

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:

H = High Potential : L = Low Potential

Problem Type	A	B	C	D
	Yes		No	
	H	L		
			X	
	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)

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 attachment.

***Choose the related item, if AR Type is OPR or EPR; ***option for MSA Type only SMK?**

only SIVK3
****Choose the related item, if severity is slight; ****Choose the related item,
AR Type is MSA**

<u>Initiator</u>	<u>Severity Verifier</u>
	
Name : Mahadhika	Name: Joko Pramono
Date :	Date:

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

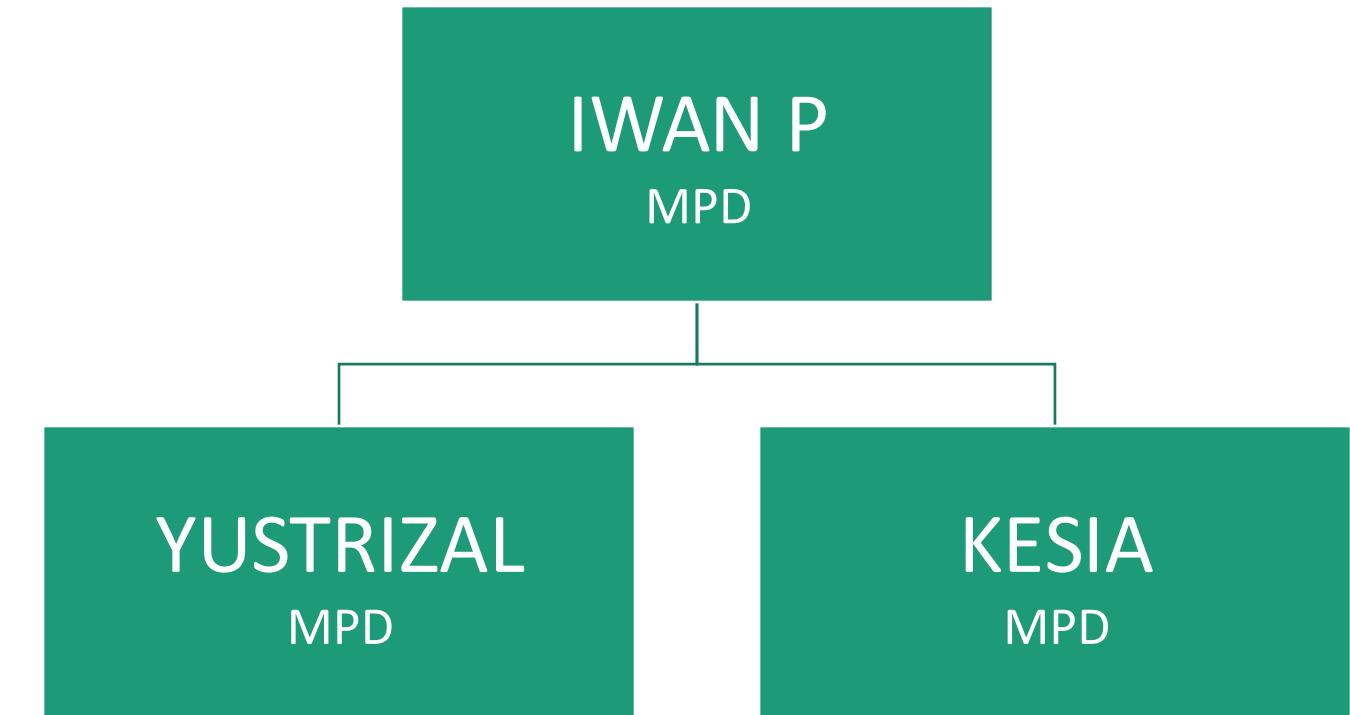
Problem Identification

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
2023/06/20 01:48:52 +07:00,SCS0221,4:2:1,SCS0221,P13DI0204,,DV2 OPERATED ALM
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.

