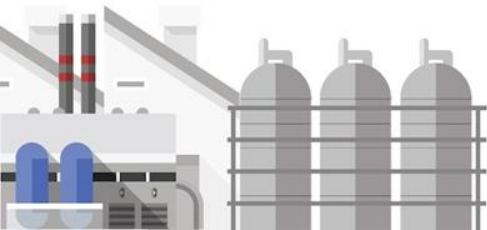




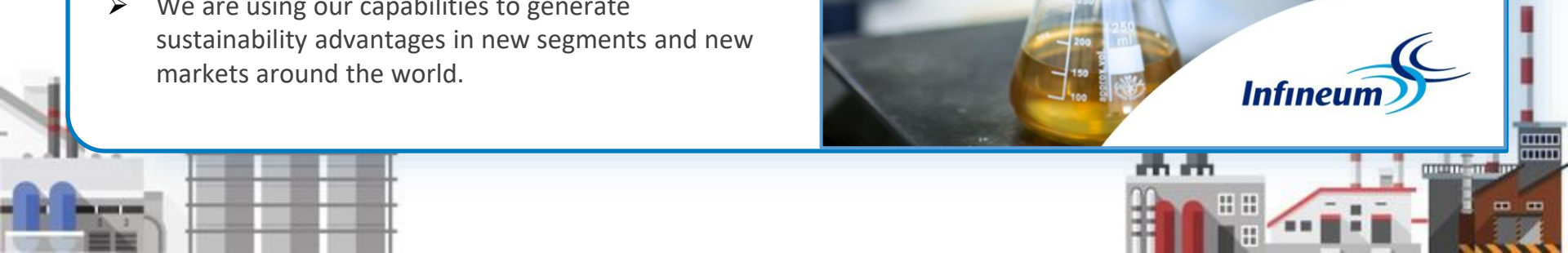
People, the key enablers of health, safety, security and environment success

Mr. Wui Kar Soon
Singapore Plant Manager,
Infineum Singapore LLP



We exist to create a sustainable future through innovative chemistry

- We are a Specialty Chemicals Company with powerful research and development capabilities around innovative chemistry which has a vital role to play in sustainability.
- We provide products needed on the journey towards the electrification of mobility, while helping to make the internal combustion engine as clean as it can be.
- We are using our capabilities to generate sustainability advantages in new segments and new markets around the world.



Introduction

- Infineum Singapore is a lubricant additives manufacturer, which has been operating safely on Jurong Island for 42+ years, since 1982 with no major process safety incident or personal safety incident
- **Nobody Gets Hurt** working for Infineum is the corporate vision
- Our most important asset, i.e. our people, manages and sustains the site's HSSE performance



01 Safety Leadership

02 Event/Incident Reporting system revamp

- Reporting results after the revamp
- Behavior Base Safety Observation system before/after
- Near Miss and Potential Report before/after

03 Developing a culture of ownership

04

Safety Teams Friendly Safety Competition & Wellbeing



Safety Leadership at all levels – People Safety is utmost concern



1st and 2nd Line Leaders

- Responsible for HSE Management Systems administration
- Lead Job Safety Analysis/Risk Assessment workshop as JSA/RA leaders
- Safety Patrol during Turnarounds
- Trained in unit operations and equipment operating windows

Supervisors

- Performs Last Minute Risk Assessments (LMRA) before tasks

Managers

- Field inspection visits
- Sponsors for HSE management systems
- Sponsors in HSE committees
- Reviews HSE data trend and drives HSE improvement

Safety Leadership – Let your actions do the talking



Leaders “walk the talk” in HSSE

Annual KPI is set for field visits by the Management team

- Management field presence strengthen HSSE rule compliance
- Provides first-hand view of ground conditions
- Interaction with frontline workers to understand constraint

1st and 2nd Line Leader conducts regular verification checks using checklist on critical task procedure

