



Julie Hillier
CEO
Professionally Certified
Coach, Facilitator and
MBA Lecturer.

**INTERNATIONAL PRACTICE AND SAFETY MEASURES FOR
 OFFSHORE AND ONSHORE CONSTRUCTION**

Karl Hillier
Managing Director
40 years experience
of working in both
onshore and
offshore
construction

TOPICS: SAFETY CASE FOR VESSELS AND OPERATORS
SAFETY AT THE “COAL FACE” and creating workforce ownership
TECHNICAL SAFETY
PSYCHOLOGICAL SAFETY
LEADING SAFETY
EFFECTIVE SAFETY LEADERSHIP

HRE Consulting –Our Difference that Makes a Difference

Working hand in hand with industry to co-design and deliver a safety culture uplift..... SAFETY REFRAMED





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The Difference that Makes a Difference Transitioning to Reframe Safety



HRE Consulting – Designer & Facilitator

Julie Hillier

30 Years International heavy Industry Experience (Oil & Gas – offshore and gas plants, resources, subsea-construction) & 15+ year Adult education and further education.

Led HR/OD/Change Management Elements of major projects (Mergers & Acquisitions, Alliance team development, Cultural & Behaviour Change Programs, safety leadership programs and Cultural Competence Programs)

Worked Internationally in UK, Europe, US, Mexico, Norway, Netherlands, France, Middle East, Singapore, Indonesia, Hong Kong & Australia

Professionally Certified Coach, Facilitator and MBA Lecturer Specialising in capability building of individuals, teams, organisations and communities (*Strategic HR/OD, Strategic Planning, Inclusive Leadership, Change Management, Innovation and Design Thinking, community development*) co-facilitated at Stanford University D.School - (School of Engineering 2019)

Key Relevant qualifications :

MSc (Economics) Human Resources, CAHRI, AFAIM, MCIPD

Certified Practitioner in NLP / HBDI / LSI / EMP



Your HRE Consulting Facilitators – Karl Hillier

40 years experience of working in both the onshore and offshore construction industry. He is a dynamic, business aware, people, safety & productivity focused Construction Manager and Project Manager.

Karl has worked internationally leading projects across Australia, New Zealand, South-East Asia, Canada, United Kingdom, Norway and Italy. Karl has recently worked extensively in China & Hong Kong as Mega-Project Construction leader and delivering safety leadership training.

Having led diverse teams and large-scale construction projects worldwide, involving extensive interface activities with clients, subcontractors and direct hired labour. Personal Values of integrity, strong personal safety leadership & continuous improvement, enable him to work with and influence at all levels of the organisation and ensure that safety and efficiency can and must co-exist.



SAFETY CASE FOR VESSELS AND OPERATORS

A Safety Case is a document that states to operators, owners, workers and the Competent Authority that the Duty Holder has the ability and means to effectively manage and control major accident hazards.

Nothing is more important than the ongoing safety of an installation and its workforce. To ensure safety, all processes, procedures, and assurance and maintenance tasks must be correctly aligned to a set of key fundamentals. That's where the Safety Case comes into play.