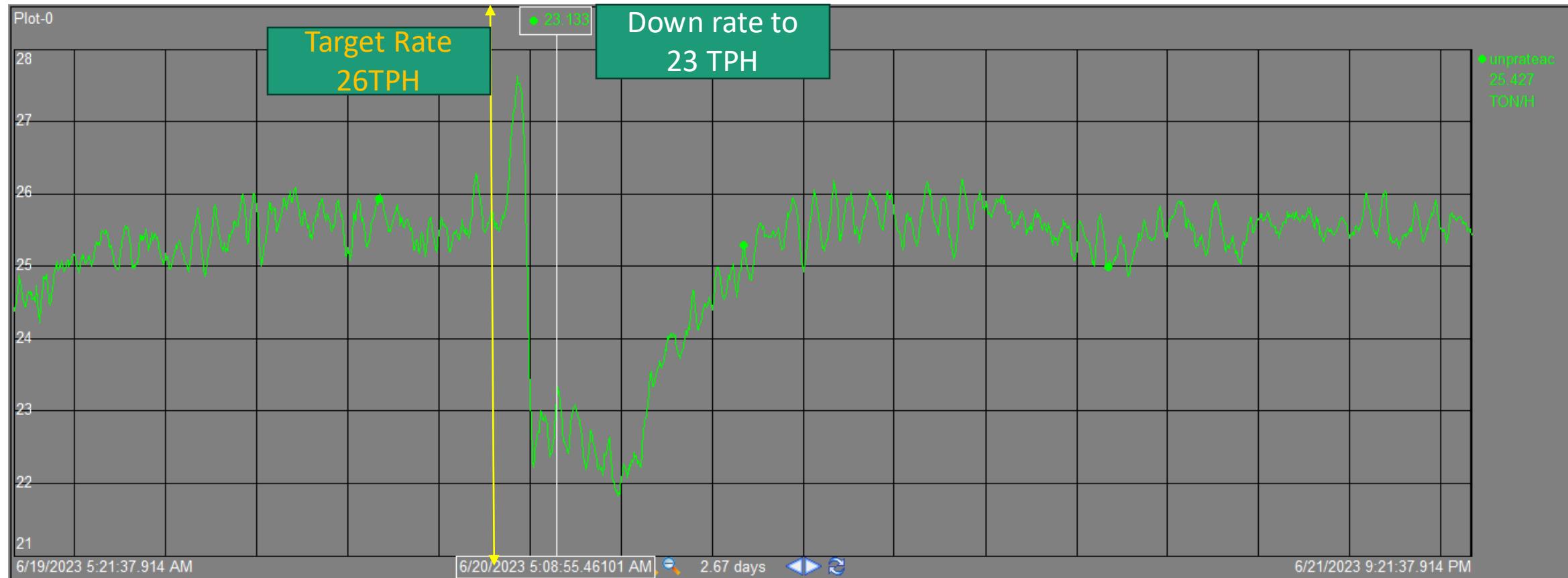
After checked by instrument team, based on journal alarm, we specifically found alarm PDS 2-F error, causing the whole PDS 2 System malfunction, so Operation team can only used PDS#1 to run and disable PDS#2 while the PDS 2-F were being repaired by Instrument Team

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 :

