Productivity
Concerned with the potential risk of buffetting, slips, short circuits and ignition hazards through excessive wind, water and lightning strikes.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a good or acceptable level of protection against excessive wind, water and or lightning strikes, suggesting a very low degree of risk or potential for hazard through buffetting, slips, short circuits and ignition in the area.

SECURITY

Deviant Behaviour
Contribution to Safety & Productivity
Concerned with the potential for hazardous actions because of excessively neurotic motivation or pathological behaviours.
Effect on Safety & Performance (Risk score of 75%)
Pete reports an uncertainty regarding policy of removal of personnel due to deviant behaviour being evident in the area, suggesting a possible hazard risk caused by those with excessively neurotic motivation and behaviour.

Malicious Behaviour
Contribution to Safety & Productivity
Concerned with the opportunity for a revengeful person to create a safety hazard by interfering or disrupting the work or people in the area.
Effect on Safety & Performance (Risk score of 25%)
Pete reports a very minor possibility of the opportunity for a revengeful person to create a safety hazard by interfering or disrupting the work or people in the area, suggesting the need to identify any additional safeguards and responses need for for such a situation.

Sabotage
Contribution to Safety & Productivity
Concerned with the potential for significant damage and injury because of politically motivated or malevolent actions.
Effect on Safety & Performance (Risk score of 50%)
Pete reports a moderate possibility of the opportunity for politically motivated action to create a safety hazard by purposefully sabotaging and disrupting the work or people in the area, suggesting the need to identify procedural safeguards and responses to such a situation.

Willful Rule Breaking
Contribution to Safety & Productivity
Concerned with the hazard potential created by individuals with a pathological, anti-authority or macho agenda to create a safety hazard through reactive, impulsive and contrary behaviour to the safety rules, behavioural norms and established procedures established to ensure safety.
Effect on Safety & Performance (Risk score of 75%)
Pete reports a possibility (because of a lack of existing safeguards) of the opportunity for individuals with an anti-authority agenda to create a safety hazard through reactive, impulsive and contrary behaviour to the safety rules, behavioural norms and established procedures, suggesting the need (in a major hazard environment) for greater rigor in screening for work in the area.

VIOLATIONS

Unsafe acts include violations. Violations include often routine practices either missed or condoned by supervisors, that bend the rules; including deviating from accepted procedures to save time, bending a clear rule; in responding to perceived pressure the worker omits part of the necessary process and either passes the work to the next person or signs off the work as having been done; and a worker willfully and flagrantly breaks SOP rules without regard to the consequences.

Routine & Flagrant Violations
Contribution to Safety & Productivity
Violations are due to routine or incidental preferences to execute a task in a particular way outside of the standard and specified operating procedure. Violations may occur due to expediency, laziness, ignorance and disdain for the system rules or copied from others. Violations are typically found where perceptions of supervisory inattention or a lesser accountability exists.
Effect on Safety & Performance (Risk score of 31%)
Responses indicate a below required level of defence and supervisory accountability to incidental or systematic violations which may be due to routine or incidental personal preferences to execute a task according to non standard or expedient operating procedures.

ERRORS

Errors acts are active failures which directly or indirectly cause mishaps, or lead to a latent condition or situation that an operator would have to respond to during a some aspect of their work. These typically include cognitive and behavioural, skill based errors and errors of judgement.

Cognitive Behavioural Errors
Contribution to Safety & Productivity
Concerns the potential for safety and performance imapcts due to role demands and operator limitations in timely recognition of hazards, distractions and interruptions and the need to recall information important for continued safety.
Effect on Safety & Performance (Risk score of 100%)
Reports an acceptable level of defence and lesser vulnerability in the role, in addressing the potential for safety and performance imapcts due to role demands and operator limitations in timely recognition of hazards, distractions and interruptions and the need to recall information important for continued safety.

