ISSUEANCE (INITIATOR)

Abnormality Report

AR Number	:	EPR-F2423-2023-06-1
Title	:	UCC1 Plant Rate Down due to Actuator PDS#2 F Valve Broken
Recurrence case from AR No.	:	-
Date Occurrence	:	20 June 2023
Date Reported	:	21 June 2023
Immediate Action	:	Rate Down Reactor, Contact Instrument Team

AR Type	EPR	OPR	EXT	Non-OPEDR	TAM	PMS	II	CCR	CoRA	PM		MSA				
	X									No. AP:	No. TL:	Int:	2nd:	Ext:	TPM:	SMK3 :

H = High Potential ; L = Low Potential

Problem Type	A	B	C	D
				X

Near Miss	Yes		No
	H	L	
			X

Type Incident	PSE	Non PSE
		X

PSMC?		Tag Equipment
Yes	No	
	X	

*Uptime Plant	C2 Hot	C2 Cold	BD	B1MTBE	Utility	TY & Jetty	SDK	UCC1	UCC2	PEB	PP1	PP2	PP3	PPU	PPB	SPD1	SPD2
								X									

*Uptime Category	First Pass	Loss of Demand	Loss of Supply	Product Mix	Rate Loss	Schedule Downtime	Transition	Unscheduled Downtime
					X			

Cross (X) for major severity impact, and fill the total loss (KUSD)

Severity	Slight	Minor	Moderate	Major	Catastrophic
	X				

People	Assets/Property Damage (USD)	Environment	Loss (KUSD)
			1.8

****MSA Severity	OFI	Minor	Major	Critical

**RCA Complexity	Low	Medium	High
		X	

cross (X) on the appropriate column in each item, see guideline in attachment.
****Choose the related item, if AR Type is OPR or EPR; ***option for MSA Type only SMK3***
*****Choose the related item, if severity is slight; ****Choose the related item, if AR Type is MSA***

Initiator	Severity Verificator
Name : Mahadhika	Name: Joko Pramono
Date :	Date:

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

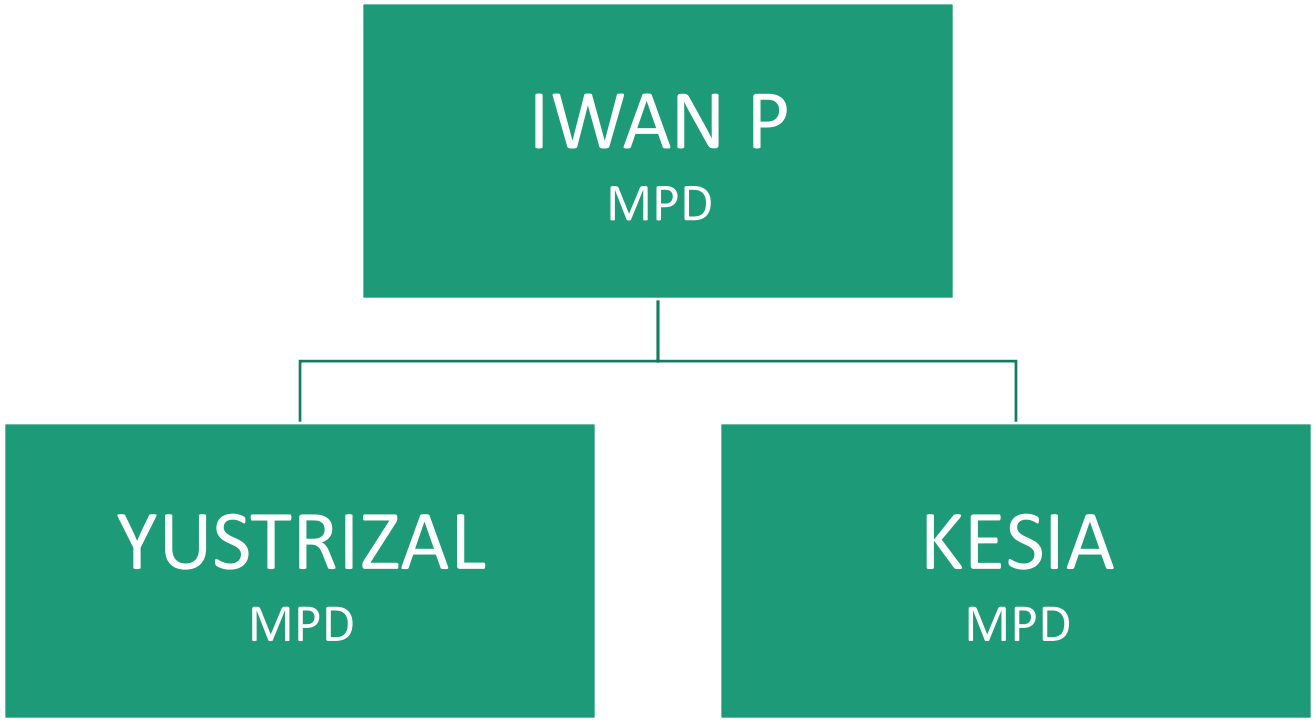
Problem Identification

Initiator	RCA Executor
Name: Mahadika	Name: Iwan P.

Reviewer	Approver
Name: Wendarto.	Name: F. Indro K.

Verifier
Name: F. Indro Kusumo

RCA Executor Team



Problem Identification

Detailed Observation (Problem Background, Chronology, Process Flow Diagram, Drawing, Other Evidence)

2023/06/20 01:48:46 FCS0203:,PD52112,,PD52112 C5211 BETW PN PV = 0.497 KG/CM2 LL
2023/06/20 01:48:48 SCS0221,4:2:1,SCS0221,P13DI0182,,DV1 AUTO OPERATED NR
2023/06/20 01:48:48 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0205,,DV1 OPERATED NR
2023/06/20 01:48:51 +07:00,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:48:52 +07:00,SCS0221,4:2:1,SCS0221,P13DI0181,,DV2 AUTO OPERATED NR
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2023/06/20 01:49:05 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0182,,DV1 AUTO OPERATED ALM
2023/06/20 01:49:05 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0205,,DV1 OPERATED ALM
2023/06/20 01:49:05 +07:00,,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:49:08 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0124,,XCV45322 OPE. ALM
2023/06/20 01:49:08 +07:00,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:49:10 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0181,,DV2 AUTO OPERATED ALM
2023/06/20 01:49:11 +07:00,,FCS0202,4:0:0,FCS0202,P12_1AN0015,,P12_1AN0015 PDS LONG TIME 2
2023/06/20 01:49:11 +07:00,FCS0202,4:0:0,FCS0202,P12_1AN0015,,P12_1AN0015 PDS LONG TIME 2
2023/06/20 01:49:14 +07:00,,,SCS0221,4:2:1,SCS0221,P13DI0180,,DV3 AUTO OPERATED ALM
2023/06/20 01:49:24 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0205,,DV1 OPERATED NR
2023/06/20 01:49:24 +07:00,,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:49:28 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0181,,DV2 AUTO OPERATED NR
2023/06/20 01:49:59 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0182,,DV1 AUTO OPERATED NR
2023/06/20 01:49:59 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0205,,DV1 OPERATED NR
2023/06/20 01:49:59 +07:00,,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:50:01 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0169,,XCV46314 OPEN NR
2023/06/20 01:50:03 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0181,,DV2 AUTO OPERATED NR
2023/06/20 01:50:17 +07:00,,SCS0221,4:2:1,SCS0221,P13DI0205,,DV1 OPERATED ALM
2023/06/20 01:50:17 +07:00,FCS0202,4:2:0,FCS0202,P12_1AN0054,,P12_1AN0054 PDS2 F CLS-ERROR
2023/06/20 01:50:20 +07:00,,FCS0203,4:2:1,FCS0203,P03AN0020,,P03AN0020 PDAL52112 SRG-TK