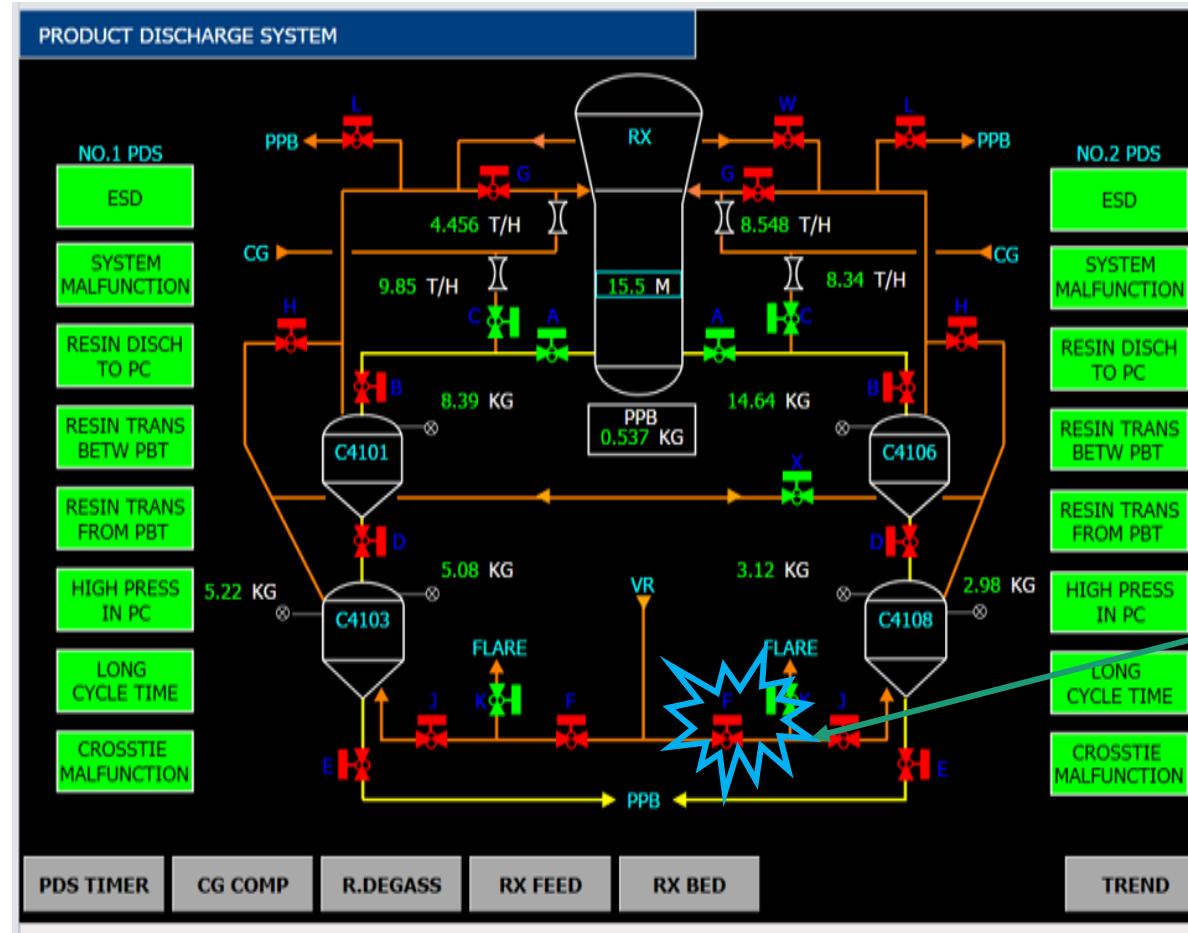
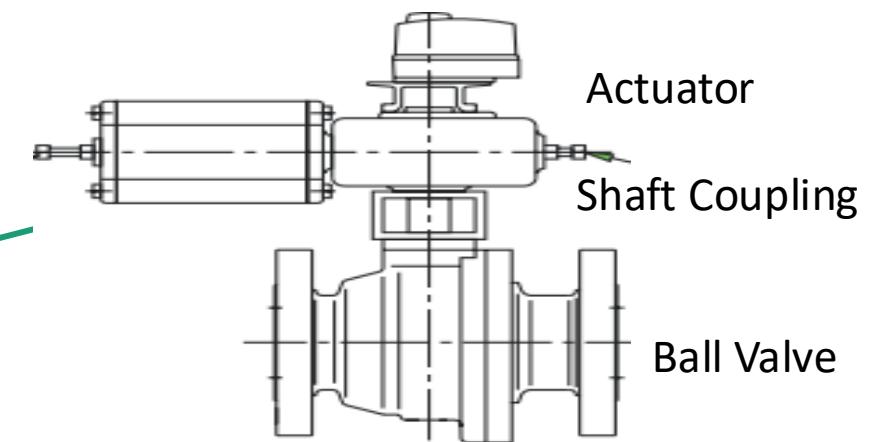
PDS #2 Malfunction due to PDS 2-F error