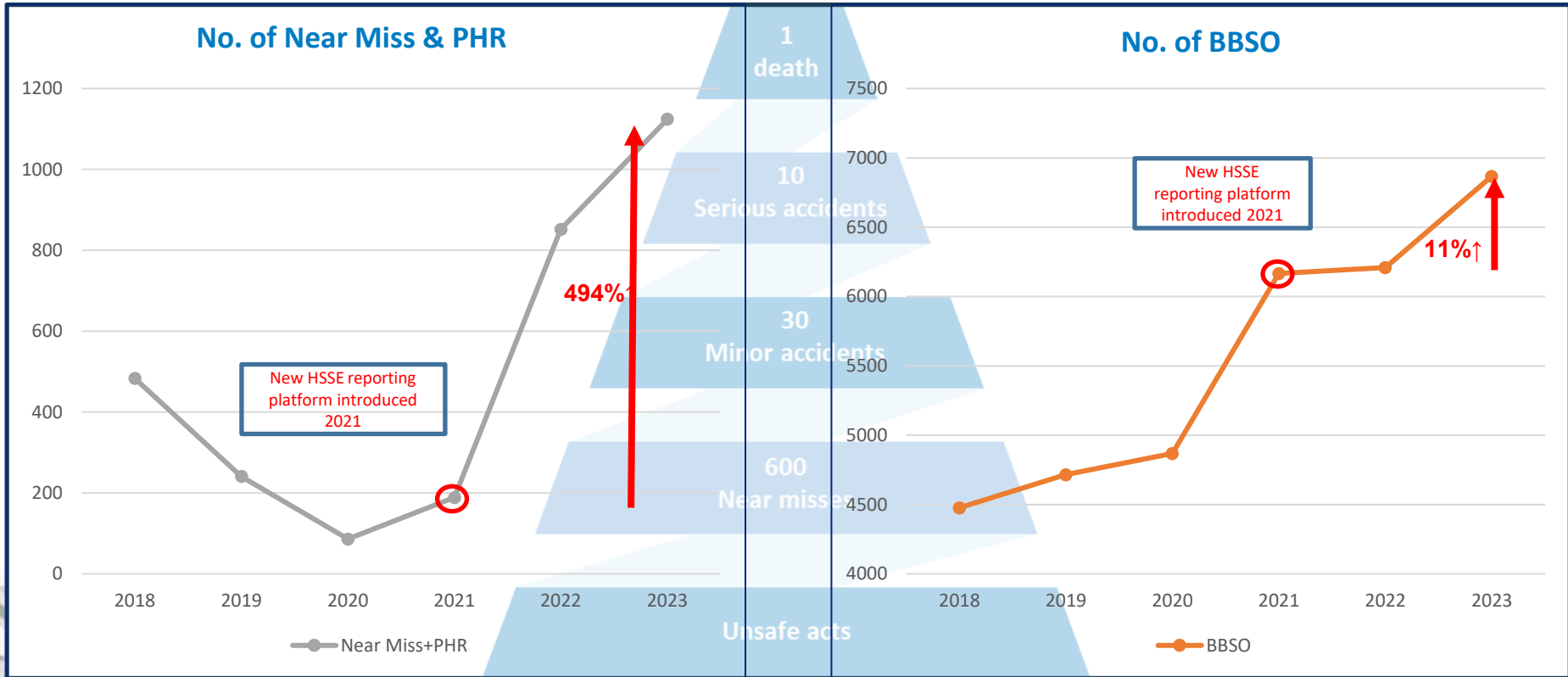
The observations are logged into reporting platforms and gaps are followed up timely.

A tablet displaying a mobile application form titled "New Item". The form fields include:

- Title ***: A text input field containing "Managers' Field Visit Log".
- Field Visit carried out by: ***: A text input field with the placeholder "Enter a name or email address". Below it, a smaller text says "Manager who conducted the field visit and submitted this field visit log".
- Date & Time of Field Visit ***: A date and time picker showing "04/03/2024 12:27 PM". Below it, a smaller text says "Date & Time at which Field Visit took place".
- Locations Covered ***: A text input field with a placeholder "—". Below it, a smaller text says "List the locations covered by this field visit, multiple selections allowable".
- List colleagues with whom this visit was carried out**: A text input field with the placeholder "Enter a name or email address". Below it, a smaller text says "List one or more colleagues, multiple selections possible".
- List any other contractors or visitors with whom this field visit was carried out with? ***: A text input field with the placeholder "Nil". Below it, a smaller text says "Free text to list down colleagues, contractors or visitors for which this field visit was carried out with".
- Field Visit Observations/Follow-ups ***: A text input field with the placeholder "Provide a brief of field visit outcome of observations, follow-ups, etc".
- Attachments**: A text input field with the placeholder "Add attachments".

At the bottom of the form are two buttons: "Save" and "Cancel".