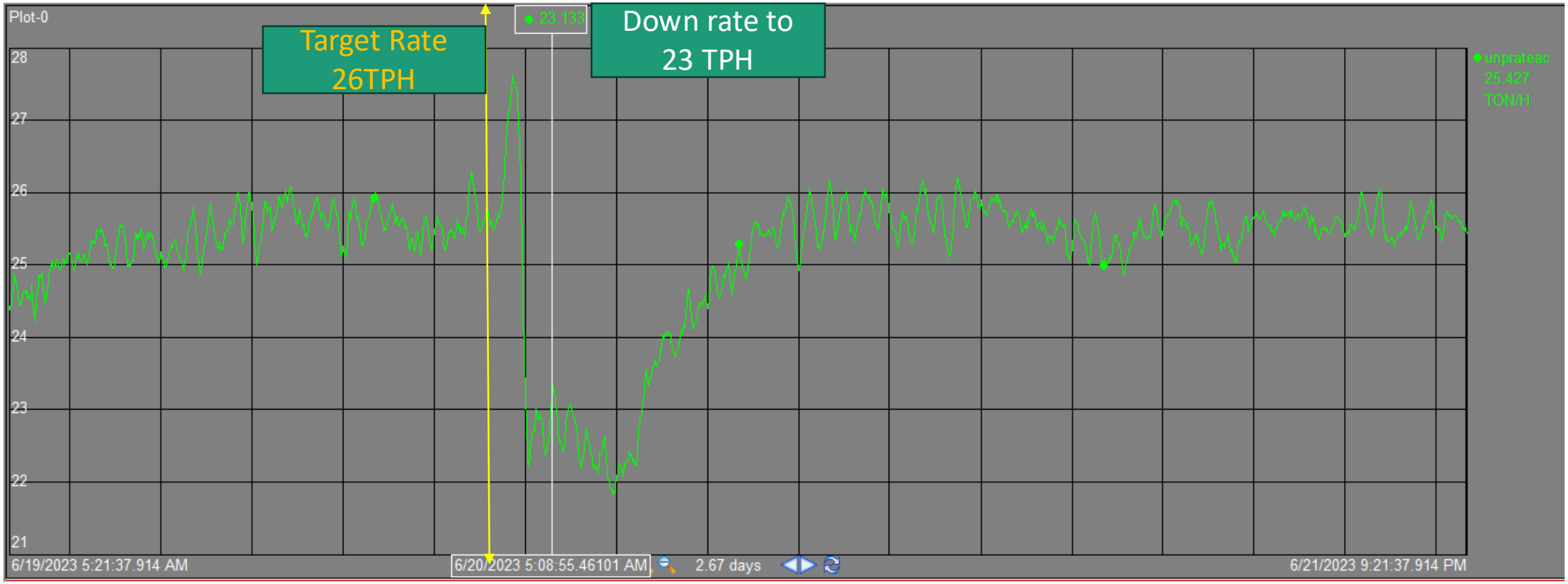
01.50 AM – June 20, 2023 RX UCC1 rate down from 26T/H to 23 T/H due to PDS Malfunction alarm.
After checked by instrument team, based on journal alarm, we specifically found alarm PDS 2-F error, causing the whole PDS 2 System malfunction, so Operation team can only used PDS#1 to run and disable PDS#2 while the PDS 2-F were being repaired by Instrument Team

When checked at field by Instrument team, we found KV4106-F(PDS#2F) valve couldn't move to close position. We checked the inner part (spring) of the actuator, and found that the spring was broken. Aside from the spring, the other part of the valve PDS#2F were still in good condition.

Problem Statement :

