

# ISSUEANCE (INITIATOR)

# Abnormality Report

|                             |   |  |
|-----------------------------|---|--|
| AR Number                   | : | 115700   |
| Title                       | : | Loss additive due to master mix feeder equipment problem |
| Recurrence case from AR No. | : |  |
| Date Occurrence             | : | 12/11/2023   |
| Date Reported               | : | 12/11/2023   |
| Immediate Action            | : | Replace unit agitator gearbox                            |

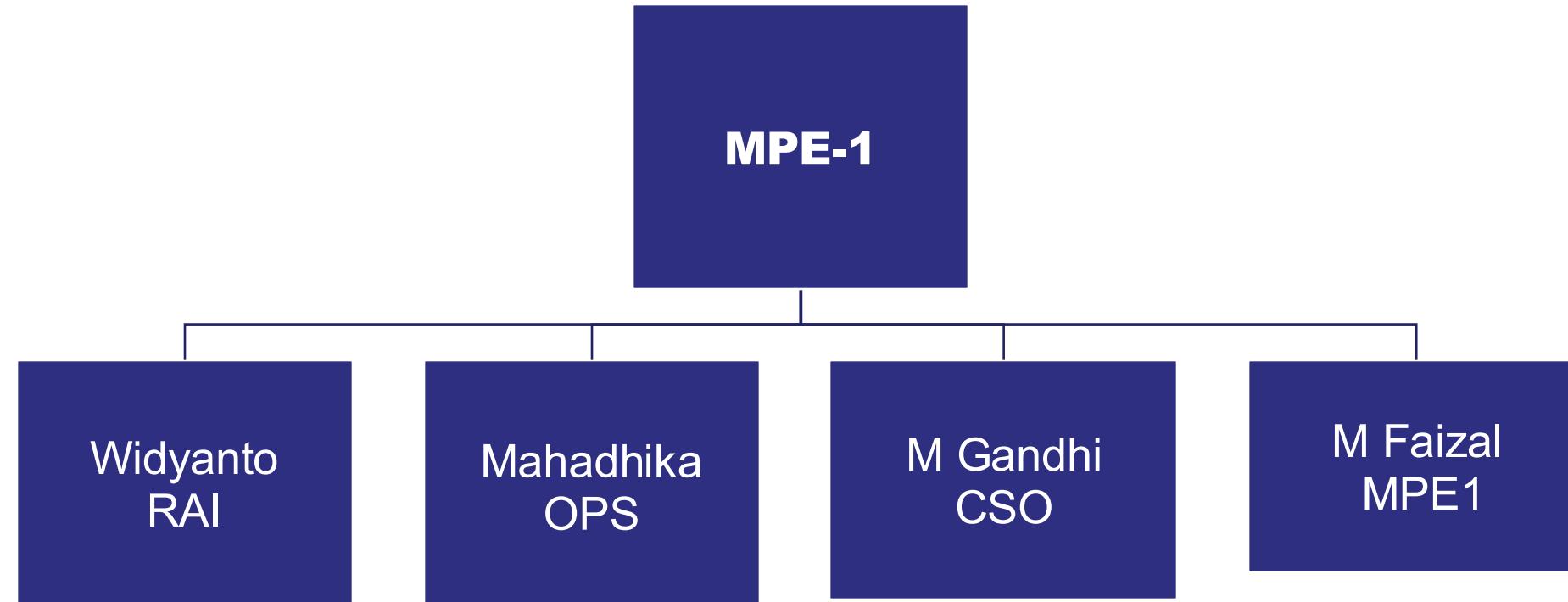
| AR Type          | OPEDR      | Non OPEDR | EXT            |          | TAM            | PMS      | II          | CCR   | CORA      | PM      |                   | MSA  |            |      |                      |                    |      |  |
|------------------|------------|-----------|----------------|----------|----------------|----------|-------------|---|-----------|---------|-------------------|------|------------|------|----------------------|--------------------|------|--|
|                  |            |           | PLN:           | Comm:    |                |          |             |   |           | No. AP: | No. TL:           | Int: | 2nd:       | Ext: | TPM:                 | SMK3:              |      |  |
| *Uptime Plant    | C2 Hot     | C2 Cold   | BD             | B1MTBE   | Utility        | TY-Jetty | SDK         | UCC1  | UCC2      | PEB     | PP1               | PP2  | PP3        | PPU  | PPB                  | SPD1               | SPD2 |  |
| *Uptime Category | First Pass |           | Loss of Demand |          | Loss of Supply |          | Product Mix |   | Rate Loss |         | Schedule Downtime |      | Transition |      | Unscheduled Downtime |                    |      |  |
| Severity         | Slight     | Minor     | Moderate       | Major    | Catastrophic   |          |             |   |           |         |                   |      |            |      |                      |                    | 2.44 |  |
| Problem Type     | A          | B         | C              | D        | Near Miss      | Yes      | No          | Cross (X) for major severity impact, and fill the total loss (KUSD) |           |         |                   |      |            |      |                      |                    |      |  |
| **RCA Complexity | Low        | Medium    | High           | X        |                | HPNM     | NM          | HPNM = High Potential Near Miss ; NM = Near Miss                    |           |         |                   |      |            |      |                      |                    |      |  |
| ***MSA Severity  | OFI        | Minor     | Major          | Critical | Type Incident  | PSE      | Non-PSE     | PSMC?   |           | Tag Eq. | Initiator         |      |            |      |                      | Severity Verifier  |      |  |
|                  |            |           |                |          |                |          |             | Yes   | No        |         |                   |      |            |      |                      |                    |      |  |
|                  |            |           |                |          |                |          |             |   |           |         | Name : Mahadikha  |      |            |      |                      | Name: Joko Pramono |      |  |
|                  |            |           |                |          |                |          |             |   |           |         | Date :            |      |            |      |                      | Date:              |      |  |