Reporting Results Improvement after reporting system revamp 😊



Behavior Based Safety Observation System before revamp – takes effort to fill ☹️

Before 2021, BBSO uses Microsoft Access to log entry

- Input form layout was cluttered
- Not user friendly
- Extraction of data to assess validity and trend analysis required effort and long duration

Infineum Singapore Plant HSSE Program

Health, Safety, Security and Environment Reporting System

Infineum

HSSE Near Miss

BBSO Reports

HSSE Incident Reporting

Security Incident Reporting

PPE / LSR Observation

Plant Wellness Monitoring Program

Behaviour Based Energy Observation

Environment Reporting

Close Application

Hierarchy of Controls

Elimination: Physical removal of hazard

Substitution: Replace the hazard

Engineering Controls: Isolate people from hazard

Administrative Controls: Change times, procedures, Personal Protection Equipment

PPE: Personal Protection Equipment

Pyramid of Accidents

Fatal

SEVERE accident

MINOR accident

NEAR MISS

UNSAFE BEHAVIOR

We believe colleagues, contractors and others working for Infineum have a right to return home at the end of each day in the same state of health and well-being as they began it. We believe that a situation where "Nobody gets hurt" is right and is achievable. To that end we will investigate any injury to those working for Infineum to understand what happened, identify the root causes and put in place mitigating actions which will minimise the risk of recurrence. We will not be satisfied until we have sustainably achieved a working environment where **Nobody gets hurt**.

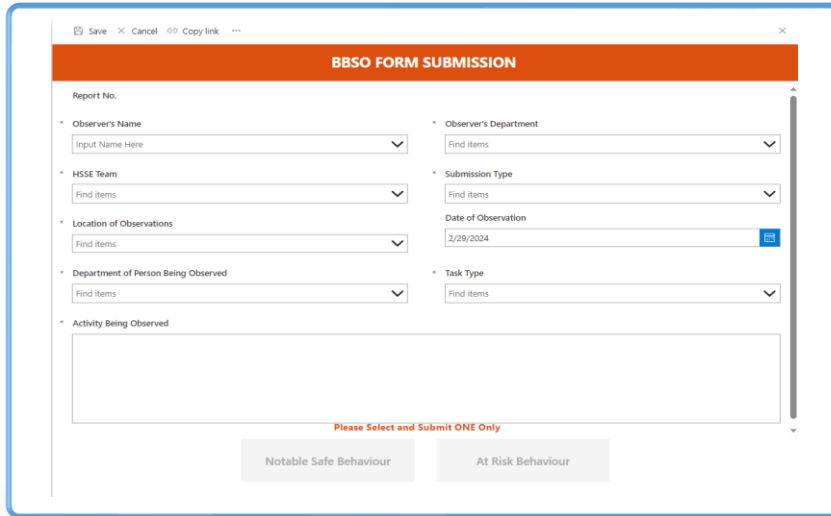
Furthermore we believe that the mind-set necessary to achieve "Nobody gets hurt" is the same mind-set that leads to zero tolerance of error and deviation in our business operations. This excellence in safety, as well as being the right thing to do, is also an essential pillar of overall excellence in operations which leads to Infineum having **Business as Usual**.

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Report Number	Report Number	Percent Safe	Percent Safe	Time Keyed In	Job Position of Person Being Observed
Submission Type	Submission Type				Job Position
Process Unit	Process Unit				Department of Person Being Observed
HSSE Team	HSSE Team1	Name	Name1		Department
Observation or Activity	Observation or Activity				Name of Person Being Observed (EDP-FRONAL)
Task Observed	Task Observed				Name of Person Observed
Root Cause	Root Cause				
FOR NOMINATION OF COMMENDABLE SAFETY BEHAVIOURS, KEY IN BELOW:					
Name of Person		Commendable Person Name			
Company or Department		Commendable Person Company/Department			
Brief Description of Safe Behaviour					
Commendable Behaviour Description					
Where Was the Observation Made. Select Field or Office based on Location of Observation				Time is Following	Time is Following
				5.30 pm	5.30 pm
				Time	Date
				Time	Date
				Click for FBDD BBSO Checklist	Click for OFFICE BBSO Checklist