Errors due to Skills and Technique
Contribution to Safety & Productivity
Concerns the potential for hazards to be created in the role due to a lack of adequate screening, training and continued monitoring of operators skills and techniques of task execution, resulting in perpetuation of error and error-prone behaviour.
Effect on Safety & Performance (Risk score of 58%)
Reports a slightly greater than acceptable level of vulnerability in the role, with respect to the potential for hazards to be created due to a lack of adequate screening, training and continued monitoring of operators skills and techniques of task execution, resulting in perpetuation of error and error-prone behaviour.

Judgement & Decision Making
Contribution to Safety & Productivity
Concerns the potential for safety and performance imapcts due to role demands and operator limitations of competency with respect to exceeding personal ability to execute the task, the opportunity to misperceive or misjudge the situation and act with a less accurate diagnosis of any task problem.
Effect on Safety & Performance (Risk score of 67%)
Reports the role has a slightly greater level of vulnerability with respect to the potential for safety and performance imapcts due to lesser operator competency in executing the task as required and in accurately perceiving, comprehending and projecting any non-routine task problem.

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Knowledge & Rule Based Errors
Contribution to Safety & Productivity
Concens the opportunity for unconscious incompetence or non compliance of general and specific task requirements including skipped procedures, inappropriate use of tolls and equipment careless acceptance of work and standards which could impact downstream operations and safety of the total system and that of other personnel.
Effect on Safety & Performance (Risk score of 75%)
Reports a slightly greater than acceptable level of vulnerability in the role, with respect to the potential for unconscious incompetence or non compliance of general and specific task requirements, to impact downstream operations and the safety of the total system and that of other personnel.

ANALYSIS GUIDE & ALERTS

Induced complacency and states of low awareness

Responses indicate that there may be a risk due to induced complacency or low awareness states in the role. Reliability, dependency and longer periods of inactivity tend to reduce cognitive activity and attention such as where expectations are established that the actions of others will be compliant and that the working environment will be inherently safe. to the point where individuals can fall asleep without knowing it. This diminished attention is often a consequence of the complacency that can develop when a person has little or no direct experience of workplace events that deviate from safety, compliance or procedural requirements.

Highly automated environments can also create a routine and highly dangerous expectation that things will always be as they should and that verification is not necessary. Complacency results in reduced vigilance, and hence, lesser ability to respond when necessary, i.e. during an emerging risk or other hazardous situation. If fouond to be a significant risk factor Incumbents for the role should be assessed for their understanding regarding complacent behaviours, self awareness and their defensive habits to withstand It are recommended.

Summary of possible indicators

- Seen to descend into daydreaming
- Is easily distracted from their primary task
- fails to hear or ignores what is going on nearby
- avoids difficult or demanding tasks
- shows signs of fatigue
- has an incomplete mental picture of the situation
- not alert or mind goes blank when stressed
- failure to check leads to poor task completion
- will tolerate ambiguity and ignore uncertainty
- makes decisions based on incomplete facts
- is unlikely to recognise a visible problem
- tends not to inform others of important issues

Possible Impacts on performance

In general, people with a tendency to complacency (a form of mental laziness) have few checking or confirmatory behaviours that ensure they remain safe or compliant with any degree of certainty or precision. They typically show an easy acceptance for and reliance upon the words or actions of others and which is characteristic of people who perceive they have a low level of personal responsibility for outcomes. Their lack of any effective monitoring of what is going on around them, or the behaviour of others suggests a greater likelihood they will ignore the signs of a progressive buildup of risk in operations and a likelihood they will react with ineffective actions to emergencies.

What mechanisms are there in the role to defend against complacency?

Example exploratory questions:

1. Are incumbents kept in the loop, informed of system status, intentions, expectations or changing standards?
2. What sort of things are mandated for incumbents to ensure everything is operating in their area as it should?
3. Are people likely to inform others of concerns or changes at shift changeover?
4. Are incumbents informed of the circumstances in which they should do nothing?
5. Are incumbents informed of the immediate process and persons to be involved when contradictory information presents itself that is different from what it usually is?
6. What should happen to someone who falls asleep while on duty?

Role exposes incumbents to distractions

Responses indicated a greater vulnerability and opportunity for distraction with the danger of losing track/awareness of the present task when interrupted. You should consider the potential severity of this by reviewing results of the subjective work load scale. If results on the work load scales is low low, it more strongly indicates that cognitive tunnelling may be induced. An aspect that is consistent with the findings that distraction is a form of misdirected attention.