**ANALYSIS (RCA EXECUTOR)  
CONFIRMATION (REVIEWER)  
APPROVAL (APPROVER)**

# Problem Identification

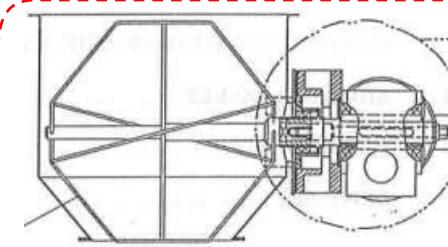
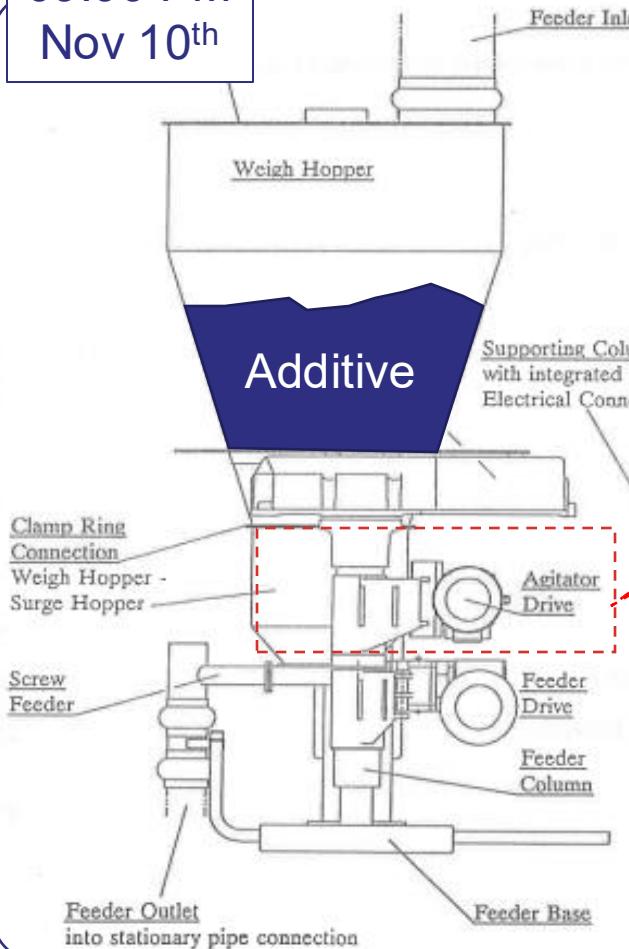
| Initiator | RCA Executor | Reviewer   | Approver  | Verifier |
|-----------|--------------|------------|-----------|----------|
| Mahadhika | Ferry S      | Wendarto A | F Indro K |          |

## RCA Executor Team

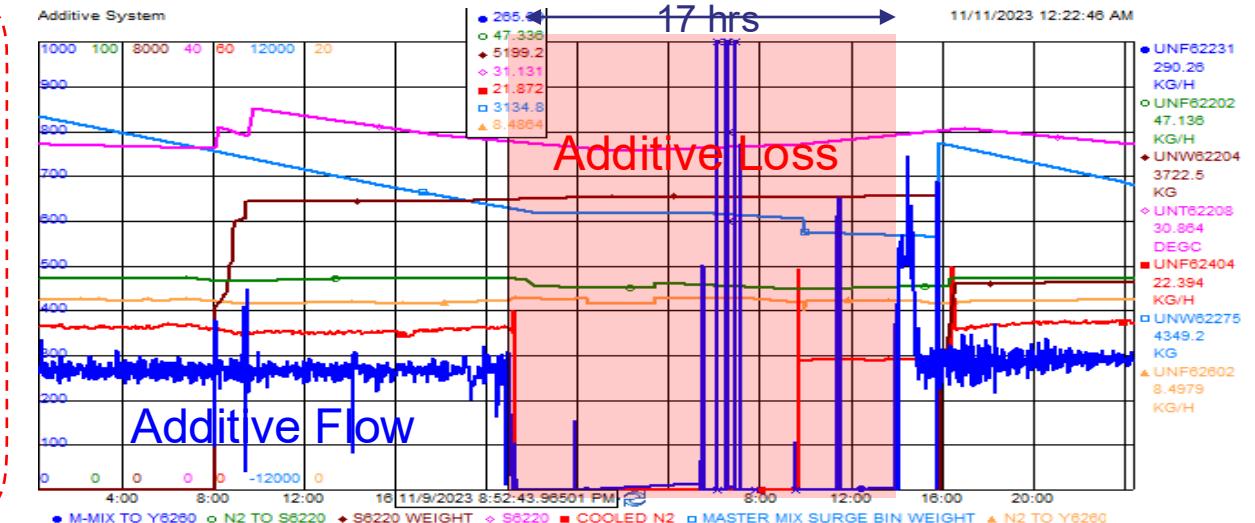


# Problem Identification

09:00 PM  
Nov 10<sup>th</sup>

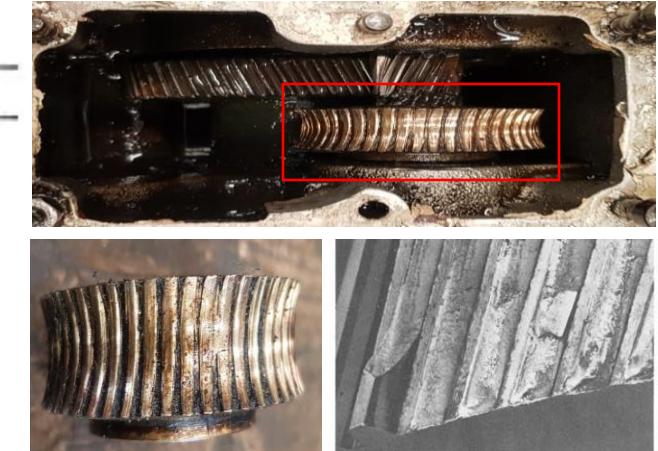
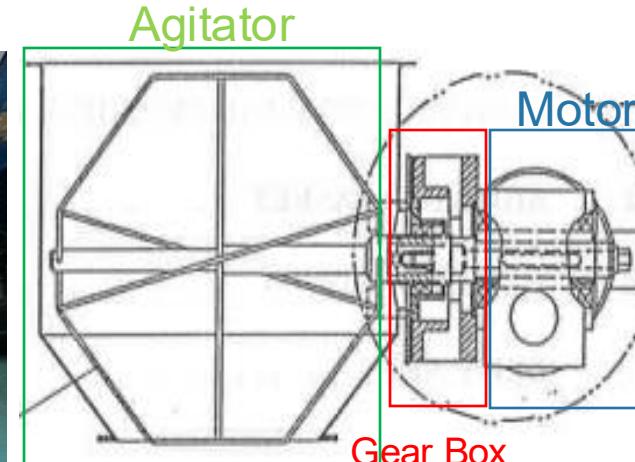


- Agitator Drive was stuck, meanwhile motor still run
- Overload indication not appear