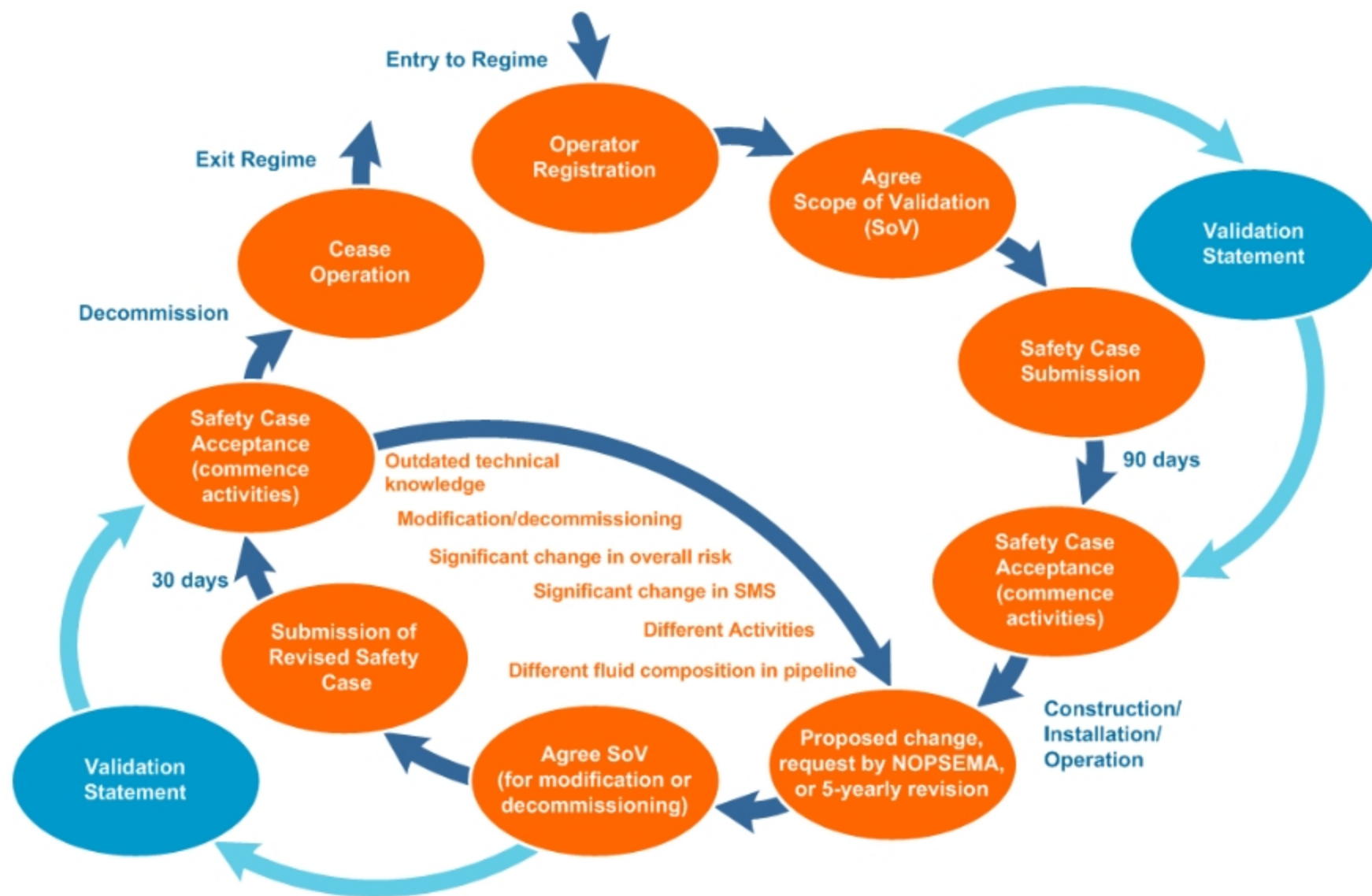
The purpose of a safety case is to provide a clear, comprehensive and defensible argument, supported by evidence, that an item is free from unreasonable risk when operated in an intended context.

In Australia A facility cannot be constructed, installed, operated, modified or decommissioned without a safety case in force for that stage in the life of the facility.

[\(1\) WEBINAR - Safety Cases and Verification - What is a Safety Case? - YouTube](#)



SAFETY CASE FOR VESSELS AND OPERATORS



INCREASE SAFETY, QUALITY AND EFFICIENCY FOCUS THROUGH SITUATIONAL AWARENESS

International standards have progressed to where safety is owned by the workforce, various safety initiatives have been developed and delivered.

Situational awareness is a key in raising awareness .

Are you safe 360 is a safety culture owned by all and is easily taken from construction project to construction project.

INCREASE SAFETY, QUALITY AND EFFICIENCY FOCUS THROUGH SITUATIONAL AWARENESS



The construction workers **SITUATIONAL AWARENESS** is insufficiently investigated and often overlooked in projects.

The construction industry often suffers from low productivity, compromised quality and strained safety awareness . This is caused by the complex, individualistic and unstructured nature of **SITUATIONAL AWARENESS** .

THE LEVELS OF AWARENESS



Videos of actual situations offshore



Videos of actual situations offshore Boat transfers



Videos of actual situations offshore



Videos of actual situations offshore long period swell





TECHNICAL SAFETY

- **Basic training on rigging and handling offshore formulas and best practices**
- **understanding dynamic amplification factors and how it can effect every day lifting in the marine environment.**
- **Understanding seastates and wave period and its effect on operability.**
- **Scaffolding and material handling**
- **Working above water**
- **Boarding vessel to vessel and vessel to facility**





TECHNICAL SAFETY

Technical safety is overlooked in training modules. Educating the workforce on technical safety has proven to raise awareness reduce accidents and incidents

TECHNICAL SAFETY

Heavy/lift lift refers to the handling and installation of heavy items which are indivisible, and of weights generally accepted to be over 100 tonnes OR of widths/heights of more than 100 meters. These oversized items are transported from one place to another (sometimes across country borders), then lifted or installed into place. Characteristic for heavy-lift items is the absence of standardization, which requires individual transport and lift planning.