PERSONAL PROTECTIVE EQUIPMENT		
Hard Hat / Gloves / Safety Shoe or Boots	<input type="checkbox"/>	CommentsPPE1
Safety Glasses / Goggles / Face Shield	<input type="checkbox"/>	CommentsPPE2
Protective Clothing / Suit / Apron	<input type="checkbox"/>	CommentsPPE3
Fall Protection / Safety Harness	<input type="checkbox"/>	CommentsPPE4
Hearing Protection	<input type="checkbox"/>	CommentsPPE5
Respirator Protection	<input type="checkbox"/>	CommentsPPE6
Others	<input type="checkbox"/>	CommentsPPE7
BODY USE / POSITIONING		
Lifting / Pushing / Pulling Posture	<input type="checkbox"/>	CommentsBP8
Ascending / Descending	<input type="checkbox"/>	CommentsBP9
Overexertion	<input type="checkbox"/>	CommentsBP10
Others	<input type="checkbox"/>	CommentsBP11
WORKING ENVIRONMENT		
Housekeeping / Storage	<input type="checkbox"/>	CommentsWE12
Barricades / Warning Devices / Fire Extinguishers	<input type="checkbox"/>	CommentsWE13
Safe and Secure Work Area	<input type="checkbox"/>	CommentsWE14
Ventilation and Overcrowding	<input type="checkbox"/>	CommentsWE15
Others	<input type="checkbox"/>	CommentsWE16
PROCEDURES		
Lockout / Tag Out	<input type="checkbox"/>	CommentsPE17
Work Permit System	<input type="checkbox"/>	CommentsPE18
Gas Testing / Periodic Monitoring	<input type="checkbox"/>	CommentsPE19
Communication (eg Tool Box Meeting)	<input type="checkbox"/>	CommentsPE20
Interfaces with Other Functions	<input type="checkbox"/>	CommentsPE21
Job Assessment / Hazards Identification	<input type="checkbox"/>	CommentsPE22
Job Safety Analysis	<input type="checkbox"/>	CommentsPE23
Others	<input type="checkbox"/>	CommentsPE24
TOOLS / EQUIPMENT		
Hand Tool Selection, Use and Condition	<input type="checkbox"/>	CommentsTE25
Power Tool Selection, Use and Condition	<input type="checkbox"/>	CommentsTE26
Gas Cutting Tool Condition	<input type="checkbox"/>	CommentsTE27
Lifting Equipment / Machine Selection, Use, Condition	<input type="checkbox"/>	CommentsTE28
Electrical Cables / Connections / Grounding	<input type="checkbox"/>	CommentsTE29
Others	<input type="checkbox"/>	CommentsTE30
ENVIRONMENTAL PROCEDURES		
Precautions Taken to Avoid Environmental Damage (eg. Soil Contamination etc.)	<input type="checkbox"/>	CommentsEP31
Proper Storage / Disposal of Waste Materials	<input type="checkbox"/>	CommentsEP32
Others	<input type="checkbox"/>	CommentsEP33
(OPTIONAL)		
Long Term Follow-up for Safety		
# Alarm Buzzer		
Permissions: Admin (Time Log) / Field At Work * 100		

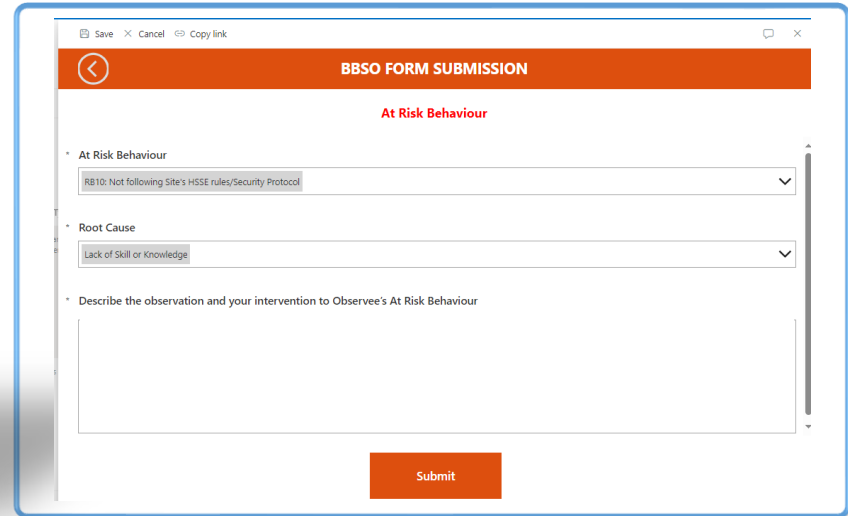
New Behavior Based Safety Observation System – Easy to fill information! 😊



