Facilitating ICAM

It is all about learning

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Seventh Edition

This booklet is designed to assist the ICAM (and simple 5-Whys) facilitator, together with the investigation leader and team, in delivering a high quality output. It is intended for use by those who have done an investigation facilitators course and supports the conversations that were held in that forum.

Our Mindset in Investigations

How we approach an investigation, what we are looking for, and the focus we have in our minds will greatly colour the direction of an investigation and the outcomes we get. If we approach an investigation with a view that we are owed information, that there is an individual responsible somewhere and the investigation team's job is to find out what someone did and to then hold them accountable, then that is exactly how we will come across. Our view and mindset will come across in the questions we ask and in our body language as we ask those questions. If, on the other hand we set ourselves up to be inquisitive, to be curious, to seek answers and understanding about what was going on in the mind of those close to the incident, to be really interested and to care deeply about finding out what happened, then we will come across as genuinely interested and caring. We will get a lot more information and a much better and clearer understanding of what went on and why. By the way, we need to be authentic in this – you cannot fake it.

Facilitation Skills

A critical skill for the facilitator is to be able to facilitate. This may sound obvious but it is so basic that it is often overlooked. Below are some of the things that make a great facilitator:

- Has the skill of facilitating groups
- Possesses a sound understanding of, and sincere interest in the investigation methodology, and can easily communicate the concepts and models (such as Work-As-Done, Work-As-Normal, Work-As-Written, the 5-whys process and the ICAM model)
- Excellent listening and time management skills
- Has a growth mindsewt / learning driven
- The ability of always maintaining the interactions as conversations
- Can ask questions in different ways, is curious and inquisitive
- Engaging in style / involves all team members in discussions

Generous Listening

So, what is Generous Listening and why is it important in facilitation (and also in interviewing)?

Generous Listening (or Listening Powerfully) is one of those things that can change the way you are seen by others and can directly affect your leadership style. It is also one of the essential skills if you wish to be an effective facilitator.

Generous Listening is all about listening in order to understand. It is about focusing on the person talking with you. It is about listening with your body and more importantly, with your mind. If, however, you are just waiting for the words to stop so that you can say what you want to say, it is not generous to the other person. We call this stingy listening. If you are wondering where you are going to go out for dinner later, or you 'know' what they are going to say next, or you are also trying to listen in on another conversation, this stingy listening

will be noticed. Not directly maybe, but you will be seen as not listening. The intent is to listen generously and powerfully and to listen with your whole self - to listen with the desire, a wish if you like, to understand what is being said.

So in a nutshell, having a state of mind that is intent upon getting to understand what the other person is trying to say and listening with all of your being will result in powerful and generous listening. It is one of the most important things that we do as facilitators.

Involving all the team

To start with, it is critical to help the ICAM leader build a team that has diversity of thought. Bring into the team that person who will challenge the mindsets of the other members, and who sees and thinks differently from those closer to the content of the event. As you are facilitating it is important to involve everybody in the team. There will always be a mixture of levels, skills sets, backgrounds and willingness to participate.

An important part of your job is to keep everybody at the same level; to invite people to speak up if they are quiet, to challenge those who talk a lot to let others add their thoughts to the conversation, and to generally make everyone in the ICAM team feel safe and secure to talk about and contribute whatever they want. Do not allow others to put people down or talk over others. Keep absolute control of the conversations. If there is a side conversation, stop it immediately.

Investigation Steps

The steps of an Investigation:
Step 1 – Immediate Actions – Early Interview and Scene Security
Step 2 – Investigation Planning and Investigation Scope Setting
Step 3 – Data Collection – Information Gathering
Step 4 – Data Organization – Timelines and 5-Whys
Step 5 – ICAM
Step 6 – Creating Actions that are SMART and Sustainable
Step 7 – Reporting

STEP 1 - IMMEDIATE ACTIONS – EARLY INTERVIEW AND SCENE SECURITY

Strictly speaking, Step 1 is not part of the ICAM. The ICAM team has not been created and so this step is required to be undertaken by front-line supervisors. It covers:

- Making the site safe
- Identifying and implementing immediate corrective actions to prevent further incidents
- Preserving the evidence
  - Photograph, Video, Measure, Draw, Survey, etc.
- Undertaking initial interviewing (not taking statements)
  - It is recommended that the front line supervisors, Safety Reps or other similar groups are trained in the art of interviewing to assist with step 1.

It is essential that your front-line supervisors understand the importance and process of step 1.

STEP 2 - INVESTIGATION PLANNING AND INVESTIGATION SCOPE SETTING

The best ICAM teams contain diversity in thought and an element of independence. Having a manager level person or above as the ICAM team leader is also critical to ensure control and the identification of good quality Organizational Factors.
The person accountable for the incident identifies the ICAM Team Leader, from another area, department or function and together they nominate a suitable, also independent, ICAM Facilitator. They also discuss and set the scope of the investigation.
Investigation team members would then consist of the ICAM leader, the facilitator, a couple of peers of the person involved in the incident (from another shift usually, maybe a safety representative), a couple of technical subject matter experts, and maybe someone completely independent that will add to the diversity of thought in the team.
It is also essential to make sure the Investigation leader is one of the signatories to the final version of the ICAM report. This ensures the final version of the report is only changed with the approval of the investigation leader.

STEP 3 - DATA COLLECTION – INFORMATION GATHERING

Interviews, as described previously, can occur at any time in an investigation but are usually done in the very early stages and also as a part of the PEEPO. It is worth going through how to run a PEEPO here before we move onto Timeline preparation.

Carrying out a PEEPO is one of the simplest tasks of the facilitator. You need a white board (do not use a computer for this task) and some small sticky notes.