Assess



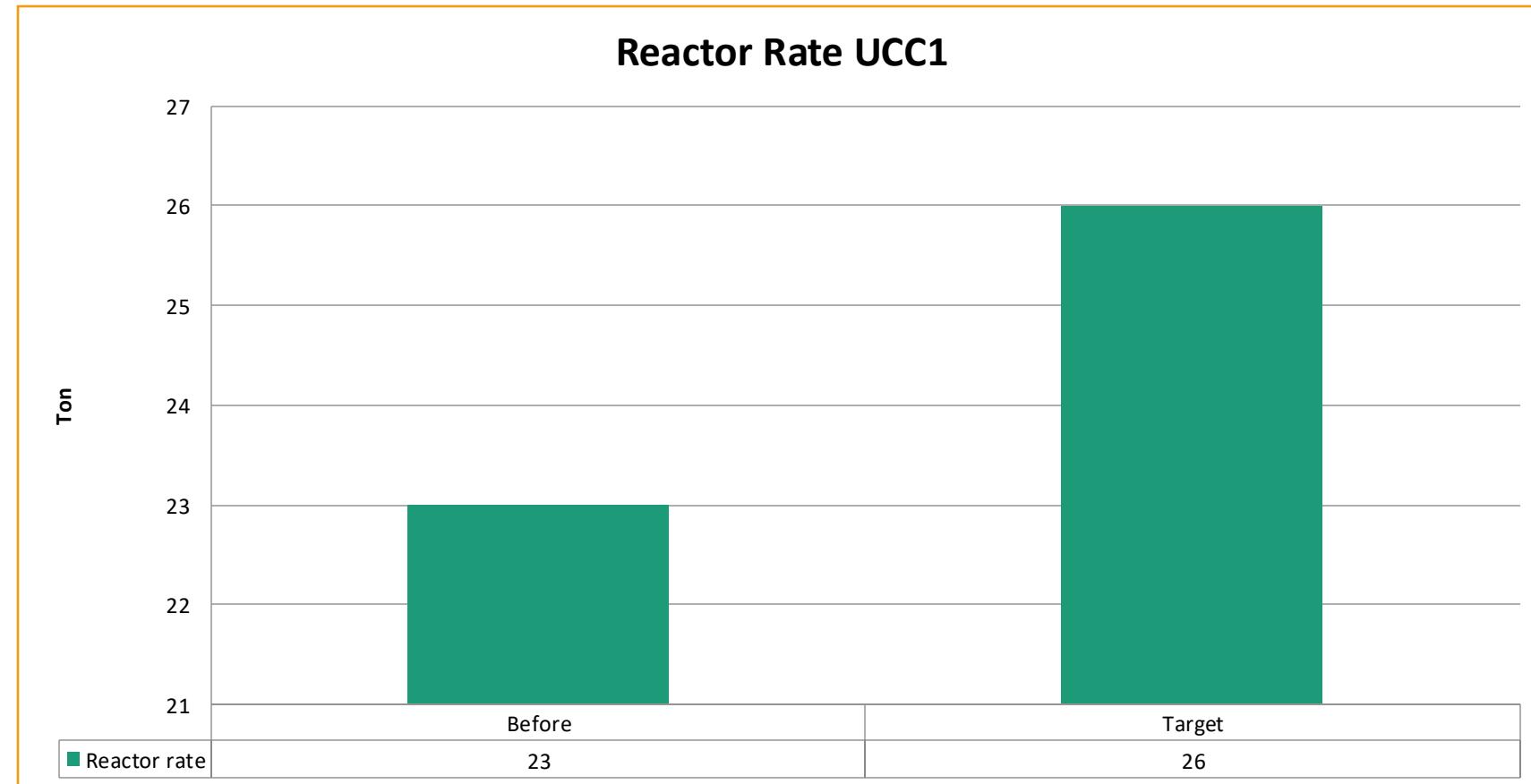
Found Reactor Rate UCC1 were decreased to ~23 TPH due to PDS #2 Malfuncntion