The screenshot shows the 'BBSO FORM SUBMISSION' input form. It features a header bar with 'Save', 'Cancel', and 'Copy link' options. The form is divided into several sections with dropdown menus for selection:

- Report No.
- Observer's Name (Input Name Here)
- Observer's Department (Find items)
- HSSE Team (Find items)
- Submission Type (Find items)
- Location of Observations (Find items)
- Date of Observation (2/29/2024)
- Department of Person Being Observed (Find items)
- Task Type (Find items)
- Activity Being Observed (Text area)

At the bottom, there are two buttons: 'Notable Safe Behaviour' and 'At Risk Behaviour'. A red instruction reads: 'Please Select and Submit ONE Only'.



The screenshot shows the 'BBSO FORM SUBMISSION' form with data entered. The 'At Risk Behaviour' section is highlighted in red. The form includes a back arrow in the top left corner.

- At Risk Behaviour: RB10: Not following Site's HSSE rules/Security Protocol
- Root Cause: Lack of Skill or Knowledge
- Describe the observation and your intervention to Observee's At Risk Behaviour: (Text area)

A 'Submit' button is located at the bottom right.

- Simplified SharePoint BBSO input form with drop down selection makes it user-friendly for personnel to fill form. Autocheck all fields are filled before submission, i.e. no missing data.
- It facilitates data analysis for trend of at risk behavior.

NM /PHR reporting system before revamp – many fields, takes effort to fill.....☹️

Thank You for Your Feedback, Elected Representatives

Process Safety Near Miss / Personal Safety Near Miss

Report No:

Report Category:

Incident Title:

Department:

Area / Location:

SAFETY RISK:

Actual Multiplier Value:

Potential Multiplier Value:

Barriers Multiplier Value:

BRAT Score:

Actual Hat Level:

Potential Hat Level Worst Case:

Effective or LTA Barriers:

ELTAB:

Final Potential Hat Level:

INCIDENT DESCRIPTION

Report the incident to your supervisor immediately upon occurrence

Report to his Department Manager by the next working day

Report to his Department Manager by the next working day for Major Incident, Reportable Incident or PFI with an IEAT of 500 or more

If it is a Process Safety Incident, immediately inform OPERATIONS MANAGER and the HSSE OFFICER !!!

IMMEDIATE SUPERVISOR IS REQUIRED TO FILL IN SECTION 1 TO 6 AND THE 5 WHY REPORT (Section 3 to 6 on Page 2 and "5 Why" on On Page 3)

Actual loss of primary containment involving hazardous, toxic, corrosive or flammable material (eg. H2SC) Actual Loss of Oil

Actual loss of primary containment involving high pressure or high temperature material Smouldering, sparks, fire or any sign of combustion even if no flame observed Actual Fire e.g. Spot

SECTION 1: INCIDENT CLASSIFICATION

Incident Report Submitted By:

Category:

Actual Loss of Oil:

Actual Fire e.g. Spot:

Reported By:

Area / Location:

SAFETY: Injury Fire / Explosion Vehicle Accidents Inadvertent Shutdown Equipment Loss / Damage Property Loss / Damage

ENVIRONMENTAL RELEASE: To Air To Containment To Land To Surface Water

OCCUPATIONAL ILLNESS: Occupational Illness

OPERATIONS: Operations Contamination

SECTION 2: DETAILS OF INCIDENT

Date:

Time:

Employee:

Contractor Comp:

Contractor Company:

First Person Involved:

Second Person Involved:

Third Person Involved:

Reported By:

Area / Location:

First Eye Witness:

Second Eye Witness:

Extent of Damage:

Quantity of Spill / Release:

Name of Injured:

NIC of Passport Number:

DESCRIPTION OF INCIDENT

Please provide detailed events and conditions leading to the incident. If necessary, attach further details such as diagrams or sketches and attach with this printed report.