- 09:00 PM Nov 10<sup>th</sup> additive feeder agitator was stuck and no additive fed into pelleter system. Operation team switch product to OFF silo and kept pelleter run.
- In parallelly, Operation contact mechanic team to repair additive feeder agitator but during this time mechanic in charge at bagging and SDK plant.
- Therefore, product still produce without additive from 09:00 PM Nov 10<sup>th</sup> until 09:30 AM Nov 11<sup>th</sup> (Repairment was conducted with pelleter run)

# Problem Identification

Nov 11<sup>th</sup>

- Reconstruction problem was conducted at Nov 11<sup>th</sup> and resulting confirm that motor agitator run but agitator stuck as shown on the video beside
- After open the gearbox, found worm gear teeth of additive feeder broken as shown on picture above
- **Gear broken is the phenomenon** of this problem, then will breakdown based on principal, parameter and 4M+E on WWA

# Problem Identification

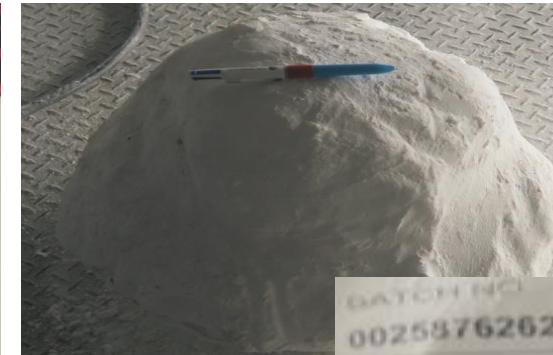
Nov 11<sup>th</sup>

Observation was conducted to find the potential root causes. Picture below were show all the findings that may help to develop why-why analysis

P6 NG



Packed additive which found at master mix hopper



Packed additive which found at jumbo bag Irgafos 168

- Before the problem occurred, operation team found packed additive at jumbo bag 168 then we take out this packed additive from jumbo bag Irgafos 168
- Even though has been separated, during the problem still found packed additive at mastermix hopper



Sheeting which found at mixer hopper



Sheeting which found at rotary feeder S-5011

- At the same time pelleter trip due to suction melt pump pressure PAH which caused by sheeting
- During the problem found sheeting at mixer hopper and also at rotary feeder S-5011

# Assess

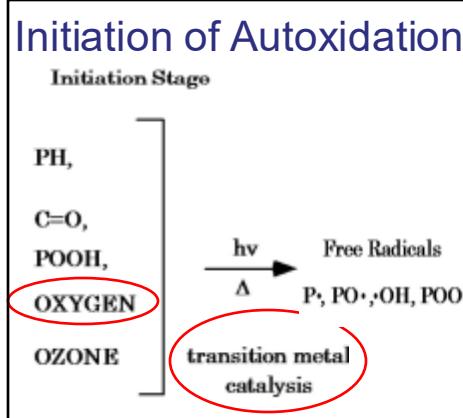
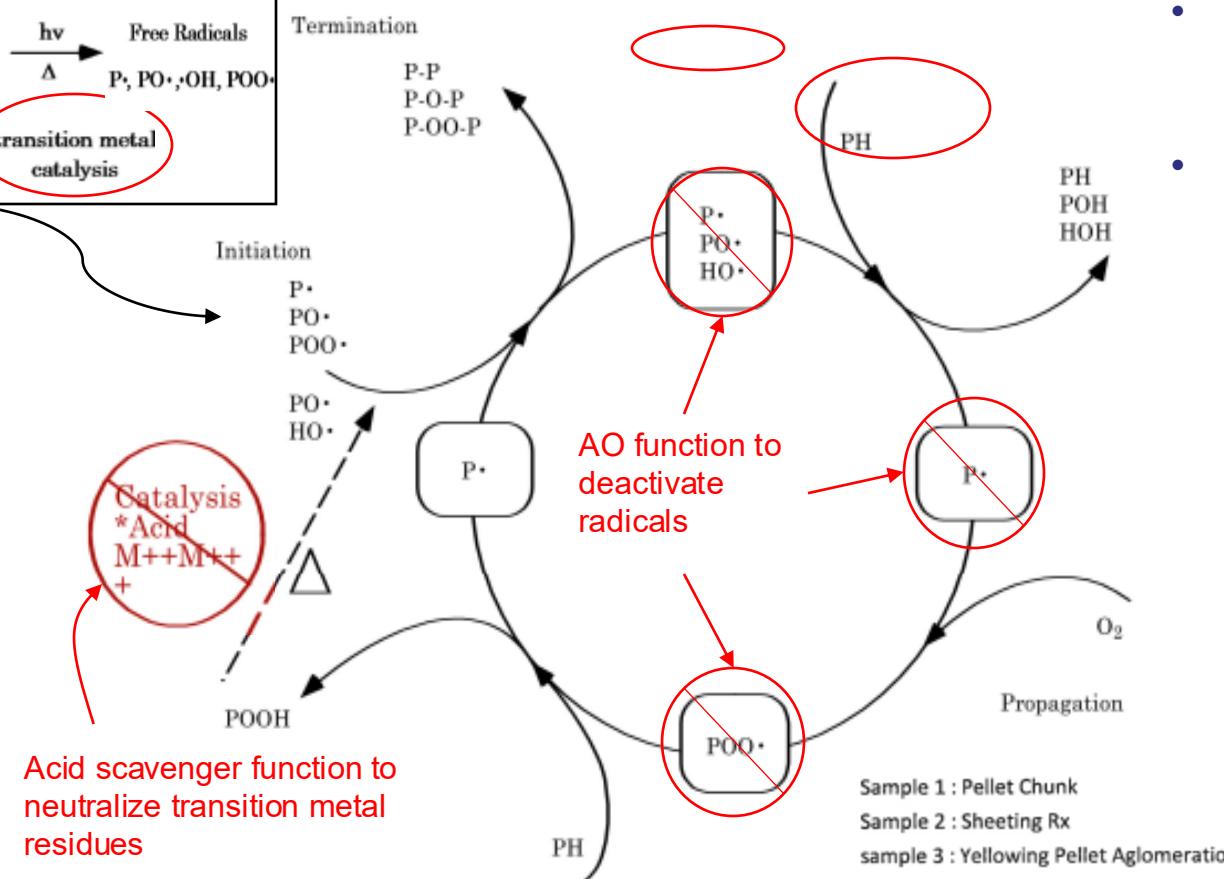


Figure III-B-3-D-1

Autoxidation Scheme



- The Initiation stage started with **the absence of additive** on pellet led to create **acidic condition** due to no acid scavenger to neutralize catalyst residue
- The absence of additive (anti oxidant) impact to **autoxidation-cycle** besides take places continuously
- High FI & Density indicates **polymer chain scission** reaction occurred through auto-oxidation reaction as shown on lab result below