Summary of observed indicators

- person drifts off and daydreams
- easily diverted from their own primary task
- changes focus when startled or surprised
- unresolved task issues invite fixation of attention
- task load induces fatigue and need for relief
- distraction renders an incomplete mental picture of the situation
- mind goes blank when the task is ambiguous
- uncertainty leads to confusion and forgetfulness
- poor decisions due to uncertainty of what is fact

Possible impacts on performance

Some situations that invite distractions are often emotionally prompted by some internal stress or a demanding task which could range from feelings of boredom to panic with a corresponding need for emotional release and is different from externally generated and sudden multiple distractors demanding attention, like when a job goes wrong. The split of attention and loss of continuity in the circumstances will likely result in a loss of 'situational awareness'. Also, sudden demands distract creating confusion and inappropriate action or indecisiveness due to uncertainty and ambiguity.

What mechanisms are there in the role to prevent distractions interfering with task safety?

Example exploratory questions:

1. Are incumbents in the role trained in recognising personal signs that signify potential loss of attention?
2. What sort of techniques or characteristics of the task help incumbents remain attentive?
3. Is the task subject to sudden changes where a threat can demand attention but the task cannot be varied quickly?
4. What means are available for task disengagement to enable emergency attention to be re-assigned elsewhere?
5. Does the role work include shifts in which some tasks are considered tedious and invite compensatory behaviour?

Fatigue Prone Characteristics

Fatigue is the principle precursor to human error across all industrial settings. It is universally recognized as the source of major errors in both high and low risk tasks. Depending on the severity of the fatigue and the complexity of the task, fatigue has been shown to raise the probability of error by a factor of 50 or more.

Summary of fatigue indicators

- forgetfull with poor short term memory
- fails to hear what is going on around them
- slow mentally and unresponsive to signals
- prefers low mental effort tasks
- prefers to rest their body, lean on things
- poor concentration
- unlikely to retain a mental picture of a situation
- tendency to freeze when under stress
- tendency to be reactive with poor quality decisons
- lacks energy settles for incomplete facts

Possible Impacts on performance

Fatigue effects are task dependent, routine, physical and habitual tasks are affected least; vigilance and decision making are affected most. In routine conditions, fatigue effects are masked by apparent or superficial competency and apathy associated with decreased vigilance. People experiencing fatigue typically have reduced levels of performance, safety and productivity, they may fail to identify and appropriately respond to emerging situational risks and may inadvertently place or allow others to enter a situation of risk.