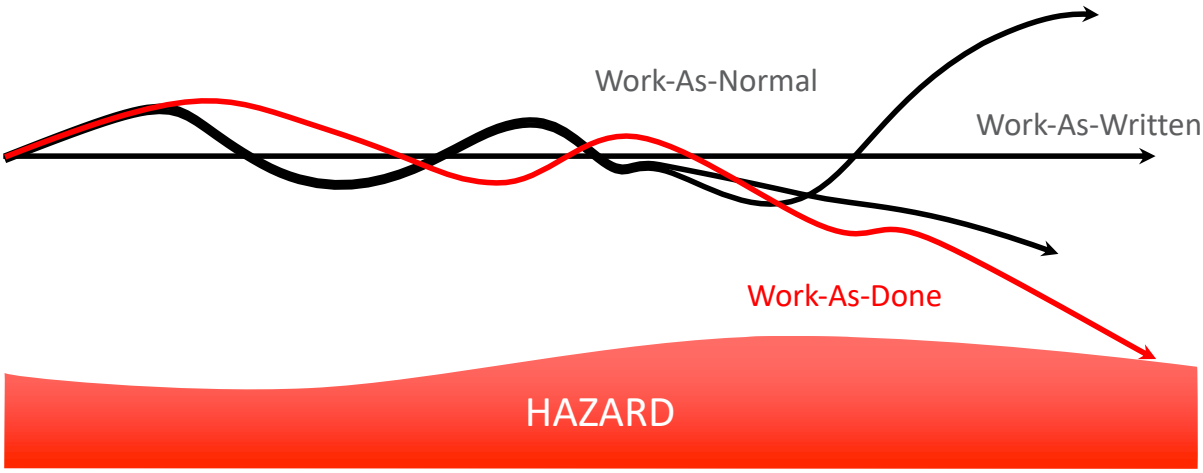
Disperse the sticky notes amongst the team and ask them to jot down anything they would like to see in the way of data under any of the PEEPO (People, Environment, Equipment, Procedures, Organization) categories. A great way to encourage them is to ask: "Okay Jim, you are a Safety Rep (or electrician or whatever). What is it that you would like to see that would help you understand exactly what happened here?" Get them to write down the data they would like to see collected and then stick the note up on the white board under PEEP or O. Once completed (normally takes only 20 minutes or so), distribute the sticky notes to the team (except the facilitator and the ICAM leader) and instruct the team that they are accountable for collecting the data and bringing it back with them when the team reconvenes. Set a time with the ICAM leader for the next session based on the complexity and time constraints for the collection of the information from the PEEPO. Before the team gets back together after collecting their information, ring around and make sure all of the information has been collected. If not, postpone the next section and offer assistance in the gathering of the information. It is not a good idea to start the timeline development and the rest of the ICAM with only a portion of the PEEPO data collected.

After the ICAM team are all back in the room after collecting the information from their PEEPO, you need to drive the creation of the timelines.

STEP 4 - DATA ORGANIZATION – TIMELINES AND 5 WHYS

The timeline is the mechanism for aligning the ICAM team on 'what' happened during the event, what happens normally and what 'should' have happened. It is built on the concepts of Work-As-Done, Work-As-Normal and Work-As-Written.

Let's look at Work-As-Done, Work-As-Normal and Work-As-Written and then the Timeline.



Work-As-Written (WAW) represents that vast amount of detailed information contained in all of the procedures, SOPs, work orders, rules, commandments, injury prevention principles, Task-Based Risk Assessments (such as THA, JSA, JSEA et cetera) and other such documents. It is often a complex and intertwined set of requirements. It is important for the creation of the timeline that these are collected.

Work-As-Done (WAD) represents how the work was actually done leading up to the event being investigated. It is, in essence, just like a standard time line that we have been creating for years.

Work-As-Normal (WAN) represents how those involved in the event along with others in the business normally do the tasks involved. This is usually obtained through conversations with those who do the task-of-interest on a daily basis. Always use an adverb such as "normally", "it is common practice to …" et cetera

The other way to consider this is with the "Mary the Carpenter' slide from the ICAM training. I suggest you use this each and every time you run either an ICAM or a simple timeline / 5-whys.

The timeline is constructed as follows: Once the ICAM team has completed the PEEPO and has collected the information, they focus on building the Work-As-Done timeline first. This is done by getting the team members to write elements of the timeline on sticky notes and stick them up on a wall. It is a good idea to cover a section of wall with paper first as the sticky notes often fall off painted and often dusty walls. The facilitator will be kept busy ensuring the sticky note language is clear and in the correct chronological order.

Particular care needs to be taken with the wording in order to facilitate the creation of WAN and WAW. For example, you will need to couch negatives into an element of the WAD so that it sticks out.

Insufficient information	Better clarity of the issue
The supervisor gave an instruction to swing valve 24.	The supervisor gave an instruction to swing valve 24 without discussing the associated hazards and controls.
The scaffolders climbed off the scaffold at height.	The scaffolders climbed off the scaffold at height without wearing a harness and lanyard
The carpenter used a hammer.	The carpenter used a hammer to insert a screw into the table top.

As you can see the descriptions in the “Better clarity of the issue” column lend themselves to the building of WAN and WAW more easily than those in the “Insufficient information” column.

I often use a simple voting system to decide which elements of the WAD timeline are going to be built into ‘elements of interest’ (WAD, WAN and associated WAW groups). Giving each team member three to five ticks each usually works as a voting method. Once the team has identified a (small) number of elements of interest, the team adds a sticky note above the relevant WAD describing the WAW associated with it. Then they add the associated WAN. The topics must be clearly the same.

For example

Element	Incorrect element of interest	Better element of interest
WAW	Supervisors should discuss hazards with operators	Procedure 24 – Task Assignment – requires that the hazards and controls associated with a task are discussed between the person assigning the task and the person doing the task during task assignment
WAN	Supervisors often give instructions to swing valves over the radio	Supervisors often assign tasks without discussing the associated hazards and controls for the task.

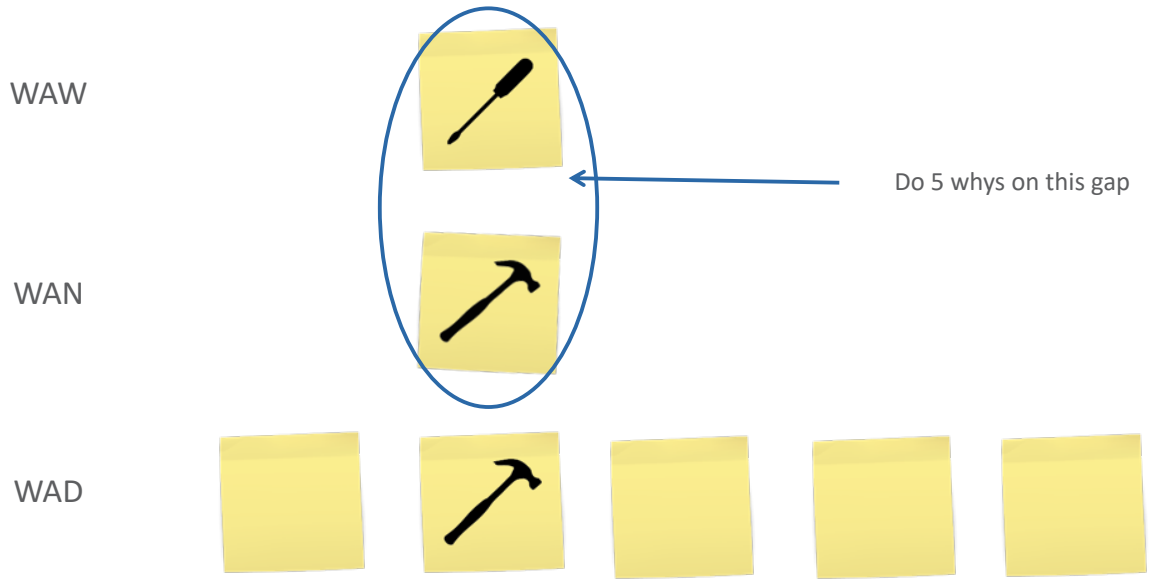
WAD	The supervisor gave an instruction to swing valve 24 without discussing the associated hazards and controls.	The supervisor gave an instruction to swing valve 24 without discussing the associated hazards and controls.