**UCC-1 Pellet Chunk OFF Silo 28.11.2023**

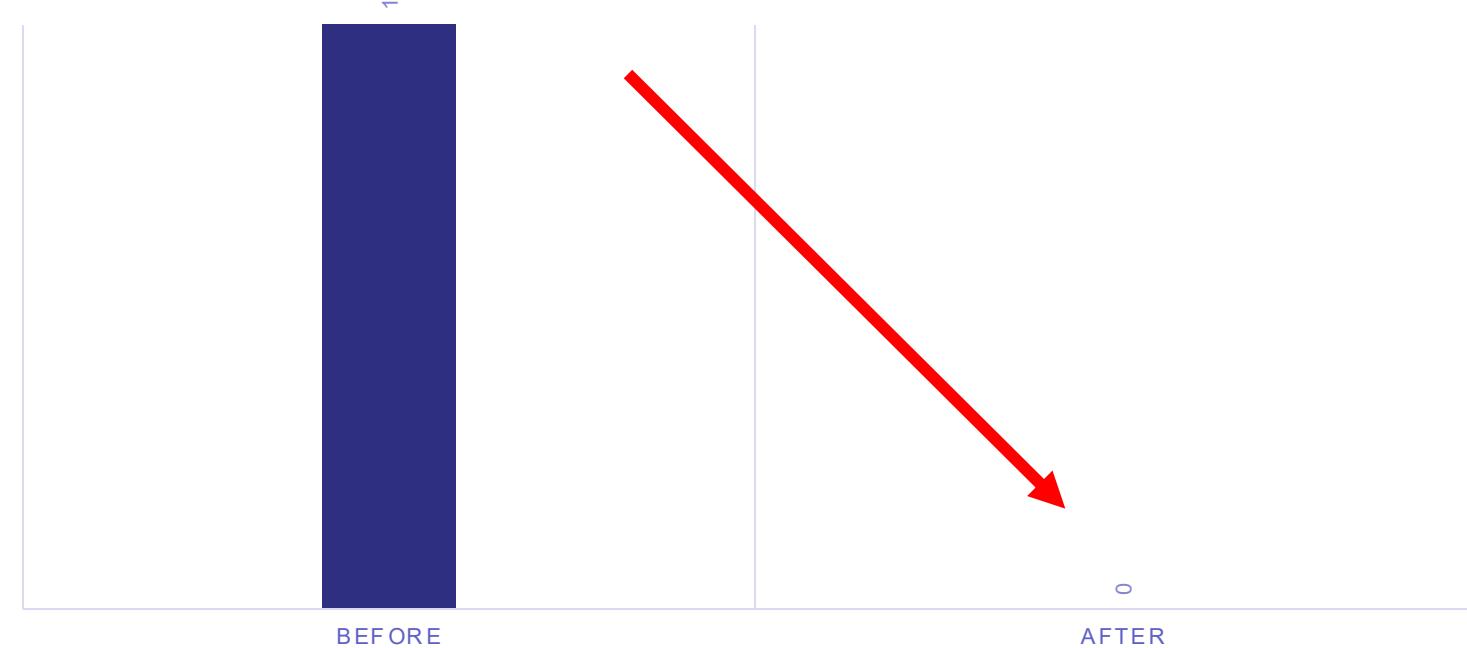
P1 NG

| No | Analysis Item    | Unit               | Sample Name |          |          |          |
|----|------------------|--------------------|-------------|----------|----------|----------|
|    |                  |                    | Sample 1    | Sample 2 | Sample 3 | Sample 4 |
| 1  | HLMI             | gr/10 min          | 219         | 12.78    | 8.98     | 4.74     |
| 2  | Density          | gr/cm <sup>3</sup> | 0.9609      | 0.9512   | 0.987    | 0.9524   |
| 4  | Ash Content      | %                  | 0.009       | 0.018    | 5.095    | 0.007    |
| 5  | Carbonyl Content | No/1000 Carbon     | 46.84       |          | 8.86     | 0.034    |
| 6  | Additive         |                    |             |          |          |          |
|    | ZnSt             | %                  | 0           |          | 0.074    | 0        |
|    | Irg168           | %                  | 0           |          | 0.099    | 0        |
|    | CaSt             | %                  | 0           |          | 0.112    | 0        |

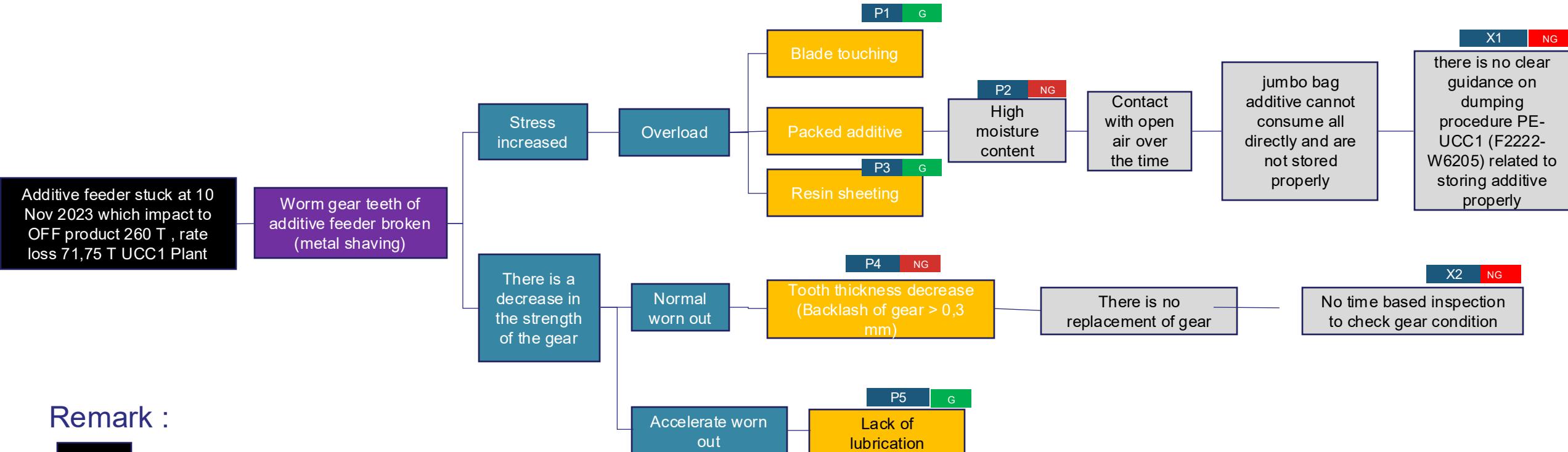
# Target Setting

|                                       |   |  |
|---------------------------------------|---|--|
| Actual Condition (Before Improvement) | : | Loss additive due to master mix feeder equipment problem |
| Target Condition (Project Y)          | : | No Loss additive due to master mix feeder problem        |