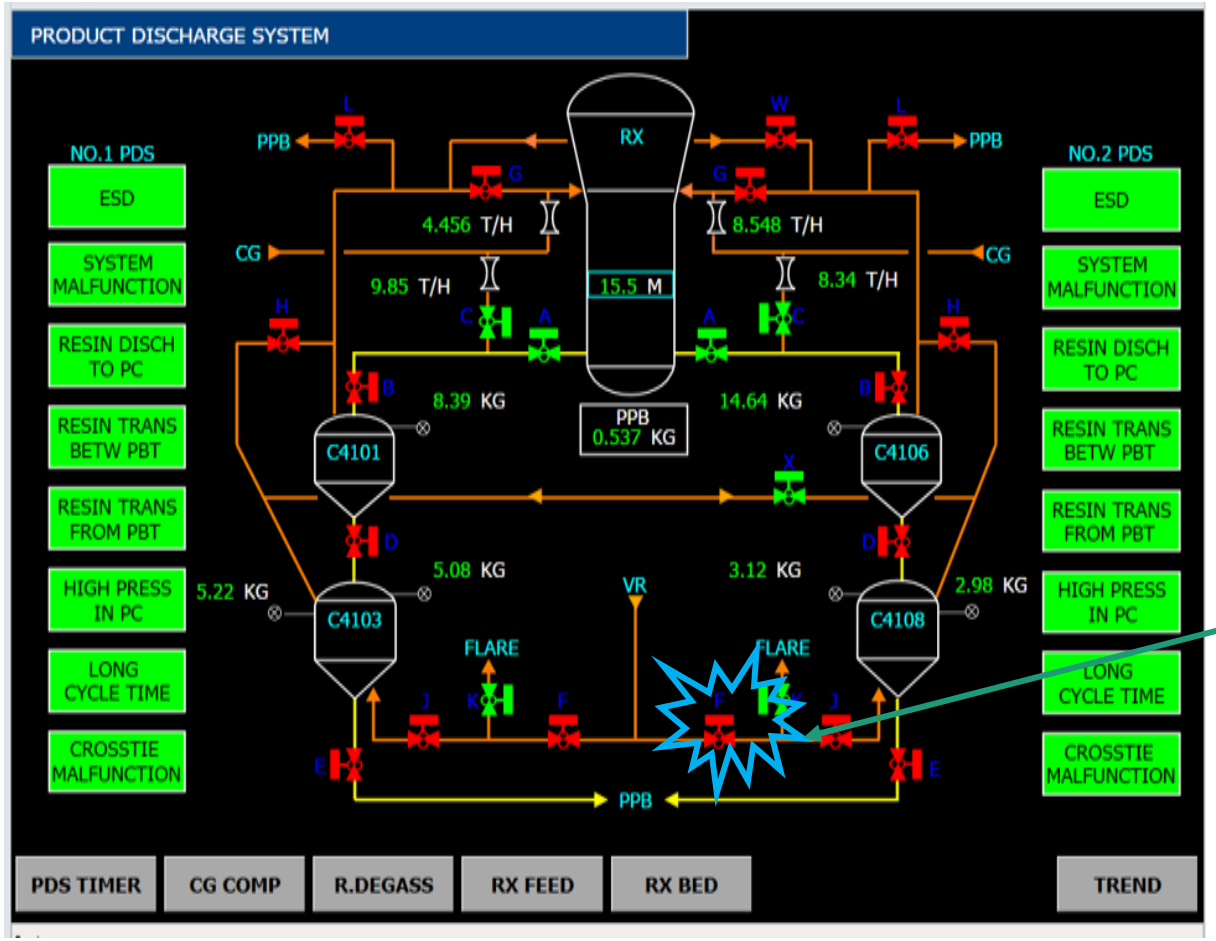
PDS #2 Malfunction due to PDS 2-F error

Assess

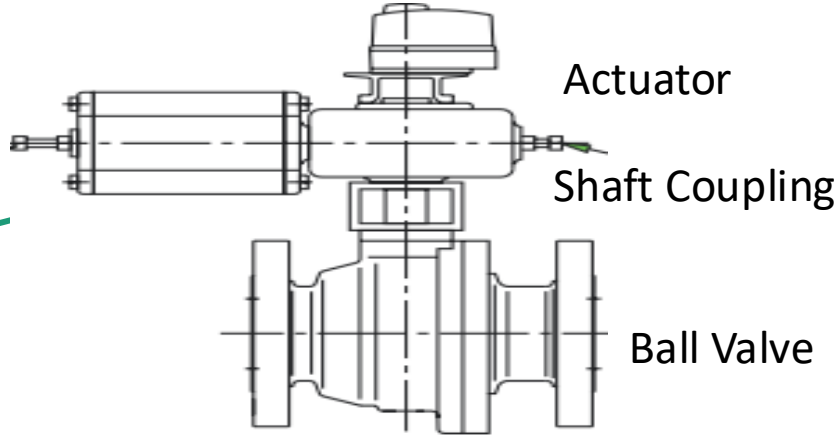


Found Reactor Rate UCC1 were decreased to ~23 TPH due to PDS #2 Malfucntion

Assess

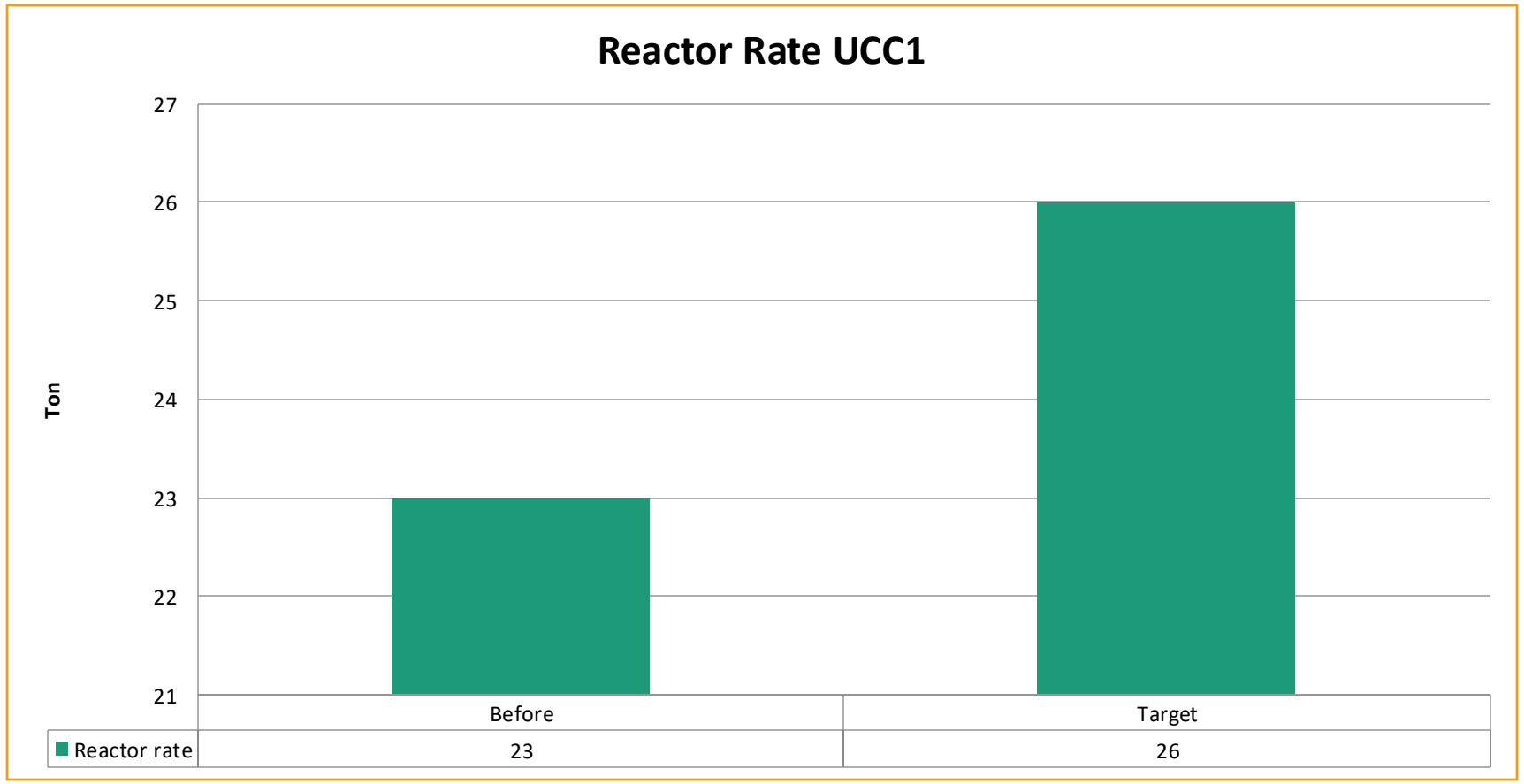


PDS VALVE PARTS

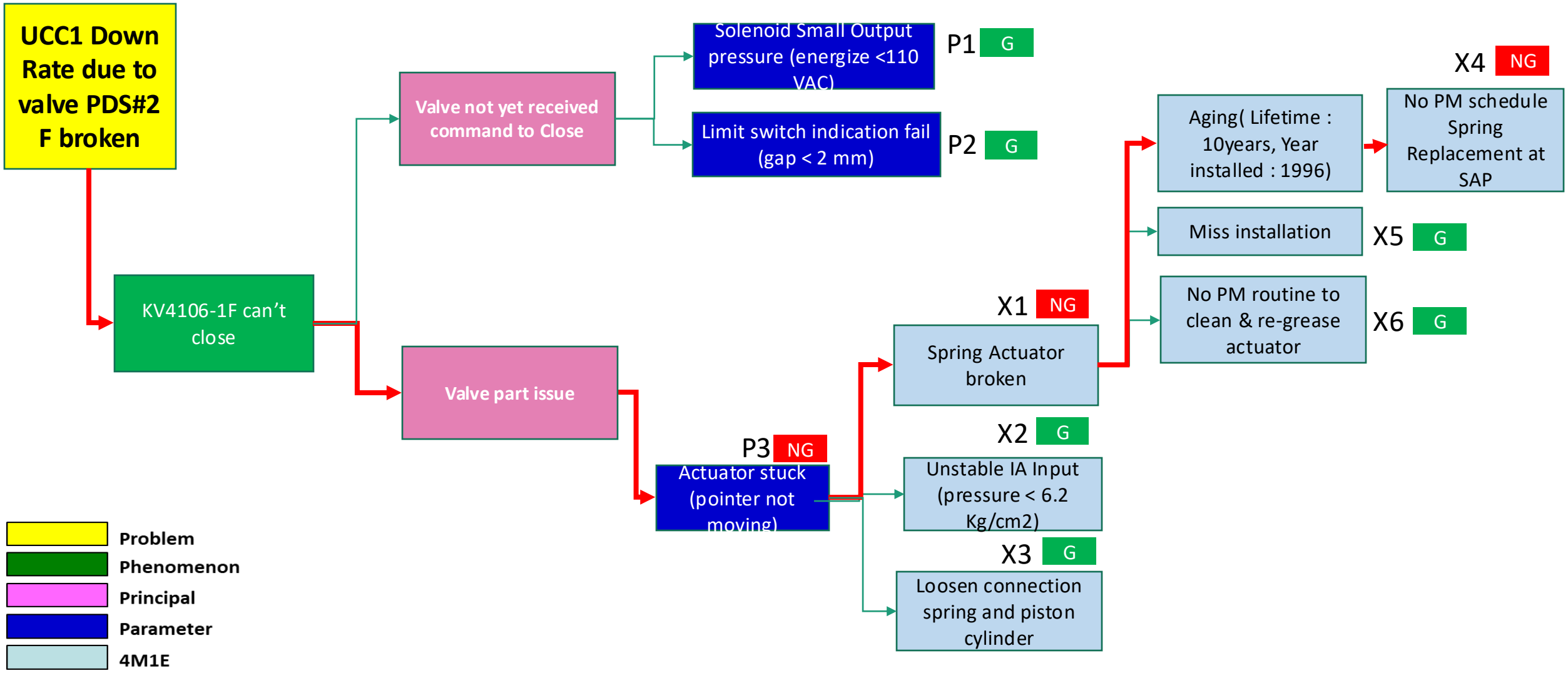


Target Setting

Actual Condition (Before Improvement)	:	PDS #2 Malfunction Error causing UCC1 Rx down to 23 TPH
Target Condition (Project Y)	:	PDS #2 Running Normal with full rate 26 TPH