Element	Incorrect element of interest	Better element of interest
WAW	Carpenters must use screwdriver to put screws in.	Work instruction 24 – Screw Insertion – requires carpenters to use a screwdriver to put screws into tabletops.
WAN	It is reasonable to expect carpenters to use screwdrivers.	It is common practice for carpenters to use hammers to insert screw in tabletops.
WAD	The carpenter used a hammer to insert a screw into the tabletop.	The carpenter used a hammer to insert a screw into the tabletop.

The facilitator then circles the gaps. In both of the above examples the gap lies between WAN and WAW. You should aim to have no more than four or five "elements of interest". Any more than that and you are probably looking at elements that are not in the causal pathway of the event and may need to be captured in a parking lot.

Mary the Carpenter

I always use the slides for Mary the Carpenter during the early parts of investigations. I find this helps the team "get" what we are looking for with respect to WAD, WAN and WAW:



Exploring the gaps between WAD, WAN and WAW

The next task of an ICAM team is to examine the gaps between Work-As-Done, Work-As-Normal and Work-As- Written. Once these have been identified, the team needs to think

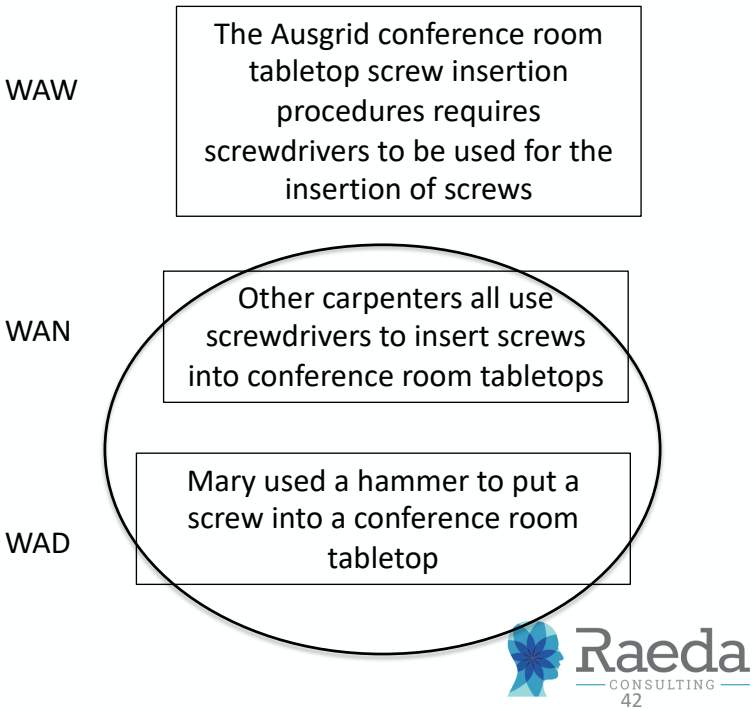
about why those gaps exist. Using information gathered during the data gathering step and the brains in the team, this step is done using a 5-Whys approach.

Notes on carrying out a 5 Whys:

- Take time to think about the words you use in a problem statement.
    - The first question should be a simple translation of the gap (between Work-As-Done and Work-As-Normal or between Work-As-Normal and Work-As-Written).
    - In the above example the first 5-whys question should be “Why do supervisors often assign tasks without discussing the associated hazards and controls?” and NOT “Why did the supervisor assign the task without discussing the associated hazards and controls?”
- Ask why the above question is the case and write the answer down as a statement
- Repeat the previous step until you get to a statement that sounds pretty much like and organizational factor
- Always ask if there is more than one answer to each question.
- Do not limit your language to “Why…?”. Think about "How come?" "What is it about… that would explain the last statement?" et cetera
- The best way to check whether a 5-whys cuts the mustard is to read it from the bottom to the top by adding linking phrases such as; ‘leading to”, “therefore”, “which resulted in” et cetera. It should read from the bottom of the 5-whys to the top as a clear narrative.

Once the timelines are completed and a 5 Whys activity has been completed for each of the “Elements of Interest”, (the areas in the timelines were there are gaps between the WAD and WAN and also for any gaps between WAW and WAN), the ICAM chart creation commences.

Elements of Interest example for five whys



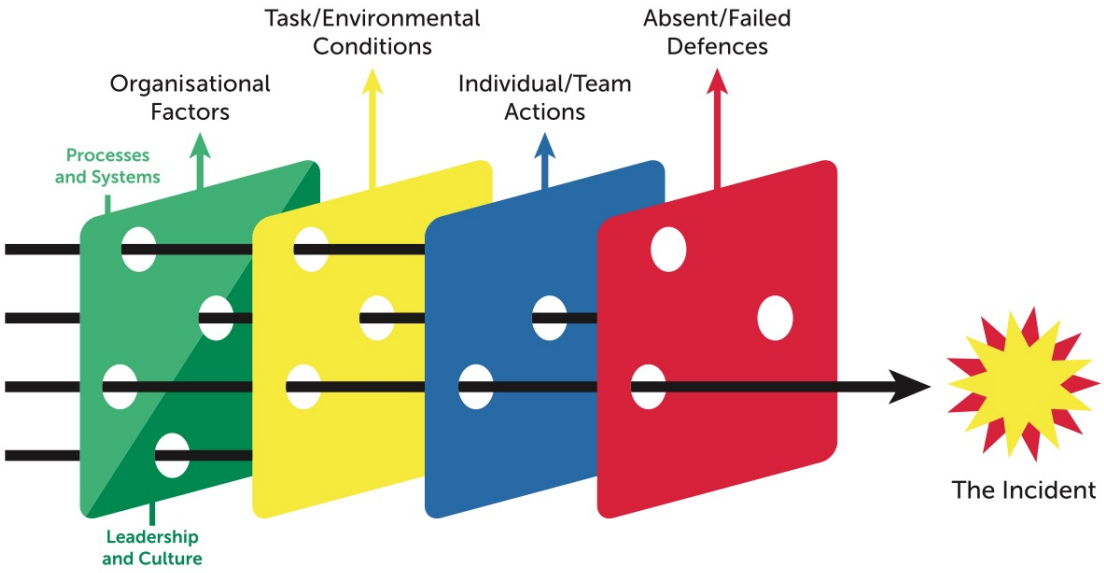
The five whys for the above Element of Interest:

Why did Mary use a hammer to put a screw into a conference room tabletop?

- Mary was not aware of the requirement to use a screwdriver to put screws into conference room tabletops
- The work practice of using hammers to put screws into conference room tabletop had changed to the use of screwdrivers about six months ago when Mary was on study leave and she was not told about the change in work practice upon her return to work (a few days before the incident)
- Although the carpentering department manager used a management of change process when the work practice changed from hammers to screwdrivers, the MoC did not cover the fact that a team member was on extended leave
- There is no requirement in the Management of Change Procedure to consider making workers on leave aware of any changes upon their return to active work

STEP 5 -ICAM

First the model:



As a facilitator, you need to be able to fluently explain the ICAM model to others. You also need to be able to answer questions about it – especially at the start of an investigation so that the ICAM team have context of what it is you are trying to achieve together in the investigation.

The ICAM model – an explanation

ICAM stands for Incident Cause Analysis Method. It is based on the work of James Reason, who was a professor of psychology at the University of Manchester in the United Kingdom. James Reason did a lot of work on understanding 'Human Error' and the ICAM model is based on his Swiss Cheese, Defences in Depth model of incident causation. The ICAM model was created for BHP in the mid 1990's.

I always explain the model by looking at the Individual/Team Action slice of the cheese first. As this represents, in many ways, Reason's concept of Human Error, upon which the model is based.

This slice of cheese represents the actions that either individuals or teams took just prior to the event. Although the term 'human error' is a fabrication or a label that is placed on an action after an event has occurred, it is unfortunately still in common use as though it is some human condition. It is not. It is better to think of Individual/ Team Actions as actions that people did that did not result in the outcome that was expected rather than errors or violations of procedures and processes. It could be an action that goes against what is required in a procedure, or a rule. It could also be the omission of a step in a task that is required to be done in order to complete a task. The word "action" here is important. In

order to qualify as an Individual/Team Action, an action must be observable. A great way of think about that it must be possible to take a photo, or a video of the action. It cannot be a thought or a decision. It must be something someone did (or did not do).

As we know we all make mistakes every day of our lives, this is also true at work. To ensure that people are not hurt at work as a result of a mistake or slip or a lapse that they may make at work, we need to provide Defences to protect them. Examples could be ABS or Traction Control in a vehicle to help avoid an accident. Seat belts, airbags and roll over protection are other examples. As you can see, Defences can either be designed to prevent an event from occurring or for minimizing the consequence of an event after it has happened. After all, a seat belt cannot stop you having a car accident.

So, to start building our ICAM, we need to firstly establish which defences were missing or did not work. These are called Absent/Failed Defences. We ask questions such as:

- What could (or should) have been in place to prevent this event from happening but was not in place?
- What was in place to prevent this event from happening but did not work?
- What could (or should) have been in place to minimize the consequences of this event but was not in place?
- What was in place to minimize the consequences of this event but did not work?

So, what do good AFD and not quite so good AFDs look like?

Not quite so good AFDs	Why it is not an AFD
Working at Height PPE was not used	The fact that the verb 'to use' is in the AFD signifies that a person did not do something that they 'should' have done. In this case, wearing PPE. This should be re-worded as "The operator did not wear Working at Height PPE whilst at height" and should be moved to be an ITA
The procedure was not clear with respect to the need to wear PPE	A procedure is intended to impact the behaviour of people. As such, the statement "The procedure was not clear with respect to the need to wear PPE" is a TEC, which could promote or encourage someone not to wear their PPE
There was no awareness that the light pole was susceptible to premature fatigue	This is something that existed prior to the event and which could encourage or promote an action (or in this case an inaction of carrying out inspections)
Separation barriers were breached	Sound more like someone did something – ITA, but needs to be clearer in its language,
Hard barriers such as scaffolding if installed in a timely fashion, could have prevented the fall	This is just a simple statement and does not belong anywhere in the ICAM chart

Here are some good AFDs:

- There was no barrier in place to prevent egress from the scaffold at height.
- There was no ROPS on the light vehicle.
- The airbag failed to fire during the LV collision.
- The electric forklift no. 118 does not have a seatbelt interlock to prevent forklift operation when a seatbelt is not worn.
- There was no reversing alarm on Light Vehicle 042

Following on from the brainstorming session that identifies the Absent/Failed Defences, we identify the Individual / Team Actions. If we have done a half-decent job on the Timelines then the Individual / Team Actions may well have already been identified in the Work-As-Done section of the timeline.

Examples of good and not-so-good Individual / Team Actions:

Not-so-good ITAs	Why it is not an ITA
The driver did not drive to the conditions of the road	Whilst this describes an activity, it is way too vague to be of any use when building the TEC from it. A better ITA might be "The driver drove at 120 km/h on a section of road with a designated speed limit of 80 km/h"
External 2 yearly structural integrity audit was not communicated for nearly 4 months after being delivered to site	ITAs need to be temporally proximate to the event – that shift or maybe the shift before. For this reason, this statement is clearly a TEC
Supervisors not documenting work area inspections in shift log	Apart from the poor grammar, this sounds like Work-As-Normal. WAN is usually something that encourages or promotes an ITA and hence are TECs.
When completing vehicle pre-start checklists, the operators often tick all boxes without fully completing the tasks	This sounds like Work-As-Normal. WAN is usually something that encourages or promotes an ITA and hence are TECs.