## LOSS ADDITIVE DUE TO MASTER MIX FEEDER EQUIPMENT PROBLEM



# Root Cause Analysis (RCA)



Remark :

- [Black Box] Problem
- [Purple Box] Phenomenon
- [Blue Box] Principle
- [Yellow Box] Parameter
- [Grey Box] 4M1E
- [Red Box] NG Not Good
- [Green Box] G Good

# Root Cause Analysis (RCA) - Verification

P2: Packed Additive

High moisture content &gt; 0.3% (Irg 168)

X1: Contact with open air over the time

jumbo bag additive cannot consume all directly and are not stored properly

there is no clear guidance on dumping procedure PE-UCC1 (F2222-W6205) related to storing additive properly

NG

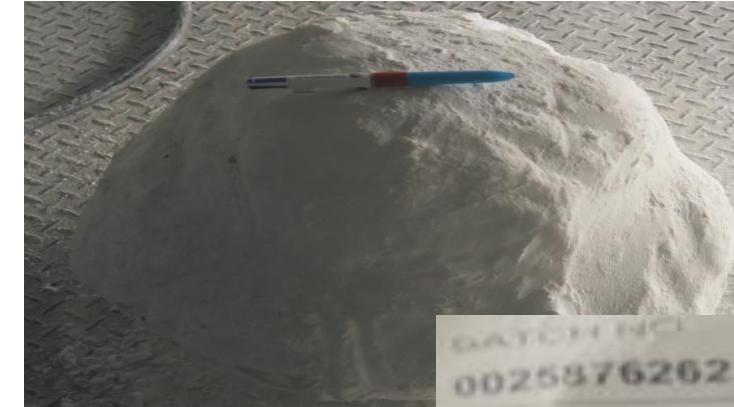
| No | Analysis Item    | Unit | Sample |
|----|------------------|------|--------|
| 5  | Melting Point    | °C   | 155.8  |
| 6  | Moisture content | ppm  | 6699.8 |

Moisture content from close bag Irg 168 from Jumbo is 0.01%. It means potential moisture coming from internal user CAP.

| Sample                | Result         |         |                    |
|-----------------------|----------------|---------|--------------------|
|                       | Moisture (ppm) | AOR (°) | Melting Point (°C) |
| Irgafos 168 Jumbo Bag | 1163.5         | 47      | 180                |
| Irgafos 168 Small Bag | 109.4          | 43      | 186                |

| Date      | 7 Nov - SB | 08 Nov - JB | 9 Nov - SB | 10 Nov - JB |
|-----------|------------|-------------|------------|-------------|
| Batch:    | 50526844   | 25876262    | 50526899   | 25876262    |
| Dump Qty: | 420 kg     | 260 kg      | 200 kg     | 380 kg      |

From data above shown that remain JB 25876262 still remain 380 kg and not used directly on next day but on the next 2 days. This condition impact potential higher moisture contact during this condition.



| Executor       | Procedure  |
|----------------|--|
| Field Operator | 7.3.1 Inform to Board Operator that will be done flushing master mix blender (S-6220) with ±200 kg resin to avoid additives contaminant.                     |
|                | 7.3.2 Put Y-6228 (diverter valve below S-6220) to DIVERT position from field   |
|                | 7.3.3 Provide jumbo bag on divert line from Master Mix Blender (S-6220).   |
|                | 7.3.4 Inform to Board Operator that field Operator will take resin ± 200 kg from Master mix Resin Cooler (E-6222)  |
|                | 7.3.5 Board Operator gives permissive to run Master mix Blender Motor (SM-6220) by HS 6220-1A to NORMAL position and slide gate HS 6222-6A to OPEN position. |

There is no clear guidance on dumping procedure PE-UCC1 (F2222-W6205) related to storing additive properly

# Root Cause Analysis (RCA) - Verification

Overload

P1: Blade touching

**G**

During overhaul the feeder, there is no found blade touching to body agitator

High friction inside gear

P5: Lack of lubrication

**G**

During overhaul the feeder, lubrication still available in gear box

P4: Long service time over than 5 years

X2: No PM replacement or gear teeth

**NG**

Change Preventive Maintenance 3742441: Operation Overview

Order M003 3742441 PM REPLACE LUBE OIL GEAR BOX

Sys.Status REL NMAT PRC SETC REL1

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

Op... SOP Work ctr Plant Co... StTextK S.. Operation short text LT Actual work

There is no PM time based to check or overhaul the gear box  
Based on picture and measurement the gear backlash already too large > 0,2 mm (2 mm)

Sys.Status CRTD NMAT PRC RELR SREL

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

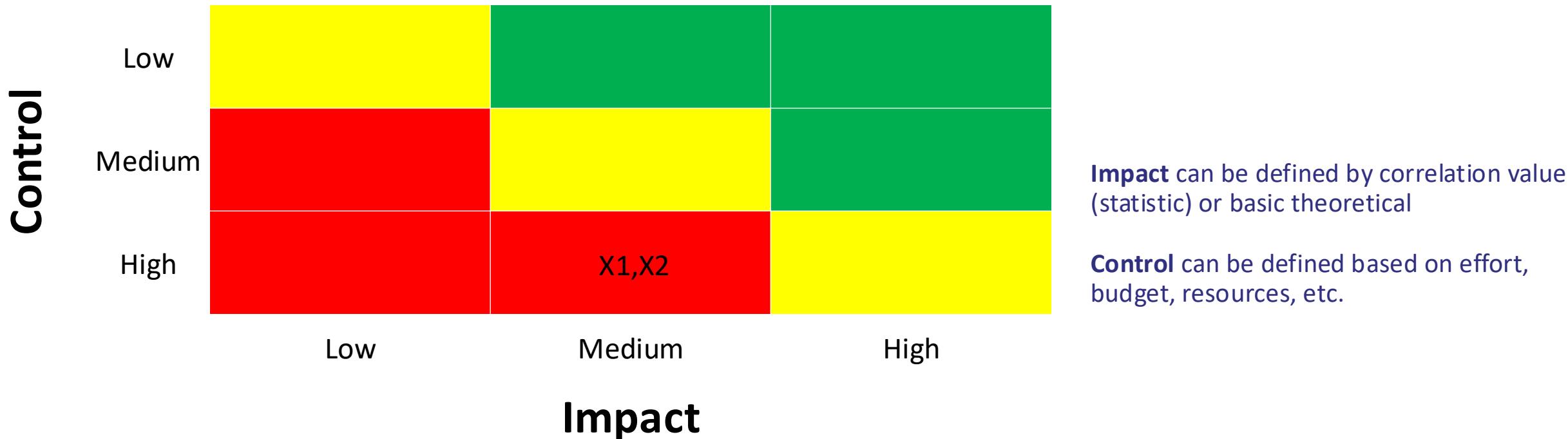
| Op... | SOP  | Work ctr | Plant | Co... | StTextK | S.. Operation short text                 | LT | Actual work |
|-------|------|----------|-------|-------|---------|--|----|-------------|
| 0010  | 1100 |          | 1000  | PM01  | 1       | Check&Cleaning Add.Line S-6223 to Y-7501 |    | 0.000       |
| 0020  | 1100 |          | 1000  | PM01  | 1       | Check&Cleaning Add.Line S-6223 to Y-6260 |    | 0.000       |