TECHNICAL SAFETY



UTILIZATION OF A CRANE

When the utilization of a crane is at **85%**. This is considered very high utilization. Following should be considered when utilization is above **80%**

A weight contingency factor should be taken in to consideration.

If it is weighed by using calibrated load cells, a minimum weight contingency factor of 3% need to be added

If it is calculated weight, a higher weight contingency factor of 10% should be included.

TECHNICAL SAFETY



WHAT IS THE SAFETY FACTOR FOR SAFE WORKING LOAD?

What is the safety factor for Safe Working Load?
It is a calculation of the Minimum Breaking Strength (MBS) also known as Minimum Breaking Load (MBL) divided by a safety factor, usually ranging from 4 to 6 on lifting equipment.

The factor can be as high as 10:1 or 10 to 1, if the equipment poses a risk to a person's life. (Man riding winches etc.)

The design factor for synthetic slings in the USA is 5:1

Synthetic slings are extremely versatile, can be used in vertical, choker, and basket hitches and have a Design Factor of 5:1, meaning the breaking strength of the sling is five times higher than the rated Working Load Limit (WLL).

Sheave Inspection

- The grooves must be smooth and free from surface defects which could cause rope damage



Shackle Inspection

- Look for:
 - 10% wear in the bow
 - 10% wear in the pin
 - Any Unusual Bends
 - Any Change in Shape
 - Cracks or Sharp Nicks
 - Modifications
 - Pin replaced with a bolt



TECHNICAL SAFETY

KEY POINTS TO REMEMBER

Dynamic Amplification factor (DAF) – For an object of 100-500te weight, a factor of 1.05 to be included as dynamic load when lift happens **onshore**.


Where the main crane is walking with the load at over 80% utilisation additional DAF should be considered.

A factor of **1.2-1.5** to be included as dynamic load when lift happens **offshore**

Normally difference between shackle pin end hole diameters should be **6mm or 3%**

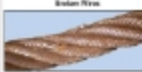
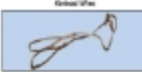






All lug/padeye plate thickness should be more than **75%** of shackle jaw opening

The ground pressure estimation may at times assume the crawler is "fixed" Always check if travelling with the load has been considered in the estimation.



TECHNICAL SAFETY

WIRE ROPES DAMAGE EXAMPLES

FILE OF THINGS TO CALCULATE THE SIZE OF A WIRE ROPE IS :
DIAMETER SQUARED THEN MULTIPLIED BY 8, 300, (kg) = 2,00mm x 8

Reverse bending
Running the rope over one sheave and under another caused fatigue breaks in wires.

Excessive exposure to elements
Too much exposure combined with surface wear and loss of lubrication caused corrosion and pitting.

Too long in service
Repeated winding and over-winding of this rope on a drum while it was under heavy stress caused the unusually severe wear shown.

Undersize sheave grooves
Sheaves were too small, causing strands to pinch. Wires then fail in the valley between the strands.

Poor work procedures
Damage to strands and wires resulted from electric arcing.

Lack of knowledge
Wrong size slings are used causing the sling to break.

Wire Rope Inspection

- Look for:
 - Excessive broken wires
 - Kinking
 - Bird Caging
 - Crushing
 - Deformation
 - Ten randomly distributed broken wires in one rope lay, or five broken wires in one strand in one rope lay