Example of good ITAs:

- The operator did not complete a pre-start inspection of the LV
- EX531 excavator operator did not complete a take five prior to commencing the task
- The Light Vehicle driver drove through a stop sign without completely stopping her vehicle

James Reason helps us understand that there are factors that contribute to us making 'errors' – that contribute to the Individual / Team Actions. There are many things at work that encourage or promote individual's or team's actions and in the ICAM, they are described in a group called Task/Environmental Conditions. These can range from giving people procedures that are too complex and cause confusion or simply are not able to be followed, through to poor communication or less than adequate task allocation to planning,

and things like how we work in certain weather and what PPE we are provided with, etc. These are things that are setting our people up to fail in their tasks. Giving them the wrong tools, telling them to hurry up, giving mixed messages about what to do; these all increase the likelihood that they will make mistakes and not follow the procedures. Often they simply can't.

So we simply ask things like "What is it about the task or the environment in which we asked people to work that has **promoted** or **encouraged** this individual action?"

Here are some example:

- There was no working at height awareness section in the site induction
- The supervisors were not aware of the task assignment requirements of the Safe Task Management Standard as it was not rolled out below the General Manager for the site
- The Scaffold procedure was contradictory with respect to required controls when scaffold is left unattended
- Field leadership activities are routinely undertaken without the leader reviewing the procedure for the task being observed, nor taking it into the field during the observation

We then need to understand where the Task/Environmental Conditions came from. Who created those Task/Environmental Conditions that encouraged people to make 'poor' decisions and 'erroneous actions'? Where did they come from? The answer of course is "The Organization". The Organization could be a department, an operation or the business itself. The Organization created the rules that tell us how to write the (complex) procedures and the Organization represents the Leadership and Culture of the place also. It tells us how we purchase things and how we supply tools and equipment et cetera. It also tells us how to do risk assessments and assess the impact of changes in the workplace. It is these systems that are not working quite as well as we expected them to as they produce Task/Environmental Conditions that have encouraged people to take actions (that we used to call errors or violations) in the absence or failure of good defenses that could have resulted in a severe injury.

In order to identify these Organizational Factors we ask ourselves:

- Where did we go wrong as an organization?
- Where did we fall short in our systems, or in our leadership?
- How did we manage to set up a work environment or task that encouraged or promoted errors or violations?

Organizational Factors can be both Leadership and Culture, or Process and Systems factors.

Here are some Organizational Factors, along with their narratives:

Organizational Factors – Process and Systems

- There is no process in head office for the simultaneous issuing of training and guidance material when corporate standards and updated or issued.

    - As the corporate office does not have a process for ensuring that training and guidance material is issued at the same time as corporate standards are issued or updated, the Safe Task Management Standard was not rolled out below the General Manager for the site. This meant that the supervisors and operators were not aware of the requirements for effective task assignment and task acceptance outlined in the standard.
- The process used to create procedures (the procedure-writing procedure) does not require the sign-off or approval of the end-users for the final version of the procedure being written
    - The result of this was a procedure which covered scaffold use that was not able to be followed by the scaffolders as it was contradictory and difficult to understand.
- There is no formal link between the Training and Competencies Development System and the site's fatal or material risk control databases
    - The Training and Competencies Development System drives the creation and reviewing of the Training Need Analysis. The Training Needs Analysis drives the content of the induction. As a result of this, when the induction was recently reviewed, the working at height awareness section was removed without anyone recognizing that the information required by all employees around working at heights awareness was missing from the reviewed induction. This meant the organization had employees who were potentially exposed to working at height risk without any concept of the risks

Organizational Factors – Leadership and Culture

- The quality of procedures across the operation is not considered a priority by the Lead Team at the operation.
    - Although procedural compliance is routinely stated as a key driver of safety at the operation by leaders, there is a lack of focus on ensuring the procedures are of sufficient a level of quality so as to be able to be followed by those who are required to comply with them.
- There is a lack of leadership focus on operational discipline, specifically in this event related to Field Leadership Activities.
    - Although the leaders talk about procedural compliance as being important, the fact that field leadership procedures are not followed by the leaders has set up a culture where compliance to other procedures is also inconsistent

As a reminder from the training you have already been through, the Absent/Failed Defences and the Individual/Team Actions are brainstorm style activities where the facilitator encourages the team to look through their notes, the interviews, other data that has been collected and the timeline/ 5 Whys to come up with the words for the Absent/Failed Defences and then the Individual/Team Actions. I find it beneficial to have the Check Question/Definition slide up on the projector as you do this to remind the team of what you are looking for and to check the language of the wording once you have decided what to write (it must match the Check Question).

The check questions are:

AFD (**Action/Failed Defences**) – What were the last minute measures that were designed to prevent the incident, or minimise the consequences, but were either missing or did not work as intended?

ITA (**Individual/Team Actions**) – What were the actions taken, or not taken, by individuals or teams of people that led to the event?

TEC (**Task/Environmental Conditions**) – What are the things which were present prior to the event and which promoted or encouraged the Individual/Team Action?

OF (**Organizational Factors**) – Where did we go wrong as an Organization? Where did we fall short in our systems or in our leadership? How did we manage to set up a work environment or task that encouraged or promoted the actions that did not quite work out as planned?

After you have identified the Absent/Failed Defences and then the Individual/Team Actions, turn the butcher paper up so that you can only see the first Individual/ Team Action and then ask "What is it about the task or the environmental conditions that contributed to, or encouraged this action?" From this and looking at each Individual/Team Actions in turn, build the Task/Environmental Conditions.

Once you have the Task/Environmental Conditions completed and aligned with the check questions, repeat the build process for the Organizational Factors. By this I mean, turn the butcher paper up so that you can only see the first Task/ Environmental Condition and then ask the Organizational Factors questions.

From these questions and from looking at each Task/Environmental Condition in turn, you will build your list of Organizational Factors (Both Process and Systems factors and Leadership and Culture factors). It is simply a matter of then creating actions with SMARTS for each of the Absent/Failed Defences and recommendations with SMARTS for each of the Organizational Factors.

STEP 6 - CREATING RECOMMENDATIONS AND ACTIONS THAT ARE SMART AND SUSTAINABLE

Actions / Recommendations must address all Absent or Failed Defences and Organizational Factors. Sometimes, you will also have an action for a Task/Environmental Condition also. For example, when you have a poorly written procedure as a TEC and the OF is all about your procedure writing process, you will not only fix the process but ensure also that the poor procedure is fixed as well.