RCA - Why-Why Analysis 4P + 4M + 1E



Root Cause Analysis (RCA) - Verification

Verification for P2 - Limit switch indication fail (gap > 2 mm) Good

Check Limit switch gap position and cable connection. Result gap position still good (normal gap 2mm)
Check cable connection and output signal LS , Result no loosen and output normal (normal 24VDC)

Root Cause Analysis (RCA) - Verification

Verification for P1 & X2 - Solenoid Small Output pressure (energize <110 VAC) & Unstable IA Input (pressure < 6.2 Kg/cm2)

- Check I/A pressure and Line I/A. Result I/A pressure normal pressure (6.2Kg/cm2), and line connection no leak
- Check Solenoid valve and line connection, Result Solenoid valve no leak, Output Signal normal (Energize 110VAC, De energize 0 VAC)

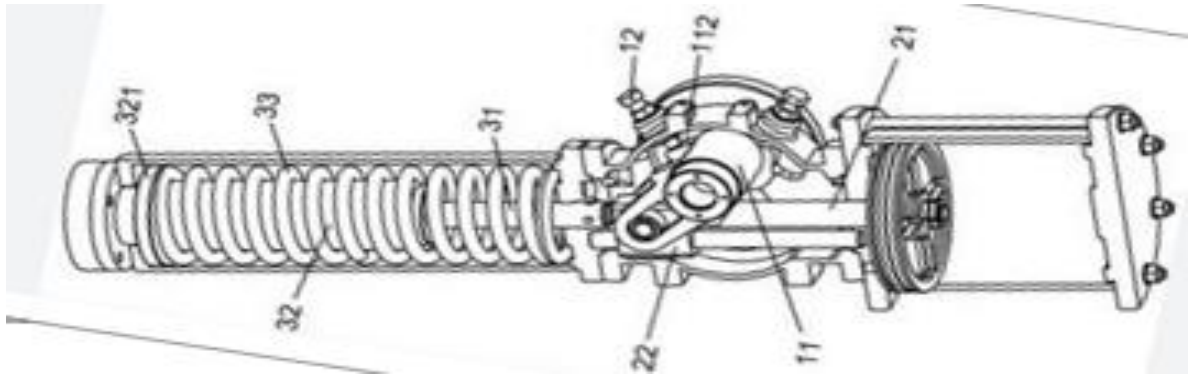
Good

Root Cause Analysis (RCA) - Verification

Verification for P3 - Actuator Stuck

Not Good

- Check performance actuator moving : No Moving
- Check cylinder leak at, status no leak
- Check inner part such as yoke ,piston, status normal



Verification for X1 - Spring Actuator broken

Not Good

- Check spring actuator, it found broken

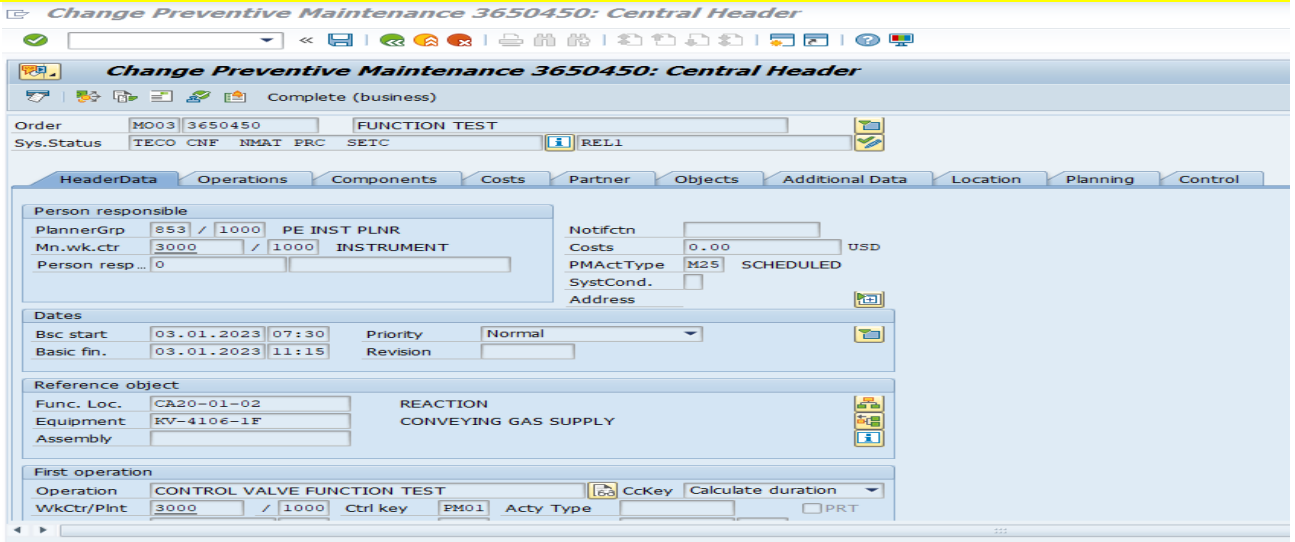
Root Cause Analysis (RCA) - Verification