Wire Rope Inspection

- Look For:
 - Main Strand Displacement
 - Core Protrusion



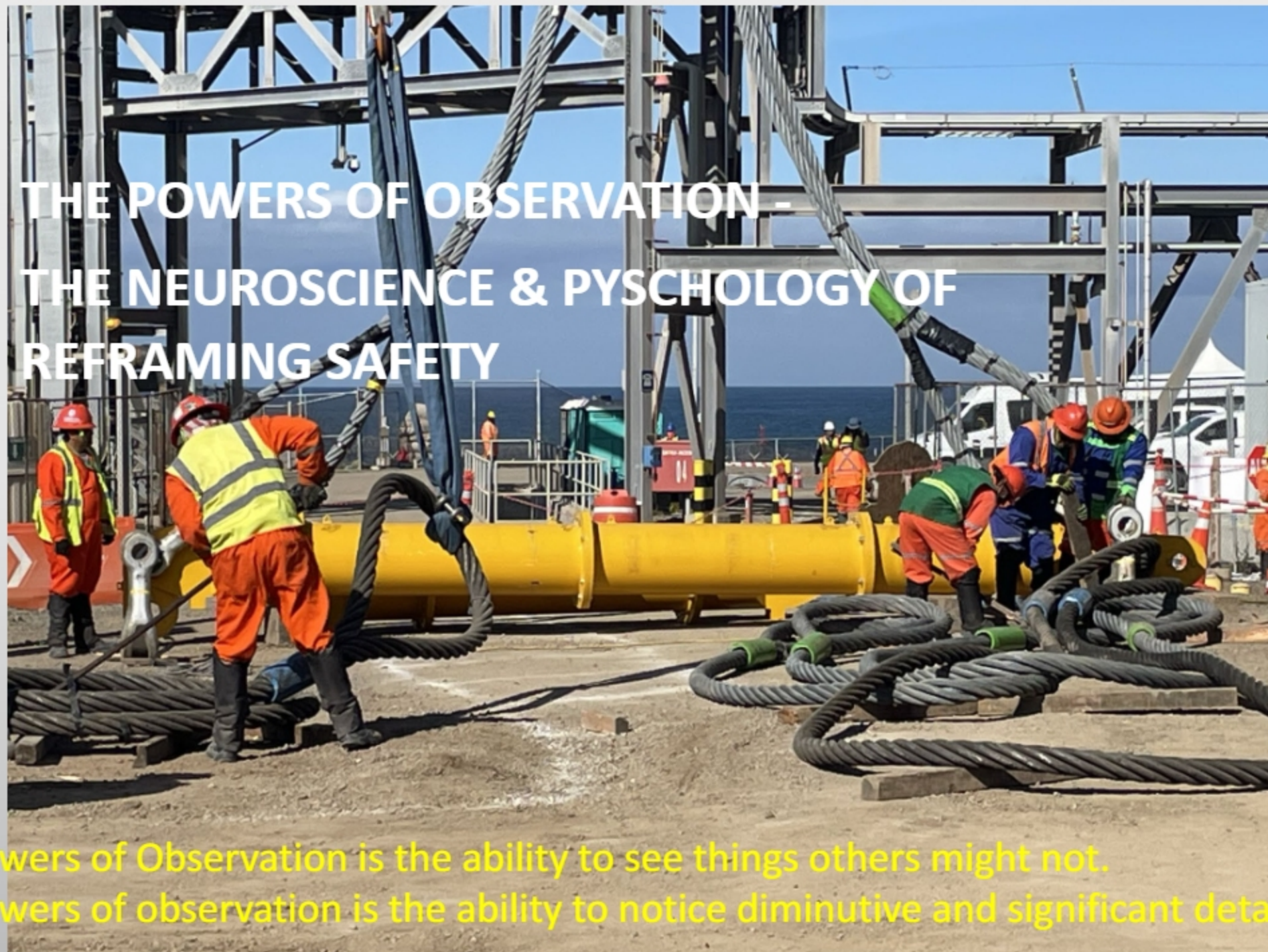
Out Of Service Criteria Wire Rope Winch Lines

- 6 randomly distributed broken wires in one lay OR
- 3 broken wires in one strand in one lay
- All end fittings-1 broken wire