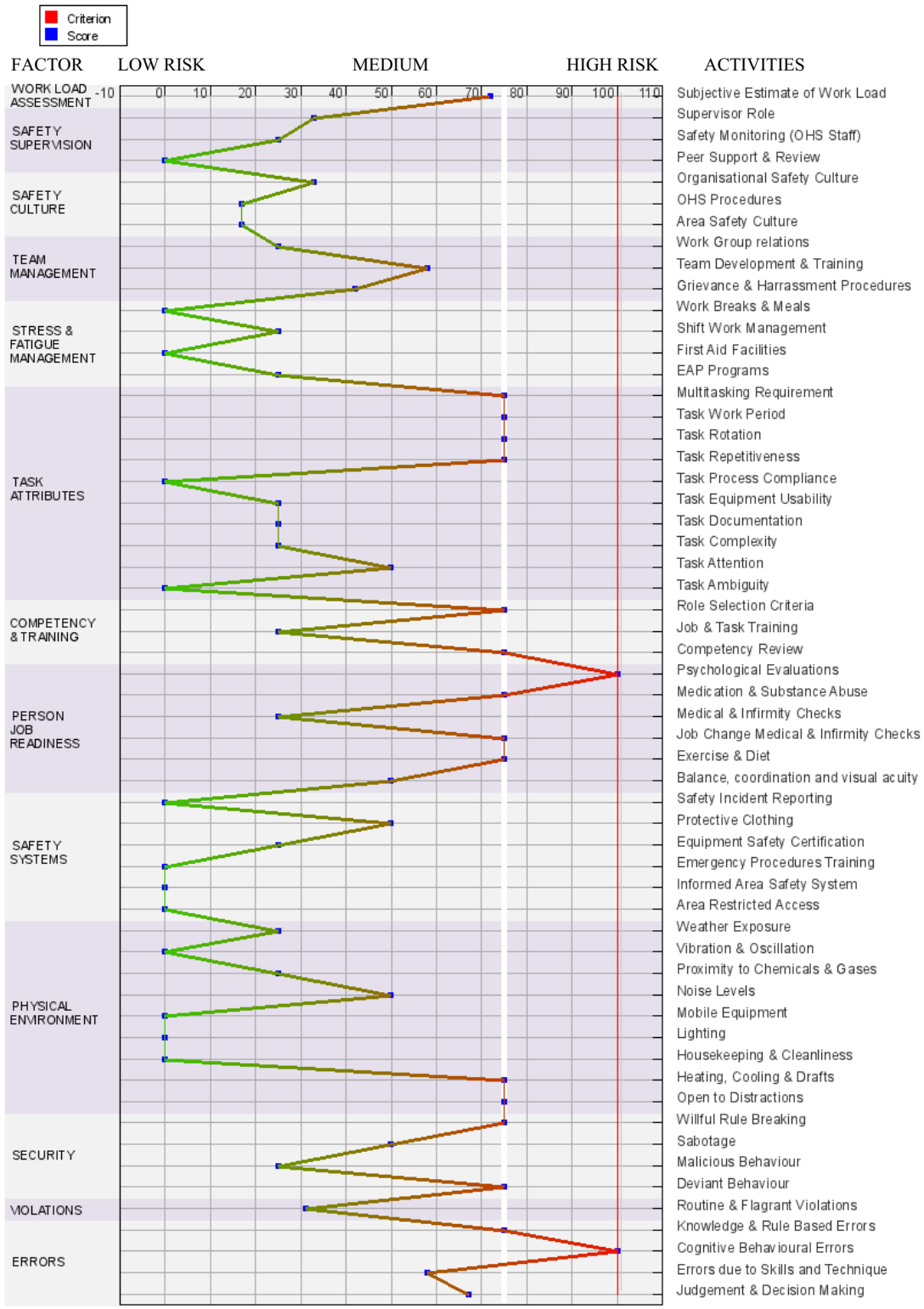
What mechanisms are there in the role to lessen the buildup of fatigue?

Example exploratory questions:

1. Are incumbents advised regarding working with growing fatigue, in the role?
2. Is there an alternative for those who feel very fatigued and unsafe when driving home at the end of a night shift?
3. Are there breaks and opportunities for a rest when a person reports over fatigue?
4. How does the organisation assess the degree of alertness and attention required for the role?
5. Does the organisation have the ability to take a person who is visibly fatigued off the line?
6. Are there strategies to move "headwork" up front whenever fatigue effects are likely to impair decisions later?
7. Has the organisation conducted a fatigue study to determine the best type of shiftwork for the role?
8. Are there any facilities or opportunities for a 'power nap' to alleviate fatigue during shift hours?

Report on: **Assembly Line Technician / R & D** 29 / 09 / 2014 10:23 PM

Detailed Risk Graph



HFA Plus+ Risk Analysis Structure

WORK LOAD ASSESSMENT

- Subjective Estimate of Work Load

SAFETY SUPERVISION

- Peer Support & Review
- Safety Monitoring (OHS Staff)
- Supervisor Role

SAFETY CULTURE

- Area Safety Culture
- OHS Procedures
- Organisational Safety Culture

TEAM MANAGEMENT

- Grievance & Harrassment Procedures
- Team Development & Training
- Work Group relations

STRESS & FATIGUE MANAGEMENT

- EAP Programs
- First Aid Facilities
- Shift Work Management
- Work Breaks & Meals