# Root Cause Analysis (RCA) - Matrix Priority

Ignore this page for problem type B & C

Prioritize improvement planning by matrix impact vs control



# Improve - Corrective, Proactive Action (CAPAA) for Root Causes

| NO | Root Cause   | Corrective Action  | PCD        | PIC<br>(Name of person) | Status | Pro-Active Action<br>(If Applicable) | PCD | PIC<br>(Name of person) | Status |
|----|--|--|------------|-------------------------|--------|--------------------------------------|-----|-------------------------|--------|
| X1 | There is no clear guidance on dumping procedure PE-UCC1 (F2222-W6205) related to storing additive properly | Revised procedure F222-W6205 with additional dumping for jumbo bag | 20-05-2024 | Mahadhika               | Close  |                                      |     |                         |        |
| X2 | No PM routine to check condition of gear   | Additional task list to maintenance plan in SAP                    | 20-02-2024 | Ferry S                 | Close  |                                      |     |                         |        |

PCD (Plan Completion Date), PIC (Person In-Charge)

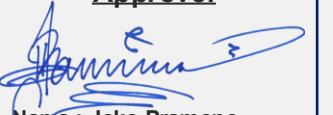
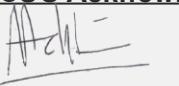
Corrective Action: to eliminate the cause of a non-conformity and to prevent recurrence.  
Pro-Active Action: to prevent undesirable potential situations in other areas of similar nature (roll out to other similar system/items)

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff

Reviewer: Sr. Engineer/ SI / SM

Approver : SM / DM / GM

CSO Acknowledge : CSO1 Engineer/ Sr. Engineer & SM for OPR, EPR, CCR, Non-OPEDR

| Executor RCA  | Reviewer  | Approver   | CSO Acknowledge  |
|---|---|--|--|
| <br>Name : Ferry Sihombing | <br>Name : M. Faizal | <br>Name : Joko Pramono | <br>Name : Melita |
| Date :  | Date :  | Date :   | Date : 230525  |

# Improve - Preventive Action (PA) and Pro-Active Action (PAA) for Good Condition

| No. | Item                | Potential Failure | Possible root cause                 | Preventive Action                      | PCD (Plan Completion Date) | PIC (Name of person) | Status | Pro-Active Action (if applicable) | PCD (Plan Completion Date) | PIC (Name of person) | Status |
|-----|---------------------|-------------------|-------------------------------------|--|----------------------------|----------------------|--------|-----------------------------------|----------------------------|----------------------|--------|
| P1  | Blade touching      | Agitator broken   | Packed additive Miss installation   | Check blade condition during SD        | 5-7-2024                   | Ferry S              | Close  |                                   |                            |                      |        |
| P3  | Resin Sheeting      | Agitator broken   | Contact with open air over the time | Cleaning additive line during shutdown | 5-7-2024                   | Mahadhika            | Close  |                                   |                            |                      |        |
| P5  | Lack of lubrication | Gear teeth broken | Lack of PM                          | Monitoring PM                          | 5-7-2024                   | Ferry S              | Close  |                                   |                            |                      |        |

Preventive Action: to eliminate the cause of potential non-conformity or other potential undesirable situation

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff

Reviewer: Sr. Engineer/ SI / SM

CSO Reviewer : CSO1 Engineer/ Sr. Engineer & SM

Approver : SM / DM / GM

| Executor RCA  | Reviewer  | Approver   | CSO Acknowledge  |
|---|---|--|--|
| <br>Name : Ferry Sihombing | <br>Name : M. Faizal | <br>Name : Joko Pramono | <br>Name : Melita |
| Date :  | Date :  | Date :   | Date : 230525  |

**Improve - Risk Analysis**

| No. | Corrective Action  | Potential Risk          | Countermeasure                 | PCD<br>(Plan Completion Date) | PIC<br>(Name of person) | Status |
|-----|--|-------------------------|--------------------------------|-------------------------------|-------------------------|--------|
| X1  | Revised procedure F222-W6205 with additional dumping for jumbo bag | Delayed during approval | Follow up every week via email | 20-05-2024                    | Mahadika                | Close  |
| X3  | Additional task list to maintenance plan in SAP                    | Delayed update to SAP   | Follow up every week via email | 20-02-2024                    | Ferry Sihombing         | Close  |

Potential Risk : to identify potential problem that occur when implemented Corrective Action  
 Countermeasure : do risk mitigation plan

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff

Reviewer: Sr. Engineer/ SI / SM

Approver : SM / DM / GM

| Executor RCA  | Reviewer  | Approver   |
|---|---|--|
| <br>Name : Ferry Sihombing | <br>Name : M. Faizal | <br>Nama : Joko Pramono |
| Date :  | Date :  | Date :   |



# Thank you



Chandra Asri



# GUIDELINES

# Guidelines

## 1. AR Numbering

**AR Type-Code  
number DIVDEPTSEC-  
year-month-no.**

*Ex: MSA-A0111-2022-12-1*

**Number (No.) Should be  
accumulation in each month**

Code number DIVDEPTSEC  
based on this link >> based  
on Executor RCA Code num  
ber DIVDEPTSEC