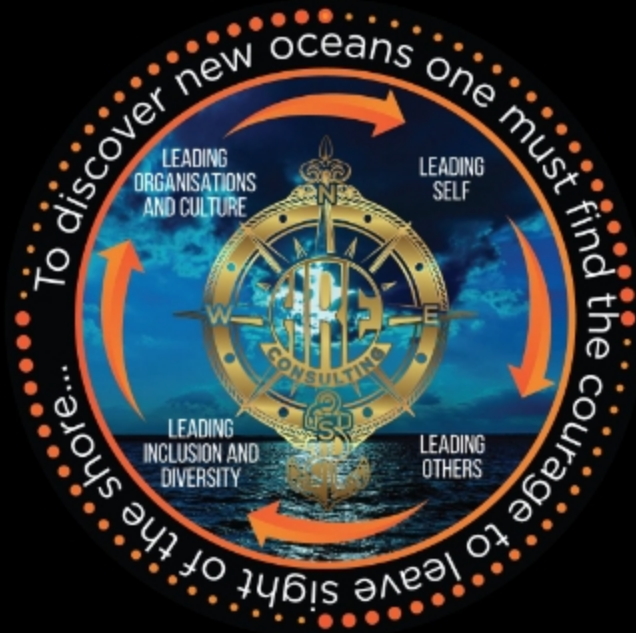


THE POWERS OF OBSERVATION - THE NEUROSCIENCE & PSYCHOLOGY OF REFRAMING SAFETY



Powers of Observation is the ability to see things others might not.
Powers of observation is the ability to notice diminutive and significant details.

THE NEUROSCIENCE & PSYCHOLOGY OF REFRAMING SAFETY



ARE YOU SAFE 360

Unintentional Blindness



IN THE MIND'S EYE



Unintentional Blindness in relation to Safety.



We only see what we consciously or unconsciously program the brain to look for

Are You Safe 360 reprograms the mind so that the whole workforces reframes their approach to safety.



Our Design & Delivery Guiding Principles



Inclusive : Overcomes language / cultural differences / org culture hierarchal barriers / company barriers/can be implemented by sign language



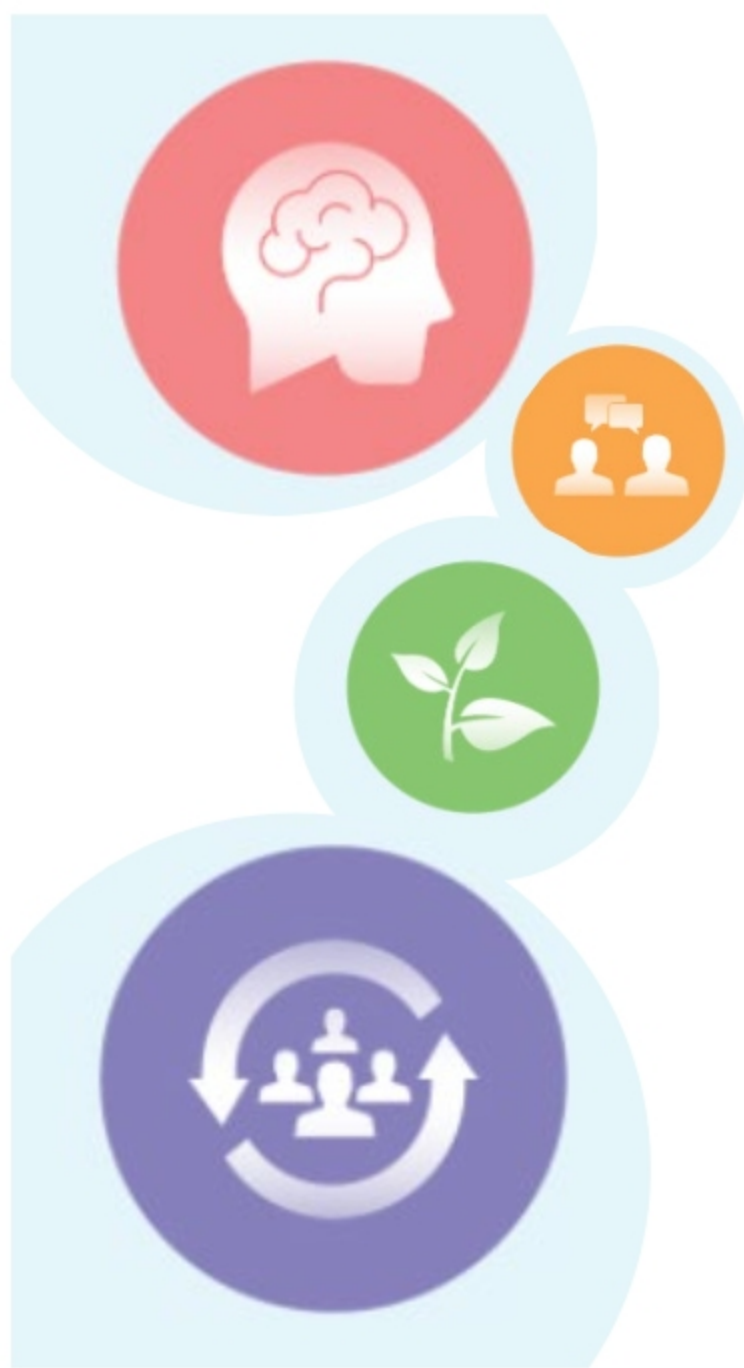
Value- Add : Does not replace sub-contractor in-house safety programs or practices but is complementary and value-adding for specific projects to ensure a 'common language' across the project and collective safety culture uplift.... It can also be used as a standalone program if required



Consistent : It recognised as 'the way we do things around here' on the project, implemented by the collective habits..