Verification for X3 - Loosen connection spring and piston cylinder

Good

Verification for X4 - No PM schedule Spring Replacement at SAP

Not Good



Root Cause Analysis (RCA) - Verification

Verification for X5 - Miss installation **Good**

Verification for X6 - No PM routine to clean & re-grease actuator **Good**

Chandra Asri Petrochemical

Maintenance Check Sheet For Product Discharge System LLDPE-Plant

START DATE : 16 Jan 2023

INSPECT BY : Robby + Rdm

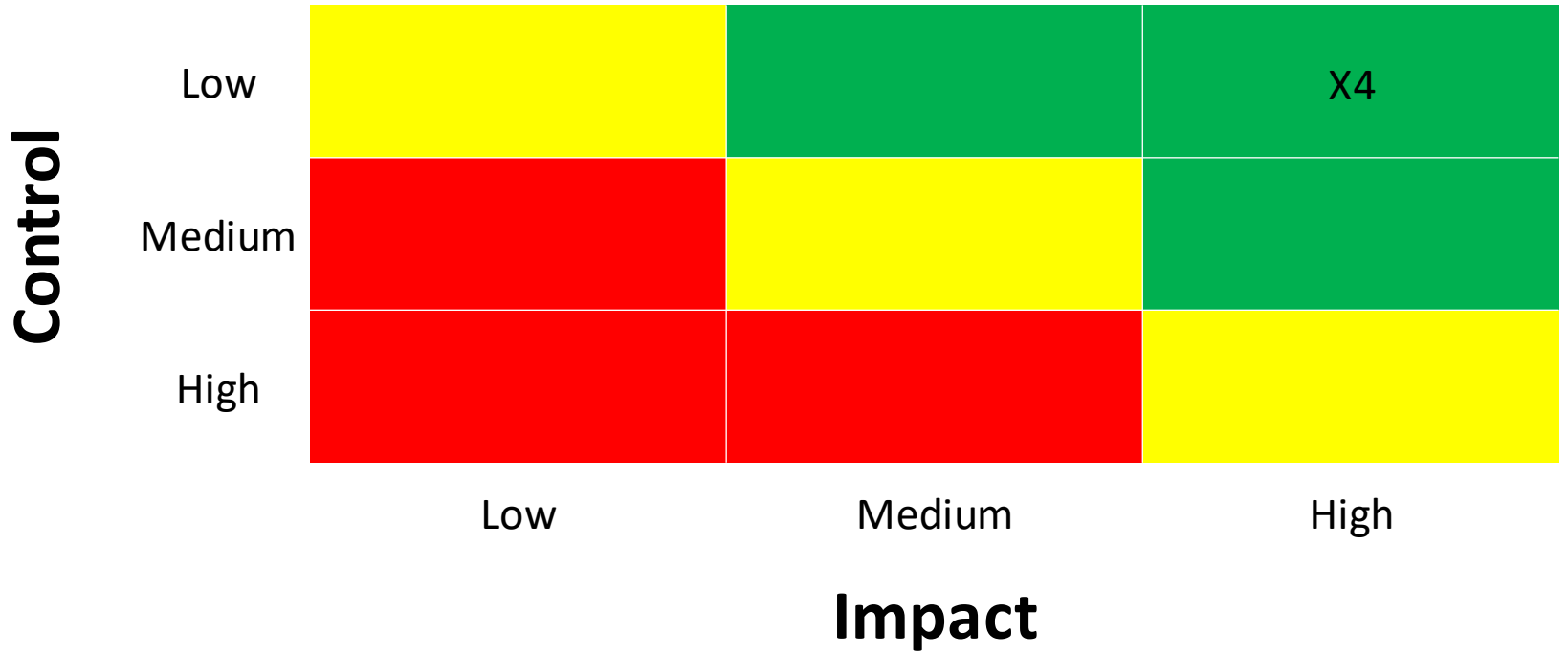
PDS 2

NO	PROCEDURE STEP TO CHECK PDS	KV-4106-1A	KV-4106-1B	KV-4106-1C	KV-4106-1D	KV-4106-1E	KV-4106-1F	KV-4106-1G	KV-4106-1H	KV-4106-1J	KV-4106-1K	KV-4106-1L	REMARK (If condition good (V), If condition No good (X)
1	Proximity Switch Sensor												
	Check proximity gap (2 mm - 5 mm)	V	V	V	V	V	V	V	V	V	V	V	
	Check junction box connection	V	V	V	V	V	V	V	V	V	V	V	
	Check drop voltage while contact (7.5 vdc - 8.5 vdc)	ZC= 7.64 ZO=7.64	ZC= 7.50 ZO=7.57	ZC= 8.13 ZO=8.12	ZC= 7.82 ZO=7.83	ZC= 7.67 ZO=7.67	ZC= 7.76 ZO=7.81	ZC= 7.96 ZO=8.01	ZC= 7.82 ZO=7.85	ZC= 8.00 ZO=8.01	ZC= 8.00 ZO=7.81	ZC= 7.91 ZO= 7.70	
	Check drop voltage while not contact (3.5 vdc - 4.5 vdc)	ZC= 4.07 ZO=4.06	ZC= 3.89 ZO=3.92	ZC= 4.23 ZO=4.19	ZC= 3.90 ZO=4.15	ZC= 4.05 ZO=4.11	ZC= 3.63 ZO=4.11	ZC= 3.92 ZO=4.26	ZC= 3.98 ZO=4.02	ZC= 3.95 ZO=4.11	ZC= 4.11 ZO=4.15	ZC= 3.94 ZO= 3.99	
2	Solenoid Valve												
	Instrument air tubing installation (I / A supply : 5 kg/cm2 - 7 kg/cm2c)	V	V	V	V	V	V	V	V	V	V	V	
	Make sure the tread connection didn't leak	V	V	V	V	V	V	V	V	V	V	V	
	Check drop voltage while energize (110 vac)	V	V	V	V	V	V	V	V	V	V	V	
	Check drop voltage while deenergize (0 vac)	V	V	V	V	V	V	V	V	V	V	V	
3	Pointer												
	Check the pointer welding plat no crack	V	V	V	V	V	V	V	V	V	V	V	
	Check thighting of lock nut	V	V	V	V	V	V	V	V	V	V	V	
4	Actuator												
	Check actuator (leak or no)	V	V	V	V	V	V	V	V	V	V	V	
	Check connection of Actuator to Bracket (pin)	V	V	V	V	V	V	V	V	V	V	V	
	Check actuator moving (Normal if travel time lower than 5 second)	V	V	V	V	V	V	V	V	V	V	V	
5	Coupling												
	Check coupling connection	V	V	V	V	V	V	V	V	V	V	V	
6	Valve												
	Check connection bracket to PDS (stud bolt)	V	V	V	V	V	V	V	V	V	V	V	
	Check connection bracket to PDS (pin)	V	V	V	V	V	V	V	V	V	V	V	
	Check external leak (stem valve)	V	V	V	V	V	V	V	V	V	V	V	
	Check Internal Leak	V	V	V	V	V	X	V	V	V	V	V	

Root Cause Analysis (RCA) - Matrix Priority

Ignore this page for problem type B & C

Prioritize improvement planning by matrix impact vs control



Impact can be defined by correlation value (statistic) or basic theoretical

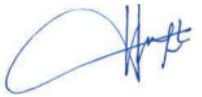
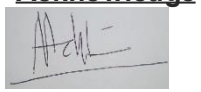
Control can be defined based on effort, budget, resources, etc.

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

NO	Root Cause	Corrective Action	PCD (Plan Completion Date)	PIC (Name of person)	Status	Pro-Active Action (If Applicable)	PCD (Plan Completion Date)	PIC (Name of person)	Status
X4	No PM schedule Spring Replacement	Create Schedule Replacement Time based for actuator/spring every 5 years at SAP	31 October 2023	Iwan.P	Closed				

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

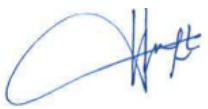
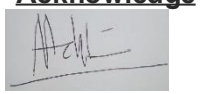
Executor	Reviewer	Approver	Approver	CSO Acknowledge
				
Name : IWAN.P	Name : WENDARTO A	Nama : F INDRO K	Nama : Hamim T.	Name : Melita T P
Date : 26 June 2023	*Date : 12-Sep-23*	*Date : 15-09-2023*	*Date : 15/9/2023*	*Date :17/10/23*

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	Solenoid Small Output pressure (energize <110 VAC)	Actuator not moving	Nozzle solenoid plugging	Cleaning & purging solenoid every 2 years as PM schedule	31.10.2023	IWAN. P	Closed				
				PM online (Check local pressure by visual) every 3 months	31.10.2023	IWAN. P	Closed				
X3	Loosen connection spring and piston cylinder	Loosen Connection	No time Based for PM Check spring	Time Based PM Check Spring (include tightening Connection) every 5years at TAM	31.10.2023	IWAN.P	Closed				
				PM online (Check pointer actuator position by visual) every 3 months	31.10.2023	IWAN. P	Closed				

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	Reviewer	Approver	Approver	CSO Acknowledge
				
Name : IWAN.P	Name : WENDARTO A	Nama : F INDRO K	Nama : Hamim T.	Name : Melita T P
Date : 26 June 2023	*Date : 12-Sep-23*	*Date : 15-09-2023*	*Date : 15/9/2023*	*Date :171023*