INFINIUM SINGAPORE PTE LTD

SAFETY / ENVIRONMENT / OCCUPATIONAL ILLNESS INCIDENT

SECTION 3: INITIATING EVENT

Check the Box that is Applicable	
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Pressure Related
<input type="checkbox"/> Erosion	<input type="checkbox"/> Slippery Climbing Surface
<input type="checkbox"/> Flame Impingement	<input type="checkbox"/> Slippery Gripping Surface
<input type="checkbox"/> Freezing	<input type="checkbox"/> Slippery Walking Surface
<input type="checkbox"/> Land Movement	<input type="checkbox"/> Storms
<input type="checkbox"/> Liquid Carried Over	<input type="checkbox"/> Unknown, Uncertain, Dispute
<input type="checkbox"/> Material Defect	<input type="checkbox"/> Hisspumping
<input type="checkbox"/> Normal Wear / Tear	<input type="checkbox"/> Initiating Event Others:

SECTION 4: Causal Factor Why Tree (CFWT)

Select from Dropdown Box that Which is Applicable

Human Factor Engineering	Work Practices
<input type="checkbox"/> Reliability	<input type="checkbox"/> Human Factor Engineering
<input type="checkbox"/> Procedures	<input type="checkbox"/> Training
<input type="checkbox"/> Guidance, Supervision, Monitoring	<input type="checkbox"/> Management and Leadership
<input type="checkbox"/> Risk Analysis, Understanding and Follow up	<input type="checkbox"/> People Personal Factors
<input type="checkbox"/> Communication and Corrective Actions	<input type="checkbox"/> Communications

SECTION 5: FOLLOWUP AND CORRECTIVE ACTIONS

Followup and Corrective Actions	Responsibility	Completion Date:	Status: (HSSE Cont)
First Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>
Second Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>
Third Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fourth Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fifth Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>
Six Corrective Action	<input type="text"/>	<input type="text"/>	<input type="text"/>

Supervisor is required to fill in 5 WHY report. Click the Next Page Button.

SECTION 6: REVIEW AND APPROVAL

Note: For Department Manager Review of risk assessment and procedure(s) are required upon the occurrence of any bodily injury to any person to a hazard in the workplace. TICK

Approved By:

Date:

Approved Date:

Cluttered field makes it not user friendly to key in the information

New NM reporting / PHR System - Easy to fill information! 😊



- Simplified SharePoint NM / PHR input form with drop down selection, capturing necessary information makes it user friendly for personnel to fill the form. Autocheck all fields are filled before submission, i.e. no missing data

- It facilitates data analysis of trend

Save Cancel Copy link

New Item

1.1) Title (255 Char)
Enter value here

1.2a) Incident Category *

Process (LOC of hazardous materials or Hazardous Chemical Reaction occurrence eg Sparks, Smouldering, Fire)

Personnel (Events caused by occupational safety hazard such as slips, falls, cuts & vehicle accidents)

Environment (LOC of non-hazardous material or emission/discharge beyond statutory limits)

Security (Break-in, Unauthorized entry, Cyber-incident, Damage/Tampering of security equipment & Theft of Infineum property)

* Hazardous materials include Toxic chemicals, Flammable chemicals, Liquids with an HFR-734 health hazard rating > 1, Liquid within UN Hazard Class 6, Caustic, Acid, Corrosive liquid, Gases with Asphyxiation hazards or Materials with hazardous energy. Material with Hazardous Energy includes those with Temperature > 60degC and Pressure > 1 barg.

1.2b) Does this event constitute an Environmental spill? *

Yes

No

*All Process Safety incidents with loss of containment are also categorized as Env spills.

1.3) Date & Time of Event *

Enter a date

1.4a) Area / Location *

—

1.4b) Equipment Tag *

Enter value here

1.3) Event Description *

Enter value here

*This specifies the sequence of events and personnel involved. * Drug & Alcohol Test to be triggered for individual involved in vehicle incident or when individual's State of Mind may be a potential cause of the incident.

1.6a) Any Injury sustained by Infineum Employees during the event?

Yes

No

1.6b) Any Injury sustained by Contractors during the event?

Yes

No

See Something, Do Something Submission

Observer's Name *
Find Items

HSSE Team *
Find Items

Date of Observation *
Find Items

Location *
Find Items

Potential Category *
Find Items

Observation Category *
Find Items

Observed Description *

Corrective Action Taken *

Corrective Action (CA) Status *
Find Items

CA Closed Date
Find Items

Unit Owner Informed (If Unit Owner Follow-up)
Find Items

Manager
Find Items

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Developing a Culture of Ownership – Builds long term HSSE sustainability.....