## 1. AR Type

| No | AR Type   |
|----|---|
| 1  | Policy Management (PM)  |
| 2  | Daily Management <ul style="list-style-type: none"> <li>• Operation Problem Report (OPR)</li> <li>• Equipment Problem Report (EPR)</li> <li>• Non OPEDR</li> <li>• Turn Around Maintenance (TAM)</li> <li>• Performance Management (PMS)</li> <li>• Incident Investigation (II)</li> <li>• Customer Concern Report (CCR)</li> <li>• Process hazard Analysis (PHA)</li> <li>• Pre Start-up Safety Review (PSSR)</li> <li>• Countermeasure of Risk Assessment (CoRA)</li> </ul> |
| 3  | Management System Audit (MSA)   |
| 4  | Governance Risk Control Audit (GRCA)  |

# Guidelines

## 3. Management System

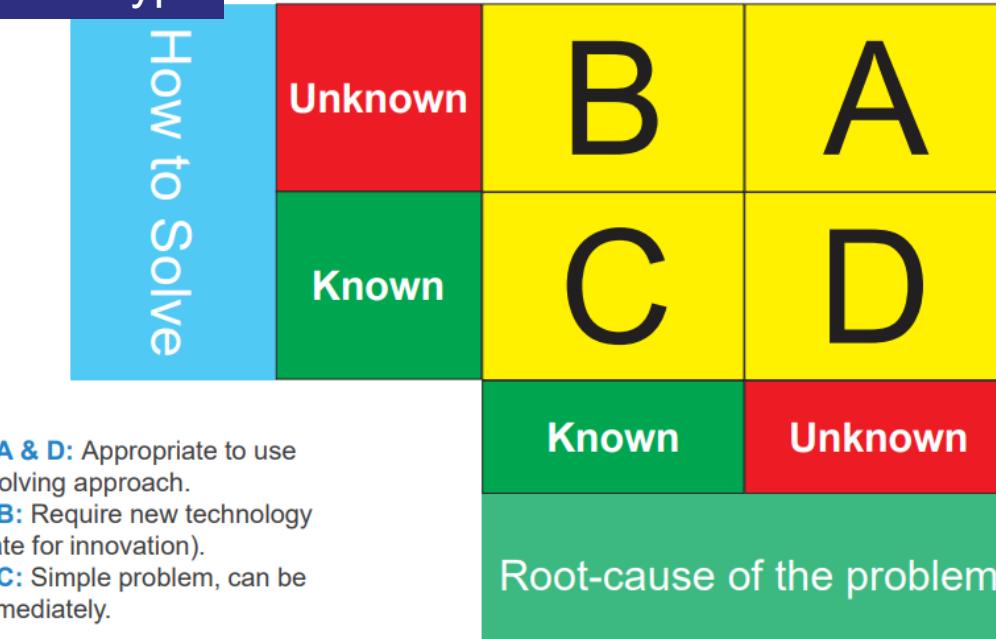
| Internal Audit  | External Audit   | Customer Audit                         |
|---|--|--|
| IAMS (9001,14001,45001)<br>LQMS (17025)<br>EnMS (50001)<br>Halal<br>SMK3<br>SNI | IAMS (9001,14001,45001)<br>LQMS (17025)<br>EnMS (50001)<br>Halal<br>SMK3<br>RCI<br>SNI<br>Ekolabel | By (.....)*<br><br>*Fill Customer Name |

# Guidelines

## 3. RCA Complexity

| Factor            |  | Complexity Level & Handling RCA Period |                          |                        |
|-------------------|--|--|--------------------------|------------------------|
|                   |  | Low<br>(1 – 14 Days)                   | Medium<br>(15 – 30 Days) | High<br>(31 – 90 Days) |
| Urgent            | Normal   | V                                      | V                        | V                      |
|                   | Urgent   | V                                      | V                        |                        |
|                   | Emergency  | V                                      | V                        |                        |
| Team Involvement  | Developing by Internally                                   | V                                      |                          |                        |
|                   | Developing by within two or more Dept.                     |  | V                        |                        |
|                   | Developing by within two or more Dept. and required vendor |  |                          | V                      |
| Availability Data | Available in online  | V                                      |                          |                        |
|                   | Available in manual  |  | V                        |                        |
|                   | Not available due to limited tool                          |  |                          | V                      |

## 4. Problem Type



- **Problem A & D:** Appropriate to use problem solving approach.
- **Problem B:** Require new technology (appropriate for innovation).
- **Problem C:** Simple problem, can be solved immediately.

Type A & D need to analyse the root cause;  
Type B & C no need analyse the root cause  
(ignore "ROOT CAUSE ANALYSIS" section)

# Guidelines

## 5. Severity Level

| Severity Level | People (Health & Safety)   | Assets/Property Damage (USD) | Environment (definition see next slide) |
|----------------|--|------------------------------|---|
| Slight         | <ul style="list-style-type: none"> <li>• FAA - Non recordable</li> <li>• Single/multiple over exposure causing noticeable irritation but no actual health effects</li> </ul>         | < 2.5K                       | Tier 3                                  |
| Minor          | <ul style="list-style-type: none"> <li>• MTA – Recordable</li> <li>• single/multiple health effects from common source/effect</li> </ul>   | 2.5 - 25K                    | Tier 2                                  |
| Moderate       | <ul style="list-style-type: none"> <li>• LTA</li> <li>• Permanent partial disability</li> <li>• Several non-permanent injuries of health impacts</li> </ul>                          | 25 - 100K                    | Tier 2                                  |
| Major          | <ul style="list-style-type: none"> <li>• Single fatalities (1 fatality)</li> <li>• ≥ 10 health effects either permanent or requiring hospital more than 24 hours</li> </ul>          | 100K - 10M                   | Tier 1                                  |
| Catastrophic   | <ul style="list-style-type: none"> <li>• Multiple fatalities (&gt; 1 fatalities)</li> <li>• ≥ 30 health effects either permanent or requiring hospital more than 24 hours</li> </ul> | > 10M                        | Tier 1                                  |