Improve - Risk Analysis

No.	Corrective Action	Potential Risk	Countermeasure	PCD (Plan Completion Date)	PIC (Name of person)	Status
X4	Create Schedule Replacement Time based for actuator/spring every 5 years	- Additional maintenance cost - Time based replacement didn't conduct as schedule	- Create budget planning for replacement - Close coordination with operation and PNO to conduct replacement at window time shutdown	31.10.2023	IWAN.P	CLOSED

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

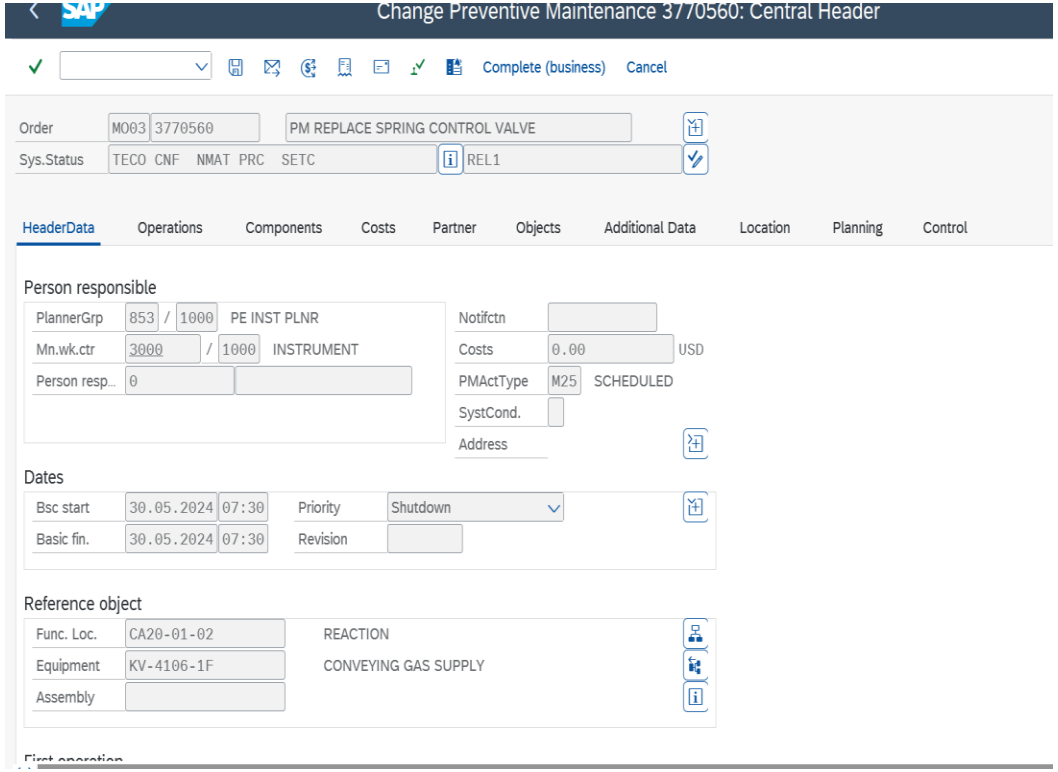
Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Reviewer: Sr. Engineer/ SI / SM
Approver : SM / DM / GM

Executor	Reviewer	Approver	Approver
Name : IWAN.P	Name : [illegible]	Name : [illegible]	Nama : Hamim T.
Date : 26 June 2023	Date : 12-Sep-23	Date : 15-09-2023	Date : 15/9/2023

FOLLOW UP CA/PA/PAA (PIC) VERIFICATION (VERIFIER)

Improve – CAPA/PAA Implementation

CA1 Evidence Create Schedule Replacement Time based for actuator/spring every 5 years at SAP



Already Replacement spring and piston cylinder completed
Time Based PM Check Spring
(include tightening Connection) every 5years at TAM

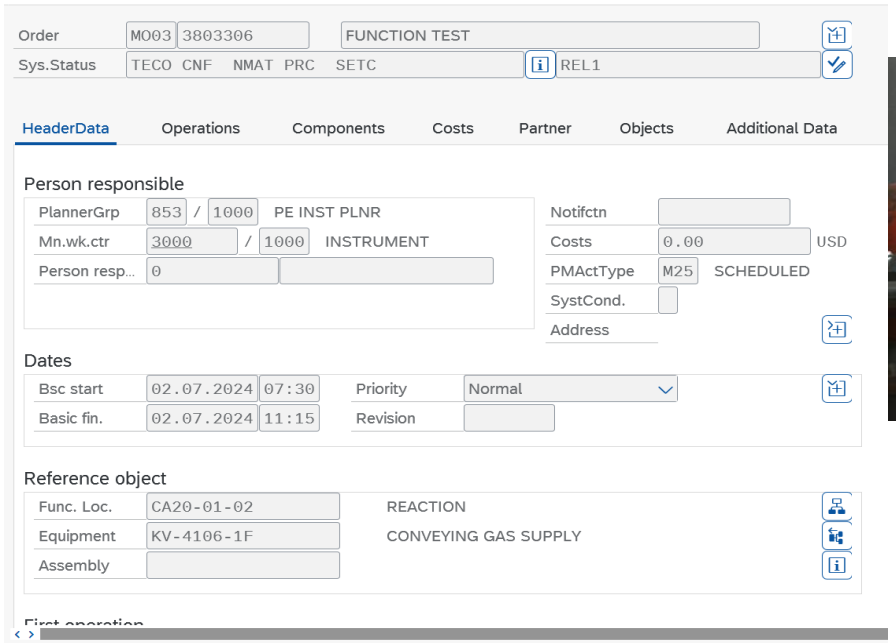
Executor CAPA/PAA	Verifier
Name : : Iwan Purnama	Name : Wendarto Ardiatmoko
Date : 2 Sept 2024	*Date : 30-Sep-24*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Improve – CAPA/PAA Implementation

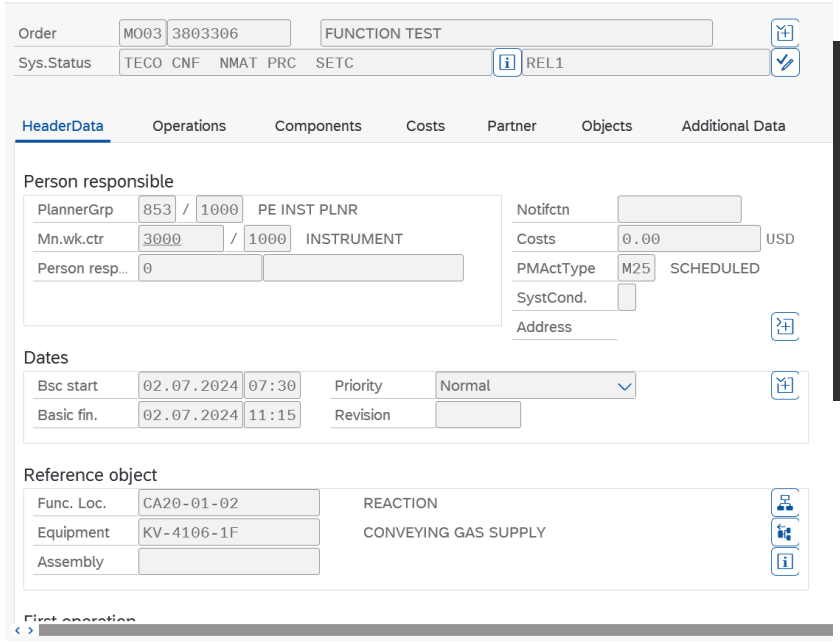
PA1 EVIDENCE IMPLEMENTATION

- Cleaning & purging solenoid every 2 years as PM schedule



Cleaning and Purge SOV
Status Done

- PM Pressure indicator Press local Every 3 month (Check local pressure)
  Status Done