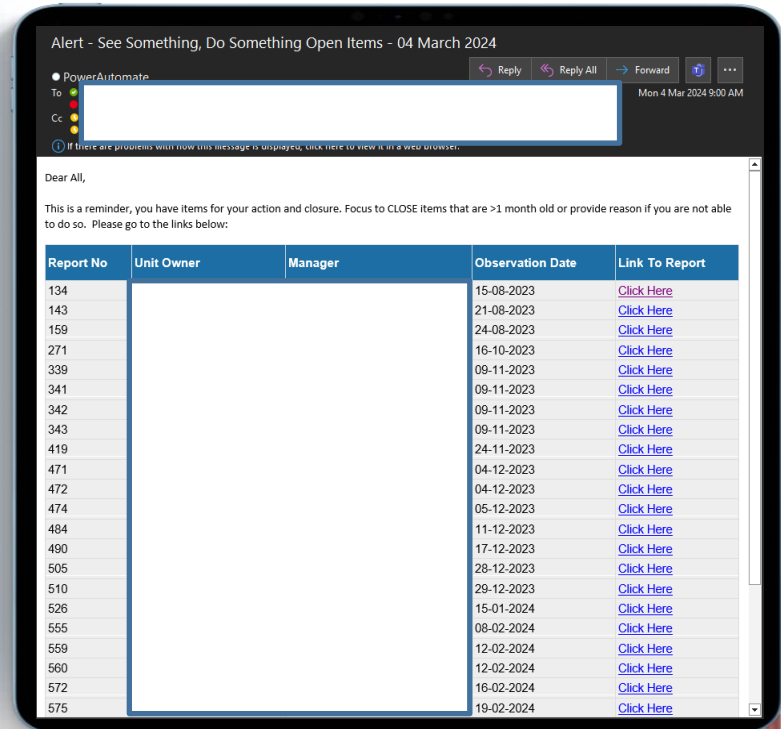
- **Personnel are encouraged and recognized when they rectified the potential hazards which they have spotted**
 - Additional points are awarded to their safety team for self-rectified hazards
 - Pro-active elimination of hazards instead of waiting for shift team or maintenance to react
- **Resulted in high self-closure rates of > 90% for the Potential Hazard Reported**
 - For PHR items that are not closed at the time of observations, this triggers a Power-Automate(*) workflow to steward the action closures.

※ Microsoft Power-Automate is an intuitive and user-friendly interface that makes it easy for business users to automate repetitive and time-consuming tasks.

Example of consolidated action email

Power-Automate sends weekly email to stakeholders for open follow up actions

- **Improve** efficiencies, as colleagues reminded automatically to close their items
- **Eliminate** transcription errors and omissions



Alert - See Something, Do Something Open Items - 04 March 2024

PowerAutomate

Dear All,

This is a reminder, you have items for your action and closure. Focus to CLOSE items that are >1 month old or provide reason if you are not able to do so. Please go to the links below:

Report No	Unit Owner	Manager	Observation Date	Link To Report
134			15-08-2023	Click Here
143			21-08-2023	Click Here
159			24-08-2023	Click Here
271			16-10-2023	Click Here
339			09-11-2023	Click Here
341			09-11-2023	Click Here
342			09-11-2023	Click Here
343			09-11-2023	Click Here
419			24-11-2023	Click Here
471			04-12-2023	Click Here
472			04-12-2023	Click Here
474			05-12-2023	Click Here
484			11-12-2023	Click Here
490			17-12-2023	Click Here
505			28-12-2023	Click Here
510			29-12-2023	Click Here
526			15-01-2024	Click Here
555			08-02-2024	Click Here
559			12-02-2024	Click Here
560			12-02-2024	Click Here
572			16-02-2024	Click Here
575			19-02-2024	Click Here

Safety Teams Friendly Safety Competition & Wellbeing

Employees are divided into teams with a manager as team leader and engage each other in a friendly competition in HSE contributions

- End of Quarter, the teams are ranked based on their contributions to BBSO, Near Miss and Potential Hazards Reporting.
- Points are deducted from team member's team if he/she violated HSE rule.
- Recognitions are given to the teams based on their ranking.

Physical and mental wellbeing added into HSE programmes

Points are awarded to colleagues who attended TWSH talks, workout at company sponsored gyms and participated in company sponsored sports such as bowling, futsal and etc.

HSE Team performance are reviewed monthly in the HSE talks



Conclusion

Safety Leadership is critical to HSSE performance

Simplification and using user-friendly system will encourage personnel to use them

- A system with ease of input, data analysis, ability to track follow up is able to sustain in the long run

Motivate personnel to engage in HSSE activities, ownership and establish a feedback channel to them on their performance is critical to HSSE success



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