Simple : Can be easily understood, adopted and operationalised by ALL client, contractor and sub-contractor team members on site ..



HRE Consulting - The difference that's makes a difference in Safety and Leadership...

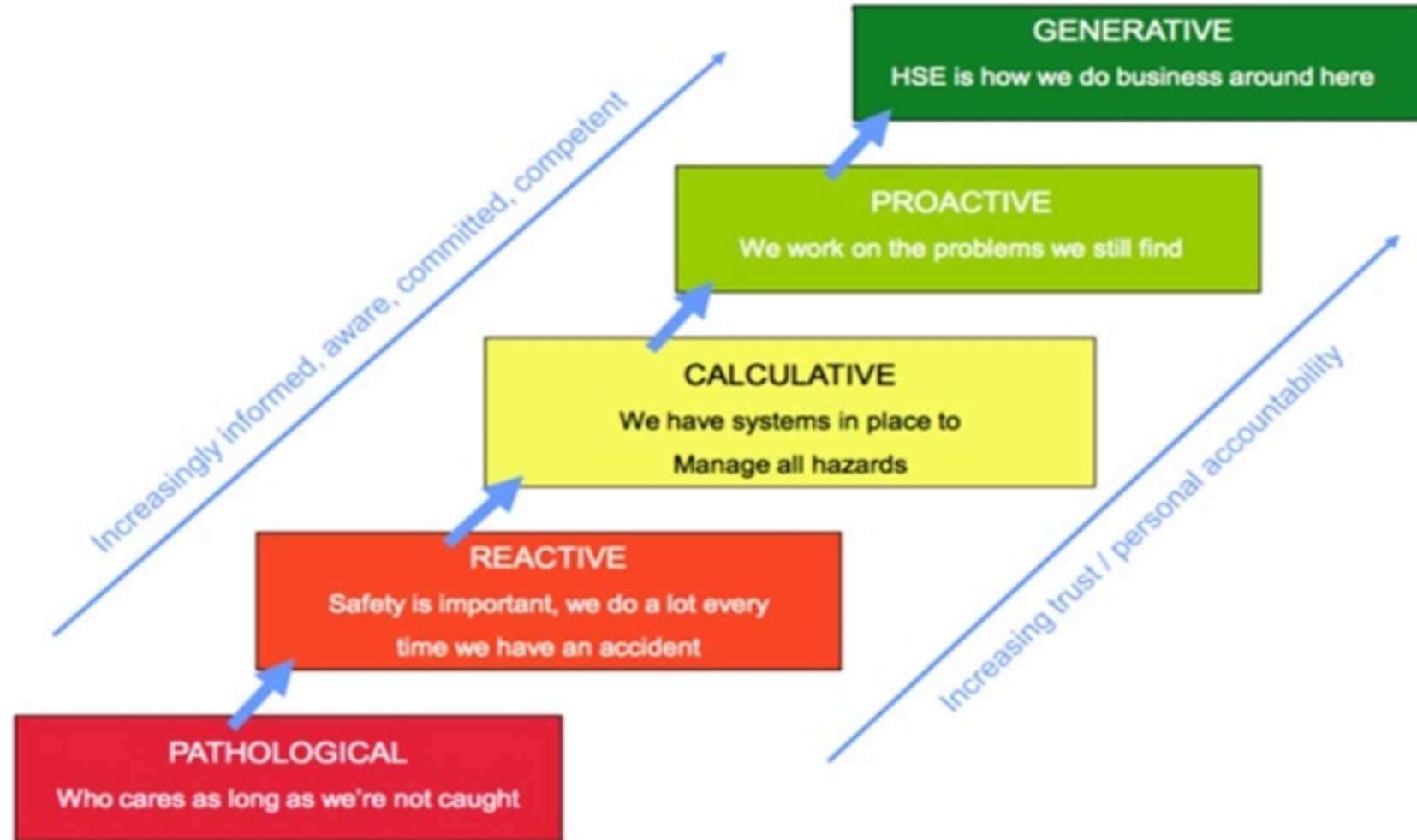
*Uses human centred **design thinking** as its foundational engagement and implementation methodology. This ensures ownership by the **whole workforce** and **co-design** of practical & sustainable implementation plans and **ongoing engagement**.*