Here are a couple more reminders from the workshop:

- Must eliminate or reduce the risk of recurrence to ALARP, without adding addition risk in another area

- Minimise the number of actions and recommendations
- Ensure actions are SMART and Sustainable
    - Specific
    - Measurable
    - Achievable
    - Relevant to the contributing factors and underlying causes
    - Time bound
    - Sustainable

Often the importance of the recommendations and actions is overlooked. They arrive at the end of a busy process. Whilst recommendations that address Organizational Factors will, by their nature tend to be administrative in nature, endeavour to make it so the recommendations, once implemented, will drive a control high up the hierarchy of control. It is also worth inviting subject matter experts specialists into the ICAM during the action / recommendation development process as they may offer innovative and long-term sustainable fixes that are beyond the thinking of the immediate ICAM team.

STEP 7 - REPORTING

Each operation and company will have its own reporting requirement. The biggest learning I can share with you in this space is to challenge what you have and make it as simple as you can, but not too simple.

So, what should be in a report? The first way to start this conversation is to ask your leaders about the purpose of the report. Is it to share findings, help senior leaders understand the incident, simply capture the outcome of the investigation, or some mixture of these?

For me, a model investigation report contains the following:

- Incident details: when, where, what, and a one paragraph overview of the incident.
- Timelines and identified gaps/differences between Work-As-Done, Work-As-Normal and Work-As- Written.
- 5 Whys: including the questions and the answers.
- Incident story: A couple of simple paragraphs that tells the stories of the incident – a written form of the ICAM chart in many ways
- Either a graphic version or a list of the ICAM elements: this needs to include all of the Absent/Failed Defences, Individual/Team Actions, Task/ Environmental Conditions and Organizational Factors.
- A narrative attached to each Organizational Factor*
- Key Lessons: this should be one or two sentences that really capture the most important elements and thought provokers that came from the incident and subsequent investigation.**
- Actions and recommendations: Should all be SMART ad Sustainable and don't forget to try to get as high as you can on the Hierarchy of control.

***The Importance of the Narrative under each Organizational Factor**

I believe that simply creating a chart, identifying a couple of 'root causes' or a list of contributing factors does not cut the mustard in terms of maximizing learning and understanding of an event in its report. We need to also tell the story. After all, the investigation report is nothing other than the story of the investigation team's version of the incident – how they see it through their eyes. This story is easily applied by adding a short narrative to each of the Organizational Factors. We all like to hear stories - they apply colour, perspective and life to mere facts. We learn from stories. We remember stories and we use them to share and engage with others. Use stories as short narratives on each Organizational Factor in investigation reports and you will go a long way to helping understanding and learning.

**** Some examples of Key Lessons:**

- Having procedures that are easy to follow correctly and agreed to by those who need to use them is essential for the creating of safe work
- When modifications are made to systems (such as inductions), the links and implications to and from other systems needs to be understood and managed

ICAM Quality Review Process

After the ICAM is complete and the ICAM Leader has organized for someone to type it up, etc, it is time to review it yourself, send it to a colleague or to Raeda and ask them to review it for you. Over the next page is the checklist to help you do that. Answer each question completely, one at a time before moving on. If you have been asked to review an ICAM, the intention is to provide feedback. Providing feedback is a skill all on its own and outside of the parameters of this handbook, but I do advise you to get good at it.

ICAM QUALITY REVIEW SHEET

1. Does the timeline include Work-As-Done (WAD), Work-As-Normal (WAN), and Work-As- Written (WAW), including the right language in each location and alignment of topic between WAD, WAN and WAW?
2. Do the 5 Whys come from the gaps identified between WAD, WAN, and WAW?
3. ICAM chart – do the contributing factors listed in the ICAM chart (or list) align with the headings?
    a. Absent/Failed Defences – last minute defences that were missing or did not work as planned.
    b. Individual/Team Actions – describes actions that someone did or did not do that led to the incident.
    c. Task/Environmental Conditions – describes what promoted or encouraged the Individual/Team Actions.
    d. Organizational Factors – describes an organization-wide process and system or leadership issue that created the Task/Environmental Conditions.
4. Look at each of the Individual/Team Actions and see if there is at least one Task/Environmental Condition that would encourage or promote it as an action.
5. Look at each of the Task/Environmental Conditions and see if there is at least one Organizational Factor that explains it.
6. Do the Key Lessons come from the investigation and do they summarize what would be useful to others?
7. Do the actions address ALL of the Organizational Factors and Absent/ Failed Defences?
8. Are the actions SMART and Sustainable? and is there at least one hard barrier (Hierarchy of control)
    a. Specific – Measurable – Achievable – Relevant – Time bound – Sustainable
9. Are leadership and culture included in the Organizational Factors?
10. Will the actions prevent a re-occurrence? (If the actions and recommendations were in place before the event, would the event have occurred?)

Interviewing – Post incident data gathering conversations

What is the best way to interview someone after a safety event? The simple answer to this one is 'as soon as possible'. Actually, there is a very simple approach to interviewing that anyone can learn and apply with ease and confidence.

This is mainly from Simplicity in Safety Investigations by Ian Long (Routledge, 2017), and also Investigative Interviewing By Rebecca Milne and Ray Bull (John Wiley and Sons, 1999)

Before getting into the details of what to say and how to say it, remember what we are there for: to better understand a person's story about a series of events. We are not there as a means to get information that is owed to us. We need to set up our mind to listen generously. And we need to set up the conversation so that it happens as soon after the event as possible. Memories fade and are altered far more quickly and permanently than we realize.

Think of the process of gathering information from those involved in a workplace event as a conversation, rather than a list of questions that must be answered, or as a formal interview. That said, you will of course need to ask some questions; it is how you ask them that makes the difference.

There are a number of things that we should try to focus on when listening and talking during a post incident conversation (interview). They are:

- Stop talking, and listen.
- Be prepared for the conversation. Go through the questions at the back end of this guide and think about the topics you would like to hear more about during the conversation. Try to put other distractions out of your mind.
- Take enough notes.
- Be truly empathetic to the feelings of the person you are talking with. They may be nervous and uncertain. Try to stand in their shoes and see the issues and actions from their perspective.
- Use your body language to support the person. Cues are useful here, so nod or use short words of encouragement. Stay focused on the person. Maintain appropriate eye contact.
- Be patient. Do not argue.
- Remove distractions from the environment. Turn your mobile phone off. Don't shuffle papers, don't check email and don't keep looking at whoever is walking past or your watch.
- Never be judgmental. Simply listen to understand.
- Listen beyond the words. Listen to the tone, and the alignment between the words and body language. Listen for what is not being said as well as what is being said.