TASK ATTRIBUTES

- Multitasking Requirement
- Task Ambiguity
- Task Attention
- Task Complexity
- Task Documentation
- Task Equipment Usability
- Task Process Compliance
- Task Repetitiveness
- Task Rotation
- Task Work Period

COMPETENCY & TRAINING

- Competency Review
- Job & Task Training
- Role Selection Criteria

PERSON JOB READINESS

- Balance, coordination and visual acuity
- Exercise & Diet
- Job Change Medical & Infirmity Checks
- Medical & Infirmity Checks
- Medication & Substance Abuse
- Psychological Evaluations

SAFETY SYSTEMS

- Area Restricted Access
- Emergency Procedures Training
- Equipment Safety Certification
- Informed Area Safety System
- Protective Clothing
- Safety Incident Reporting

PHYSICAL ENVIRONMENT

- Heating, Cooling & Drafts
- Housekeeping & Cleanliness
- Lighting
- Mobile Equipment
- Noise Levels
- Open to Distractions
- Proximity to Chemicals & Gases
- Vibration & Oscillation
- Weather Exposure

SECURITY

- Deviant Behaviour
- Malicious Behaviour
- Sabotage
- Willful Rule Breaking

VIOLATIONS

- Routine & Flagrant Violations

ERRORS

- Cognitive Behavioural Errors
- Errors due to Skills and Technique
- Judgement & Decision Making
- Knowledge & Rule Based Errors

SSA

Report options

Reports on individuals and groups

Short reports	Summary of results, graphical comparison against criteria, strengths and weaknesses, test or survey structure. Suitable for advisory purposes.
Full Reports	Extended results including summary, graphical comparison against criteria, strengths and weaknesses, assisted interview guide with prompts and key behaviours, full scale performance results, test or survey structure.
Training needs	Summary key training needs, graphical comparison of results against benchmark, sample and population means. Results narrative and advisory.
Group reports	Aggregated results showing description and result comparison against sample, population and benchmark criteria.
Ranked tables	Group table of ranked raw scores and index showing percentage achieved criteria for each scale.

Analytics Reports on test/survey administration

Group statistics tables	Full descriptive stats including means, deviations, error, and item performance by time.
Graphical results	Line graph of result against criteria, Graph of Z scores all scales.
Comparison of groups	Comparison of selected groups on selected criteria on line graph of results
Correlations of results	Table of inter-correlations showing results probability and certainty.

Pricing by report set:

- Standard Set: includes – The test, Short report, Ranked comparison tables, Verification certificate.
- Recruiter Set: includes the standard options plus the Full interviewing report, Training needs.
- Administrators' Set: performance report includes Group narrative reports, Full graphical and tabular analysis outputs with correlation tables.

SSA for INDUSTRIAL ENVIRONMENTS

The **SSA INV (Supervisors) v3.1** test is a 121 question test of abilities and perceptions relative to the performance required of a fully functioning supervisor, manager or professional with responsibility for large scale assets.

This instrument is used primarily for assessing the capacity for the management of safe behaviour at command or professional advisory level. The SSA test typically addresses a person's non technical safety skills through their ability to see and understand external risks, maintain attention of surrounding events, function with coordinated and reasoned action and to generally remain vigilant of any human factors degrading performance. The focus of the managers and supervisors test is in achieving safety through others through understanding of human factors and effective crew resource management principles.

The **SSA INV (PRECISION MANUFACTURING) V1.1b** test is a 120 question test of ability to perform at the level of a well-functioning and normal adolescent or adult, relative to the performance required of an operator engaged in precision biochemical, pharmaceuticals and electronics manufacturing.

This instrument is used primarily for assessing mental functioning and the capacity for sustained safe behaviour and performance where critical processes are involved.

The **SSA (General Industrial) v5.0** test is a 109 question test of ability to perform at the level of a well-functioning and normal adolescent or adult, relative to the alert performance required in general manufacturing processes and machine operators.

The test is the successor to the SSA General Industrial V3.0b with improved scales and reliabilities. This instrument is used primarily for assessing mental functioning and basic capacity for recovery and maintenance of attention for safe behaviour.