Set Press Normal 6 kg/cm2
Status Done

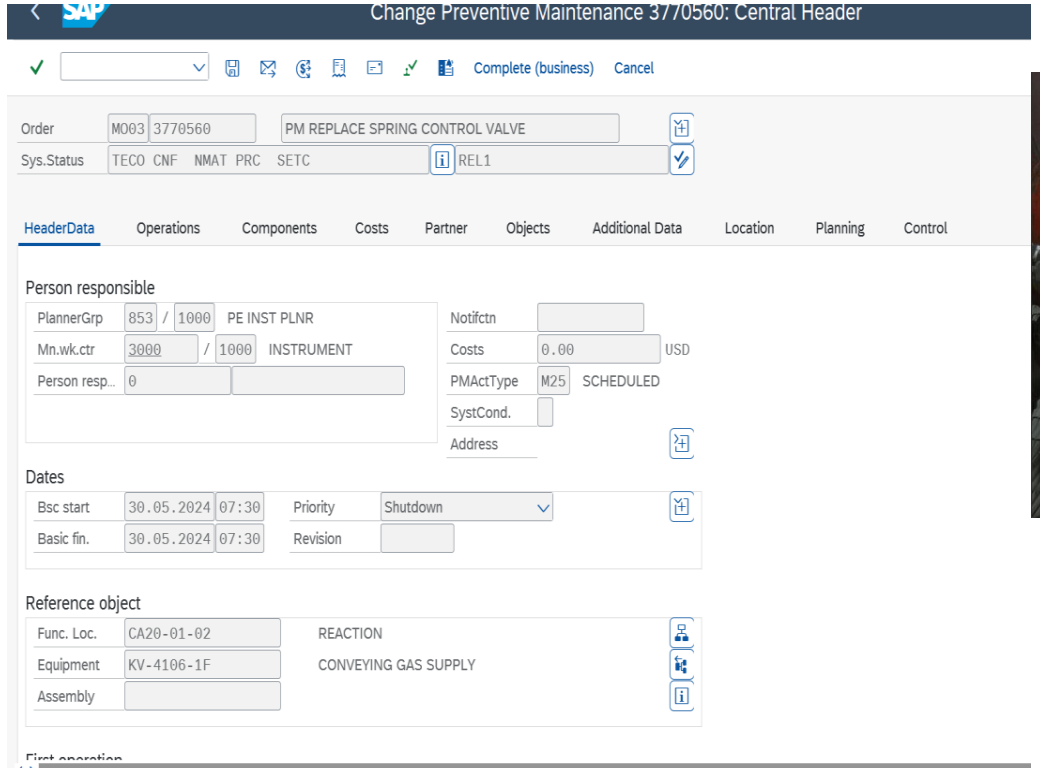
Executor CAPA/PAA	Verifier
Name : Iwan Pumama	Name : Wendarto Ardiatmoko
Date : 2 Sept 2024	*Date : 30-Sep-24*

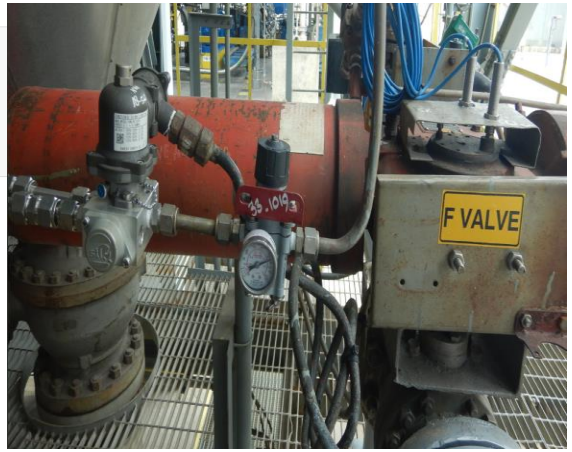
Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Improve – CAPA/PAA Implementation

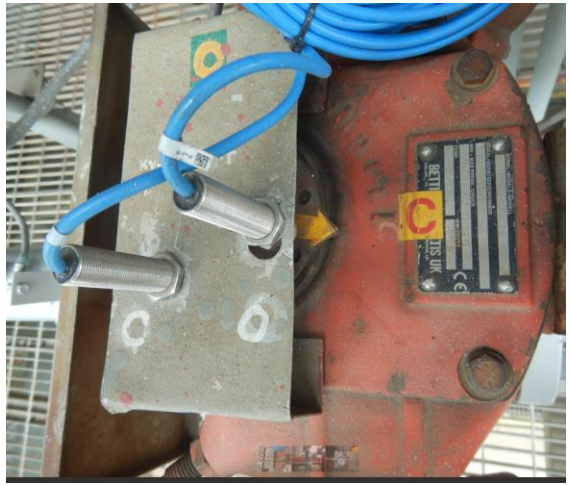
PA2 EVIDENCE IMPLEMENTATION

Time Based PM Check Spring (include tightening Connection) every 5years at TAM





PM online (Check pointer actuator position by visual) every 3 months
Status Done



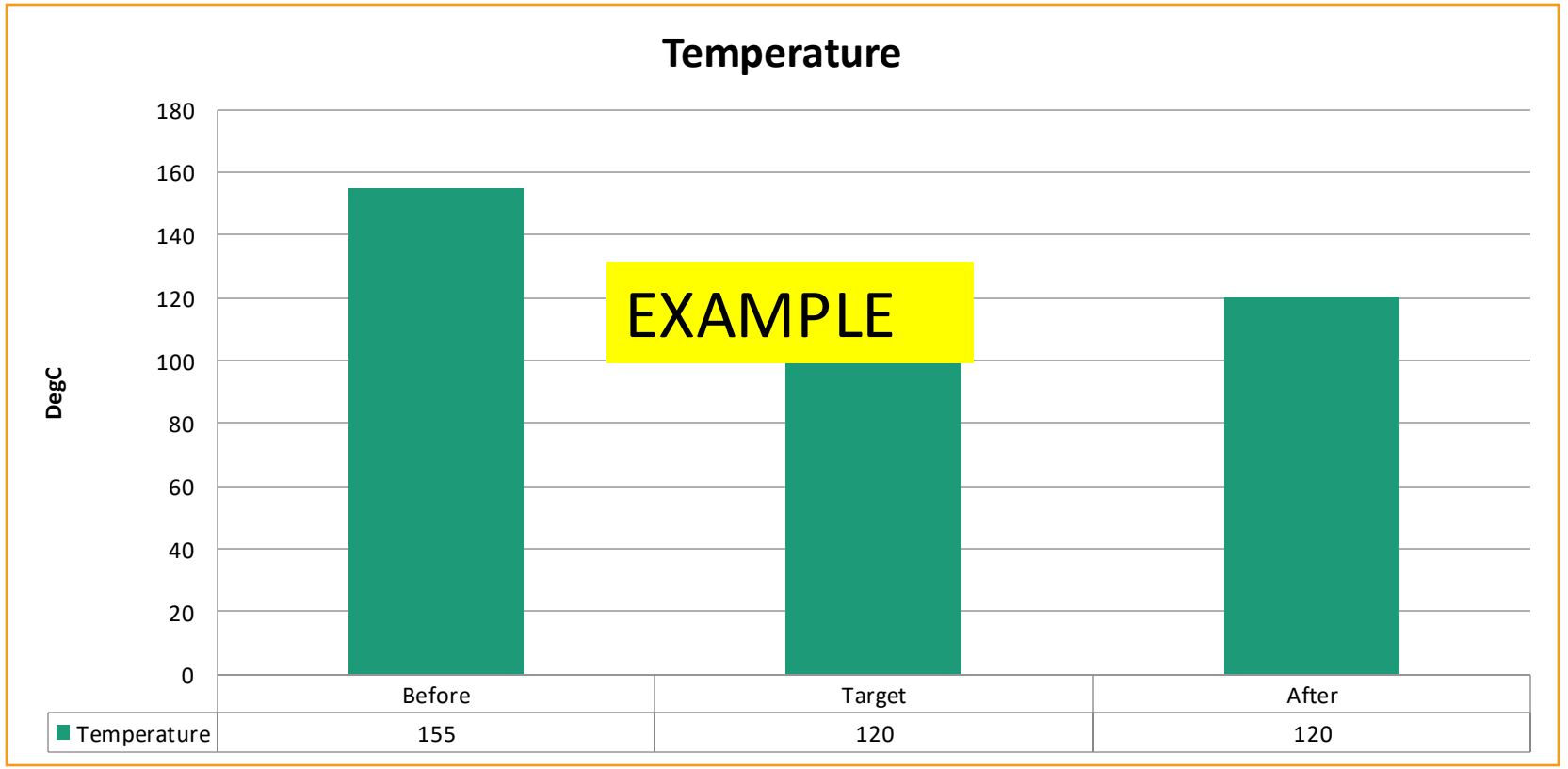
Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Executor CAPA/PAA	Verifier
Name : Iwan Pumama	Name : Wendarto Ardiatmoko
Date : 2 Sept 2024	*Date : 30-Sep-24*