*Provides simple & practical **evidence-based** tools to build **sustainable capability** in individuals at all levels to and across client, main contractor and sub-contractors :*

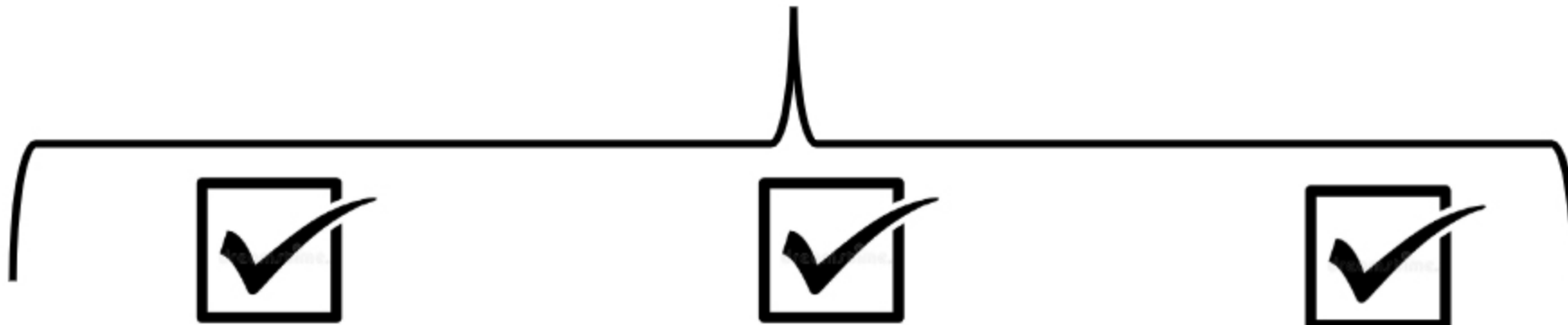
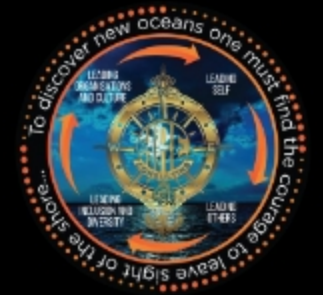
- ✓ *challenge safety thinking & practices and to communicate effectively (leverage HBDI neuroscience profiling tool) to **Think Safe 360***
- ✓ *ensure individuals across the whole supply chain take accountability not only for their safety but that of others (leveraging the Am I Safe, Are You Safe, Are We Safe, Are they Safe) to **Be Safe 360***
- ✓ *Support individuals to have safety conversations so as to create a culture of continuous improvement and innovation (leveraging the programs 5A's approach) to **Act safe 360***
- ✓ *encourage **adaptability, creativity and innovation** in thinking to deal with unexpected & unplanned events (through neuroscience-based approach)*



Drives HSSE accountability and self-leadership across all teams



ARE YOU SAFE 360™ SAFETY CULTURE UMBRELLA



THINK SAFE 360™

BE SAFE 360™

ACT SAFE 360™

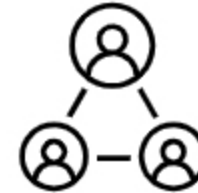


Think 360™



HBDI® Think About Your 360 Thinking

Are You Safe 360™ - Whole Brained Safety Communication



What Safety Statistics do you have?

What are the trends?

What do you measure & monitor? What targets?

What is the relevant data I need to share to provide evidence that this is important for you?

What facts do I need to share?

What technical data?

Have we considered the 'big picture' / the 'whole system'?

Have we been innovative in our approach to.....?

Are we continuously improving our systems/process?

Have we applied new concepts/thinking?

Have we noticed trend correlations?

What are the key safety rules, processes that need to be adhered to?

How are these implemented?

What is the detail behind them?

How is risk assessed and mitigated?

What steps do you need to follow to stay safe?

How will resources be organised?

Have we involved the right people in the risk assessment? /safety strategy / policy development.

Have we communicated effectively with all stakeholders (obvious and not)?

Have we provided enough capability building support to keep people safe?

Are people psychologically safe? How are they going to feel?