Do not use any form of leading questions or ask questions with the mindset that you already know the answer. For example, a question not to ask would be "You normally use a screwdriver for this job don't you?" It is also important to have these conversations as soon

after the event as possible because any delays can affect the quality and quantity of information gathered.

Sometimes it is useful to have the interview conversations at the location of the event. Visual prompts can often help people clarify what they saw or heard and it can also help them explain how they normally do the work. Be careful with this tactic however – if there has been a fatality or serious injury, for instance, we need to be very mindful of how vivid recall can affect those who see such events.

As I mentioned earlier, the information you collect is for the investigation, not for some legal purpose and so it is not necessary for the individual being interviewed to read your notes or sign off on them as a fair and accurate representation. They are simply the notes you took from a conversation you had. I have seen them called 'conversation notes' and that can help to diffuse any blame culture that may rear its ugly head during the process. Use drawings and sketches as well if it helps you make sense of the event.

Don't forget to explain that the interview is just a conversation, or a meeting, to see what information they may have that may help sort out what work normally looks like and what happened on the day of the event.

This next part is based on the Enhanced Cognitive Interview process as described in Investigative Interviewing: It is covered in much more detail in the Quick Reference Guide so you should read that in conjunction with this section.

Overview / introduction: General introduction.
(1) Importance of interviews
(2) Timing of interviews
(3) Interviewer's role; facilitator
(4) Non-verbal behaviour

Phase 1: Greet and rapport
(5) Rapport building
(6) Active listening
(7) Importance of allowing for pauses
(8) Importance of not interrupting

Phase 2: Explain the aims of the interview
(9) Report everything instruction
(10) Transfer the control of the interview to the interviewee
(11) No fabrication or guessing

Phase 3: Initiating a free report
(12) Context reinstatement
(13) Open-ended questions
(14) Pauses

Phase 4: Questioning
(15) Appropriate question types
(16) Witness compatible questioning
(17) Activating and probing images
(18) Use of concentration
(19) Open and closed questions

Phase 5: Varied retrieval
(20) Use of change order recall instruction
(21) Use of change perspectives technique

Phase 6: Summary
Repeat in summary form, the interviewee's account of the TBR event. Encourage the interviewee to check for accuracy and also add other stuff if they want.

Phase 7: Closure
The idea is to attempt to finish the interview with the interviewee in a positive frame of mind. Come back to neutral topics slowly and aim to leave the interviewee with a positive last impression.

Questions and explanation topics

Below is a list of data gathering conversation topics that I have found are extremely useful to think about as you contemplate what may be driving an incident. These topics have come from my upcoming book – 'The Essentials of Safety: Maintaining the balance'.

Here I have just covered the topics and a quick description of each and a number of thought bubbles that may be useful when thinking about what the post incident data gathering conversation may include. As these are areas you may explore later in Task/Environmental Conditions etc, it is worth reminding ourselves now about what they mean.

After a workplace safety incident, rather than spending time and resources trying to work out what went wrong and what we can learn about it, what if we focused on the few things that we MUST get right to create safety - the set of individual characteristics, distinctions, attributes or traits that can permeate through the workforce at all levels. A set of individual attributes that talk to each viewpoint of; the individual, leaders and leadership, the systems we use and the culture of the workplace? What could that look like? And could we look at them after a workplace incident to see which bits worked and which bits didn't work and then learn from that study?

The idea of this appendix is to offer you a selection of topics and areas of interest that you may find useful. They should be used as a guide and not as a set of questions to fire at someone. The way I use this list is to flip through them before the conversation starts. I do not try to learn them, but find that simply scanning through them sets them up in my mind so that when I am having the conversation the questions float up and become simply a part of the

conversations. Use your own words and make sure the choice of language is suitable for the person you are seeking information from. Above all, remember that this is a conversation.

Align your mind with the process and become familiar with what sort of topics or areas of interest may work best during the conversations.

Work-As-Normal

- Details about how is the task is normally done
- Details of any problems or difficulties with the task in the past
- Success and failures with this task in the past
- Level of routineness or improvisation during the task
- Similarities between this crew and others for this task
- Crew process when something unexpected happens? For example; an interruption, a new and urgent task, an unexpected change of conditions, a resource that is missing.
- Process monitoring activities during the task
- Threat observation activities for things that could become a threat in the near future
- Observations prior to or during the task that triggered thoughts that something might not go as planned
- Details of changes as the task progressed
- Changes in the way the job was being done over time - Drift
- Level of challenge in the role and the level of feeling and interest about the level of challenge in the role by those involved in the incident
- View of any in-the field leadership activities and other leadership interactions, by those directly involved, and by leaders at all levels
- Level of consideration of the hierarchy of controls, line of fire and SIMOPS considered in the Task-Based-Risk-Assessments normally undertaken

Work-As-Written

- Numbers and details of procedures, standards or work instructions required for the task
- Readability / useability / practicability / complicatedness / complexity of Work-As-Written more generally
- Behaviours associated with reading (or not reading) of procedures
- Level of ease of reading and understanding of procedures
- Level of ease of following the procedures
- Level and clarity of information in the work order
- Involvement in the procedure review process
- Physical environment constraints with respect to following procedures
- Variation or drift over time with respect to procedures and following them
- The training processes for the work they were doing
- Levels of competence in the team for the task
- The process for determining competency – actual and process
- Level of Resilience in the systems / procedures / leadership behaviours et cetera
    - Respond: Knowing what to do when things start moving away from going right

- Monitor: Knowing what to look for or being able to monitor things that need to be in place to ensure things go right.
- Learn: Knowing what has happened and being able to learn from the experience,
- Anticipate: Knowing what to expect or being able to anticipate developments into the future.