# Guidelines

## 6. Severity Level (cont.)

| Tier Environment      | *Definitions of Environment:<br>(include Reputation)   |
|-----------------------|--|
| Slight (Tier 3)       | No significant environmental impact  |
| Minor (Tier 2)        | Some damage: Discharges to air, land and/or water that impact only on-site areas and only have very short-term (i.e. day or less) impacts on plants, wildlife, soil, or water. Only limited on-site remediation efforts required.  |
| Moderate (Tier 2)     | Some damage with media coverage: Discharges to air, land and/or water that impact only on-site areas and only have very short-term (i.e. day or less) impacts on plants, wildlife, soil, or water. Only limited on-site remediation efforts required. Exceedance of site environmental permit limit and/or result in release of a reportable quantity of chemical, but not enough to cause effects warranting a higher consequences category classification. Local media/news reporter participate in this events. |
| Major (Tier 1)        | Significant damage with media coverage: Discharges to air, land and/or water that impact only on-site areas and some off-site areas that are not deemed environmentally sensitive and have short-term (2-7 days) impacts on plants, wildlife, soil, or water. Moderate remediation efforts required  |
| Catastrophic (Tier 1) | Severe environmental damage: Discharges to air, land and/or water having moderate to long-term (i.e. 1 to 6 months) impacts on plants, wildlife, soil, or water on the large areas; or shorter term (i.e. less than a month) on environmentally sensitive areas. Includes shorter duration events having severe community impact (e.g) adverse impact on local drinking water supply or other essential services. Effects reversible in long-term. Extensive on-site or offsite remediation efforts required.      |

# Guidelines

## 7. AR Duration based on Severity Level

|               |              | Problem occurred*                     | Initiator   | Executor (RCA) | Review       | Approve      | Follow up CAPA | Verification    |
|---------------|--------------|---------------------------------------|-------------|----------------|--------------|--------------|----------------|-----------------|
| Std. Duration | Slight       | Low Complexity (RCA up to 14 Days)    | D 0         | D + 7          | D + 21       | D + 28       | D + 35         | N* D + N* + 42  |
|               |              | Medium Complexity (RCA up to 30 Days) | D 0         | D + 7          | D + 37       | D + 44       | D + 51         | N* D + N* + 58  |
|               |              | High Complexity (RCA up to 90 Days)   | D 0         | D + 7          | D + 97       | D + 104      | D + 111        | N* D + N* + 118 |
|               | Minor        | D 0                                   | 7days D + 7 | 21days D + 28  | 3days D + 31 | 4days D + 35 | N*             | D + N* + 42     |
|               | Moderate     | D 0                                   | 7days D + 7 | 14days D + 21  | 3days D + 24 | 4days D + 28 | N*             | D + N* + 35     |
|               | Major        | D 0                                   | 5days D + 5 | 10days D + 15  | 3days D + 18 | 3days D + 21 | N*             | D + N* + 28     |
|               | Catastrophic | D 0                                   | 3days D + 3 | 7days D + 10   | 2days D + 12 | 2days D + 14 | N*             | D + N* + 21     |

# Guidelines

## 6. Severity Level (cont.)

Example of severity level definition.

Problem Definition: any fire in Ethylene pipe during sampling activity.

Fact: (1)People >> no causalities >> Slight

(2)Asset >> 10.000 USD >> **Minor**

(3)Environment >> no spill >> Slight

Refer to Severity Level (page 35)

Severity Level of Problem >> Minor (choose the highest level of 3 categories)

# Guidelines

## 8. Matrix of Severity Verification

|              | <b>Severity Verifier</b> | <b>Assignor</b><br>(RCA Executor's Superior) |
|--------------|--------------------------|--|
| Slight       | SM                       | SM   |
| Minor        | SM                       | SM   |
| Moderate     | DM                       | DM   |
| Major        | DM                       | GM   |
| Catastrophic | DM                       | Related BOD                                  |

## 9. Matrix of RCA CA/PA Approval

| <b>Issuance (Initiator)</b>            | <b>Analysis (Executor)</b>  | <b>Confirmation (Reviewer)</b> | <b>CSO Acknowledge</b> | <b>Approval (Approver)</b> | <b>Ver (V)</b>     |
|--|---|--------------------------------|------------------------|----------------------------|--------------------|
| Daily Management (OPEDR type)          |   |                                |                        |                            |                    |
| Engineer/ Sr. Eng/ SI                  | Operation/ PI Eng./ Sr. Eng./ SI  | Operations DM                  | CSO1 SM                | Operation                  | OPR Justification: |
|  | Operation/ PI SM  | Operations DM                  | CSO1 SM                | Operation                  |                    |
|  | Operation DM  | Operation GM                   | CSO DM                 | Direct BC                  |                    |
|  | Operation GM  |                                | CSO DM                 | Direct BC                  |                    |
|  | EPR Justification:  |                                |                        |                            |                    |
|  | MTN/TEC Eng./ Sr. Eng/ SI   | MTN/TEC DM                     | CSO1 SM                | 1. Operation<br>2. MTN/TEC |                    |
|  | MTN/ TEC SM   | MTN/ TEC DM                    | CSO1 SM                | 1. Operation<br>2. MTN/TEC |                    |
|  | MTN/ TEC DM   | MTN/ TEC GM                    | CSO DM                 | 1. MFG B<br>2. MTN/ TEC    |                    |
|  | MTN/ TEC GM   |                                | CSO DM                 | 1. MFG B<br>2. MTN/ TEC    |                    |
| Daily Management (Non-OPEDR type)      |   |                                |                        |                            |                    |
| Operator/ Technician/ Lab. Analyst/ SV | Operator/ Technician/ Lab. Analyst/ SV                                  | SI / Sr. Eng / Sr. Officer     | CSO1 SM                | SM                         |                    |
|  | Officer/ Analyst/ Eng./ Chemist/ Sr. Eng./ Sr. Chemist/ Sr. Officer/ SI | SM                             | CSO1 SM                | DM                         |                    |
|  | SM  | DM                             | CSO1 SM                | GM                         |                    |
|  | DM  | GM                             | CSO DM                 | Direct Dire                |                    |

# Guidelines

## 10. Definition of PSE, Non-PSE, Nearmiss, High Potential Nearmiss

**Process Safety Event (PSE)** is an unplanned or uncontrolled release of any material including non-toxic and non-flammable materials (e.g. steam, hot water, nitrogen, compressed CO<sub>2</sub> or compressed air) from a process, or an undesired event or condition that, under slightly different circumstances, could have resulted in a release of material.

**Non-Process Safety Event (Non-PSE)** is an event that not meet or fall outside the scope (see API RP 754 PSE Applicability Exclusions in attachment 14) of Process Safety Event (PSE) criteria.

**Nearmiss** is any unplanned event, or unplanned series of events where No injury, No Loss of Primary Containment (LOPC), No Fire or explosion occurs, but has the potential worst-case scenario might happen. (example: interlock active, safety device active)

**High Potential Nearmiss** which has potential severity level Tier 1 & 2 in Incident Classification table in Attachment 9., while for potential severity level Tier 3 only recorded on Incident Investigation Log. (refer to API 754)