The **SSA Inventory (Mobile Equipment Operator) v2.1a** test is a 105 question test of ability to perform at the level of a well-functioning and normal adolescent or adult, relative to the alert performance required of a mobile equipment operator and driver operating where spatial awareness and judgment are important.

This instrument is used primarily for assessing mental functioning and basic capacity for safe behaviour ultimately as an operator of more complex mobile equipment or those operating in tight confines such as forklifts, haul trucks, trains, buses, ship loaders and building cranes.

SSA Inv (Equipment Maintenance) V1.1c test is a 115 question test of ability to perform relative to that required of a technician engaged in industrial and mining maintenance and repair. This instrument is used primarily for assessing mental functioning and the capacity for sustained safe behaviour and performance with an emphasis on attention to detail.

The SSA test addresses the person's non technical self-management and safety skills through their ability to see and understand external risks, maintain attention of surrounding events, function with coordinated and reasoned action.

The **SSA Inv (AVIATION & MARITIME SECURITY)** v5.0 test is a 105 question test of ability to perform at the level of a well-functioning and normal adult, relative to the performance required of a security professional.

This instrument is used primarily for assessing mental functioning and basic capacity for safe behaviour, alertness, vigilance and attention recovery skills amongst candidates applying for sensitive security position

Selection Development & Diagnostics

The **SSA INV (APPRENTICE) v5.0** is a 75 question test of ability to perform safely at the level of a normal adult.

This instrument is used for assessing mental functioning and basic capacity for safe behaviour in personnel with little workplace experience or safety training such as apprentices and also for assessing functional ability of injured workers on return to work, in hazardous environs,.

The **SSA INV (GRADUATES) v3.1a** test is a 105 question test of ability to perform at the level of a well-functioning and normal adolescent or adult, relative to the growing performance required of a professional in training.

This instrument is used primarily for assessing mental functioning and basic capacity for safe behaviour amongst candidates with limited work experience.

The **SSA INV (Admin & Utilities) v1.1a** is an 85 question test of ability to maintain attention and awareness, recover from adverse events to perform at the level of a well-functioning and normal adult. Use this for assessing the capacity for safe behaviour in general utilities roles in low personal risk environments, or in workplace induction for those with little work experience or safety training.

SSA Inventory Version V5.0 (R) (remedial) is a 44 item short test focused on the key functional abilities related to the maintenance and recovery of attention, perception, judgment and responses required to exhibit and maintain situational safety awareness in the workplace.

The test is designed to be also used as a ‘next-day’ retest instrument

The SSA Resilience Test
(SSA Extension) is a 66 item diagnostic instrument that assesses an individual's adequacy of managing stress reactions, fatigue and responsiveness relevant to the maintenance of performance and situational safety awareness in the workplace.

The results in this test include a comparison with the measure of subjective mental load.

The **WORKPLACE CLIMATE SURVEY** (General Industrial) (Bullying & Harassment) is a 75 item diagnostic instrument that assesses an individual's experience of destructive and dysfunctional behaviour being levelled at them. The survey addresses the reasons for breakdown in interpersonal relationships, role performance and situational safety awareness in the workplace.

The SSA INV (REHAB & RTW) V5.0a instrument is a 64 item test focused on the key behavioural and functional abilities required for safety at work.

The test measures the capacity for maintenance and recovery of attention, perception, judgment and timely responsiveness required to maintain situational safety awareness in the workplace. The test has application in assessing the readiness of workers to return to work and in assessing candidates for their fitness to work in a safety critical environment.

The **HFA Plus+** survey is a Human Factors Analysis and Classification model which is designed to identify workplace risk and the human contribution to incidents. The tool is augmented with a 'Workload' score as an aid to understanding the potential severity and likely reduction in safe performance in specific roles.

The inclusion of the differentially assessed workload measure assists in dimensioning the human variable in an investigation process or as the target for training and prevention efforts. The HFA Plus+ is a comprehensive human error framework for rapid risk analysis through 12 major categories of role related human failure and limitations in safety performance and compares with the Reason model of latent and precursor attributes and the HFACS taxonomy of errors and violations by Weigmann and Shappell