Work-As-Done

- Specific details of how the task was undertaken
- Differences between how the task was done and how it is normally done by the individual and any views they may have of how others do the work
- Impact of other activities in the area on the task - SIMOPS
- Stage of the procedure when the event happened
- Confidence across the team that what they did was going to work
- Levels of attention needed to keep on the task when it was being carried out
- Decision-making during the event (Or when creating the Task Based Risk Assessment - JSEA)
- Details of team focus on at the exact time of the event
- The level of drift in Work-As-Done during the incident.
- The understanding of the situation (mental model) within the individual, the immediate work group, and within the leader of the work group
- Impact of other activities in the area on the task - any SIMOPS going on? (Simultaneous Operations)

Tools and Equipment

- Details of protective equipment or devices in place
- Human Factors / Ergonomics (whether the workplace is set out contribute to or hinder safe work)
- Details of what tools and equipment were used to get this task done
- Details of what tools and equipment are normally used to get this task done
- Availability of tools of choice

Risk Control

- Inclusion of critical controls from material or fatal risks in the task set up
- Level of team involvement in pre-task discussions about what could go right and what could go wring
- Level of understanding of the risks as described in the Task Hazard Analysis / Take 5 / “Stop and Think”?
- Involvement of crew in the creation of the Task Hazard Analysis / JSEA
- Team expectations with respect to things going well and not so well
- Hazards identified
- Level of chronic unease in the team prior to the event
- Level of wariness of the effectiveness of the controls
- Level confidence about success in the task
- Knowledge of any previous events or near-misses involving this task or similar tasks

- Decision making process about how to do the task
- Levels of hazard identification in the planning stages of the task related to the incident, and Work-As-Normal
    - This is very much about the quality of the Task-Based-Risk-Assessment, and general quality of Task-Based-Risk-Assessments,
- Level of consideration of the hierarchy of controls, line of fire and SIMOPS considered in the Task-Based-Risk-Assessment – Directly related to the incident
- Understanding and treatment of Trigger Steps generally and in the task related to the incident
- Understanding and treatment of Critical Steps generally and in the task related to the incident
- Existence of any anomalies in the workplace during the development of the incident, that do not appear to have been there before?
    - Did anything stand out as different or unexpected?
- What devices, alarms and warnings were provided or used immediately prior to the event and how effective were they?
    - Options considered for foreseen failures in the task / escape plans?
- Level of use by the incident involved team and/or the business of 'telegraphing deliberate action'?
- Safety sign levels / awareness / use of / belief in
- Level of controls – shared space – over protection
- Human Factors / Ergonomics (whether the workplace is set out contribute to or hinder safe work)

Task planning

- Level of planning and details of planning that went into the incident related task and Work-As-Normal
    - Check out both the low level on-the-day by-the-crew planning for the task as well as the more broader planning activities related to it
- ETTO balance (time to think – time to do, Bluework – Redwork)
- Individual and work team expectations regarding likelihood of success and of failure prior to starting the work
    - This is focussed on what they thought as they were specifically pulling the activity together rather than a more general discussion on the likelihood of success.
- Level of chronic unease in the team and the leadership teams
    - How did this wariness for the effectiveness of controls manifest in conversations between individual team members and between team members and leaders during normal day-to-day activities?
    - What was the level of preoccupation with failure amongst leaders, amongst work teams, amongst individuals, and amongst those directly involved in the incident
- Knowledge of any previous events or near-misses involving this task or similar tasks

Leadership

- Process and frequency of supervisor checks during tasks
- Explore the level of Authentic, Situational and/or Mindful Leadership approaches by leaders
- How much coaching (following interest – GROW model) is being done
- Use of a coaching style in leaders' behaviours
- Explore the initial and subsequent (personal) reaction of the leaders to HSE events
- What are the leader's views on who should be held accountable after an HSE event
- How do the leaders set and communicate expectations
- What is the leaders' in-the-field behaviour and frequency
- What do leaders say and do about procedural compliance expectations and monitoring
- Balance of tell or ask amongst leaders
    - Observed during discussions with workers
- Listening levels between direct leader and worker related to task allocation and acceptance / understanding
    - What are the views of the workers about how well their leaders listen to them as they work though the task allocation and expectation discussions?
- The level of listening skills at various levels of leadership in the business
    - This is usually a judgment call based on the numerous conversations held as a part of the learning study rather than a specific set of conversations around listening. You should easily pick up a leader's listening skill by having a chat with them about the incident more generally.
- View of any in-the field leadership activities and other leadership interactions, by leaders at all levels
- Use of Critical Control Verification leadership activities
    - Check out both formal and informal critical control verification activities here

Understanding expectations

- Expectations of the worker on the quality and outcomes of the work at hand
- Expectations of the leader on the quality and outcomes of the work at hand
- Expectations of the workers and leaders on drift and variability of Work-As-Normal
    - Is drift and variability an accepted thing, or do workers and leaders view procedural compliance as a must?
- Views by workers, of level of leaders behaviours matching spoken expectations
    - Is the a difference in what people say 'procedural compliance is our number one focus' and what they really know goes on in the workplace?
- Balance of words of 'blame' versus 'learn' after an incident by leaders
    - Check this by talking with leaders and importantly those who have been involved in previous incident, along with other teams' views on this
- Behaviours associated with reading (or not reading) of procedures
    - You can usually only do this after exploring how many procedures, work instruction et cetera apply to a specific task.
- Leaders' and individuals' views on 'Following the rules or doing the right thing?'
- This is tied to the business's view on procedural compliance but goes deeper to explore the underlying beliefs

Situational Awareness

- What do people need to keep an eye on in the general day-to-day kerfuffle of work, including what signals they are worried about
- Things that an eye is kept on during the task of interest
- What occurred related to the incident that the individual or work team were surprised about during the incident
- Details of the share mental models that existed between individuals in the work team (Work-As-Normal and Work-As-Done)
- The existence and efficacy of routines such as task 'post-mortems' and what they usually turn up / show
- Whether there are any routine surprises associated with the task related to the incident
- Details of things that appeared / happened during the incident that were not predicted during the Task-Based-Risk-Assessment
    - Include what the work crew normally do when these are undertaken
- What assumptions are we making about how the work is as compared to how we thought it was when we wrote the procedure?
- Observations prior to or during the task that triggered thoughts that something might not go as planned
    - Do peer to peer observations take place by teams of themselves during tasks? If so, what do they look like? How are they viewed?
- Levels of attention needed to keep on the task when it was being carried out
    - How critical and difficult were the steps. Level of Situational Awareness and on what?

Task assignment

- Tasks assignment (from both points of view)
- Work-As-Normal for task assignment – How tasks are normally assigned
- Task acceptance – actual versus process
- The process and frequency of supervisor checks during tasks
- Workload during the shift
- Understanding of the task assigners expectations
- Process and practice around ensuring teams understand task assignment and intent
- Interactions/conversations between teams and supervisors during task assignment and during the task
- Level of understanding of the broader context of the activity