CONFIRM RESULT (EXECUTOR)

Confirm Result

Before Improvement (Problem Condition)	:	
Target Condition (Project Y)	:	
After Improvement		



Standardization

Item / Activity	Procedure / Work Instruction Number
Example : Maintain temperature max 120 DegC	A0XXX-PXXX-XX

ESIC MONITORING (REVIEWER)

Standardization - ESIC Monitoring

CA1

- Evidence implementation

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Standardization - ESIC Monitoring

CA2 etc

- Evidence implementation

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Standardization - ESIC Monitoring

PA1

- Evidence implementation

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Standardization - ESIC Monitoring

PA2 etc

- Evidence implementation

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Standardization - ESIC Monitoring

PAA1

- Evidence implementation

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

Standardization - ESIC Monitoring

PAA2 etc

- **Evidence implementation**

Executor CAPA/PAA	Verifier
Name :	Name :.
Date :	*Date :*

Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

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* A0111-P0018-15 Att 4 - Organizational Code for Document Control Rev 15

1. AR Type

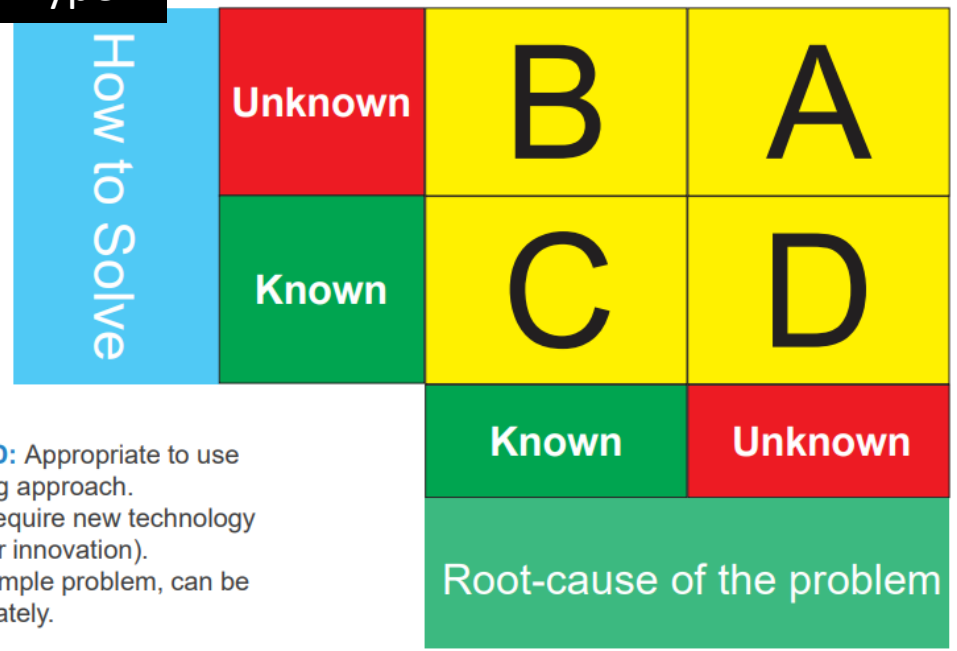
No	AR Type
1	Policy Management (PM)
2	Daily Management • Operation Problem Report (OPR) • Equipment Problem Report (EPR) • Non OPEDR • Turn Around Maintenance (TAM) • Performance Management (PMS) • Incident Investigation (II) • Customer Concern Report (CCR) • Process hazard Analysis (PHA) • Pre Start-up Safety Review (PSSR) • Countermeasure of Risk Assessment (CoRA)
3	Management System Audit (MSA)
4	Governance Risk Control Audit (GRCA)

Guidelines

3. RCA Complexity

Factor		Complexity Level & Handling RCA Period		
		Low (1 – 14 Days)	Medium (15 – 30 Days)	High (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	• FAA - Non recordable • Single/multiple over exposure causing noticeable irritation but no actual health effects	< 2.5K	Tier 3
Minor	• MTA – Recordable • single/multiple health effects from common source/effect	2.5 - 25K	Tier 2
Moderate	• LTA • Permanent partial disability • Several non-permanent injuries of health impacts	25 - 100K	Tier 1
Major	• Single fatalities (1 fatality) • ≥ 10 health effects either permanent or requiring hospital more than 24 hours	100K - 10M	Tier 1
Catastrophic	• Multiple fatalities (> 1 fatalities) • ≥ 30 health effects either permanent or requiring hospital more than 24 hours	> 10M	Tier 1

Guidelines

6. Severity Level (cont.)

Tier Environment	*Definitions of Environment: (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

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

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	D + 7	D + 28	D + 31	D + 35	N*	D + N* + 42
	Moderate		D 0	D + 7	D + 21	D + 24	D + 28	N*	D + N* + 35
	Major		D 0	D + 5	D + 15	D + 18	D + 21	N*	D + N* + 28
	Catastrophic		D 0	D + 3	D + 10	D + 12	D + 14	N*	D + N* + 21

7days 21days 3days 4days
7days 14days 3days 4days
5days 10days 3days 3days
3days 7days 2days 2days

*) Execution time for CA/PA are different by considering availability of spare parts, procurement, schedule, etc.
**) Interval time between Problem Occurred (D0) and Initiator (D+7) used for escalation problem within 1x24 hour, execute immediate action, and determine Executor that will be develop RCA.

Guidelines

8. Matrix of Severity Verification

	Severity Verificator	Assignor (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

Issuance (Initiator)	Analysis (Executor)	Confirmation (Reviewer)	CSO Acknowledge	Approval (Approver)	Ve (V
Daily Management (OPEDR type)					
Engineer/ Sr. Eng/ SI	OPR Justification:				
	Operation/ PI Eng./ Sr. Eng./ SI	Operations DM	CSO1 SM	Operation	
	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. Operatio 2. MTN/TEC	
	MTN/ TEC SM	MTN/ TEC DM	CSO1 SM	1. Operatio 2. MTN/TEC	
	MTN/ TEC DM	MTN/ TEC GM	CSO DM	1. MFG BC 2. MTN/ TEC	
	MTN/ TEC GM		CSO DM	1. MFG BC 2. MTN/ TEC	
Daily Management (Non-OPEDR type)					
Operator/ Technician/ Lab. Analyst/ SV	Operator/ Technician/ Analyst/ SV	SI / Sr. Eng / Sr. Officer	CSO1 SM	SM	
Officer/ Analyst/ Eng./ Chemist/ Sr. Eng./ Sr. Chemist/ / Sr. Officer/ SI	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	
	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 CO2 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

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)