All participants do their individual HBDI profile which builds their self-awareness on their thinking style and then builds capability to think about communicating across all thinking styles to increase safety communication effectiveness

Here is an example of some 360 safety thinking questions...



Behave 360™



ARE THEY SAFE?



AM I SAFE?



ARE WE SAFE?



ARE YOU SAFE?

The behaviour is changed to focus not only on your own safety but also that of others (this creates the Healthily Paranoia we talked about earlier).



Act 360™



- Approach**- How do I approach this conversation, what is my intent?
- Aware** – Do I need any more information? Do I need to share my thoughts/observations right now?
- Agree** – Agree on what is the best option to make you, your mates, your team & others safer.
- Action** – Do it!
- Assess** - What was the impact, how can we transfer the learning to make it safer for us all in the future?

The practical 5 A steps process provides a tool to make an intervention/safety conversation in a way that encourage conversation , action and review. During the course practical examples of where this has been already applied on the project are given.



The Difference that Makes the Difference



ACTUAL FOOTAGE FOR SAFETY MOMENT USED FOR TRAINING



ARE YOU SAFE 360™ GOLD CARD TRAINING



Modules

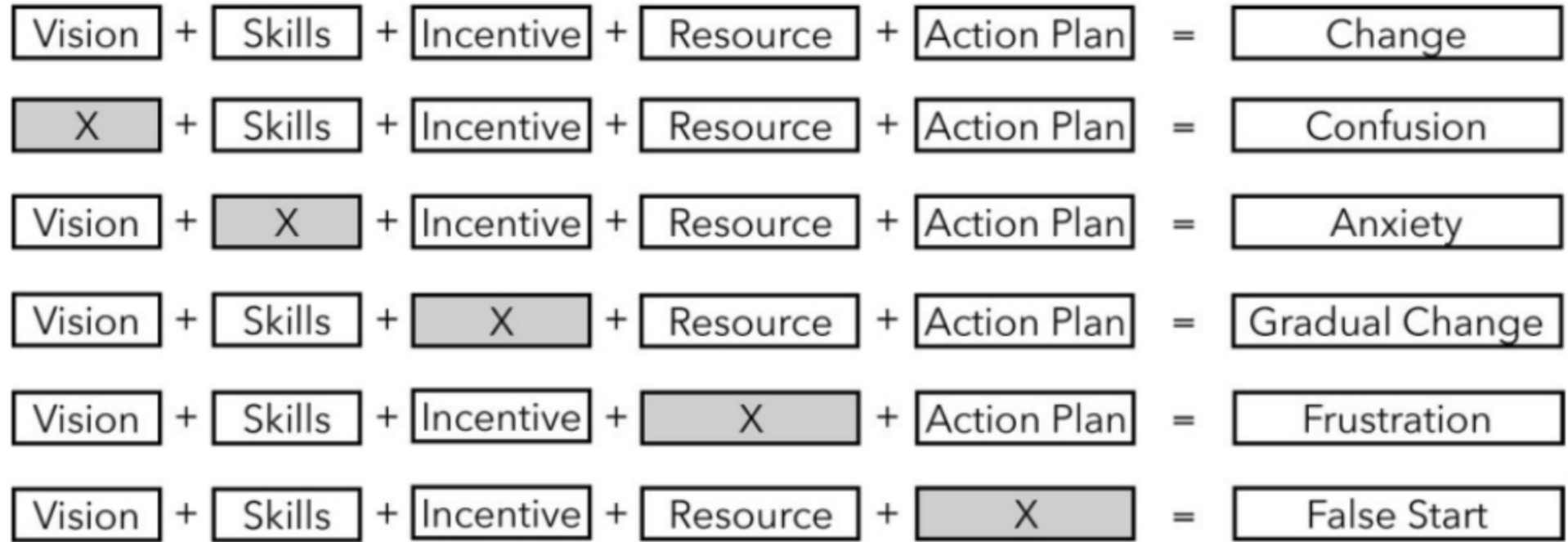
ARE YOU SAFE 360? ASAFETY AT THE “COAL FACE” creating workforce ownership
TECHNICAL SAFETY (offshore and onshore)
PSYCHOLOGICAL SAFETY
LEADING SAFETY
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Working hand in hand with industry to co-design and deliver a safety culture uplift..... **SAFETY REFRAMED**

Creating Transformation Change through Behave Safe 360™ Safety Culture Uplift Program



Source : Lippitt-Knostr Model