Assess

**PDS VALVE PARTS**

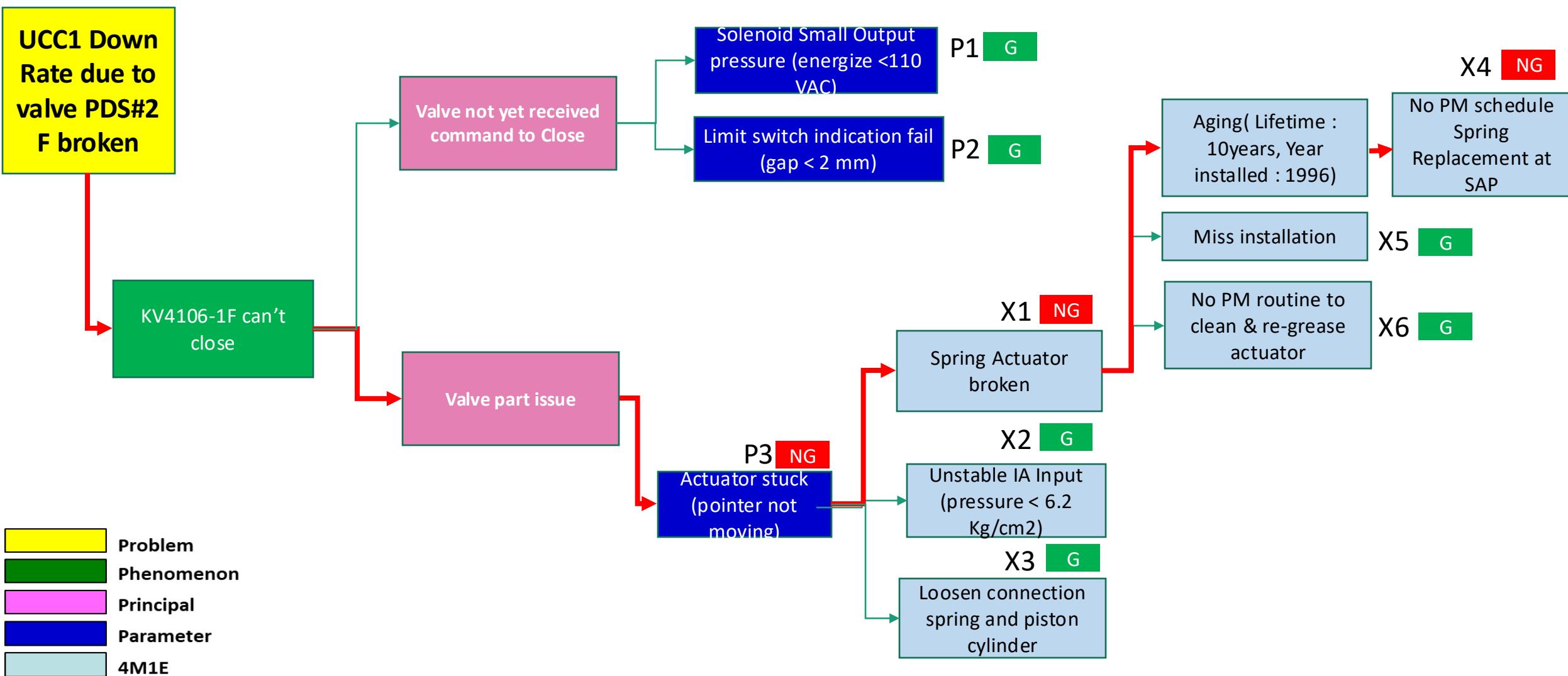
Target Setting

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)

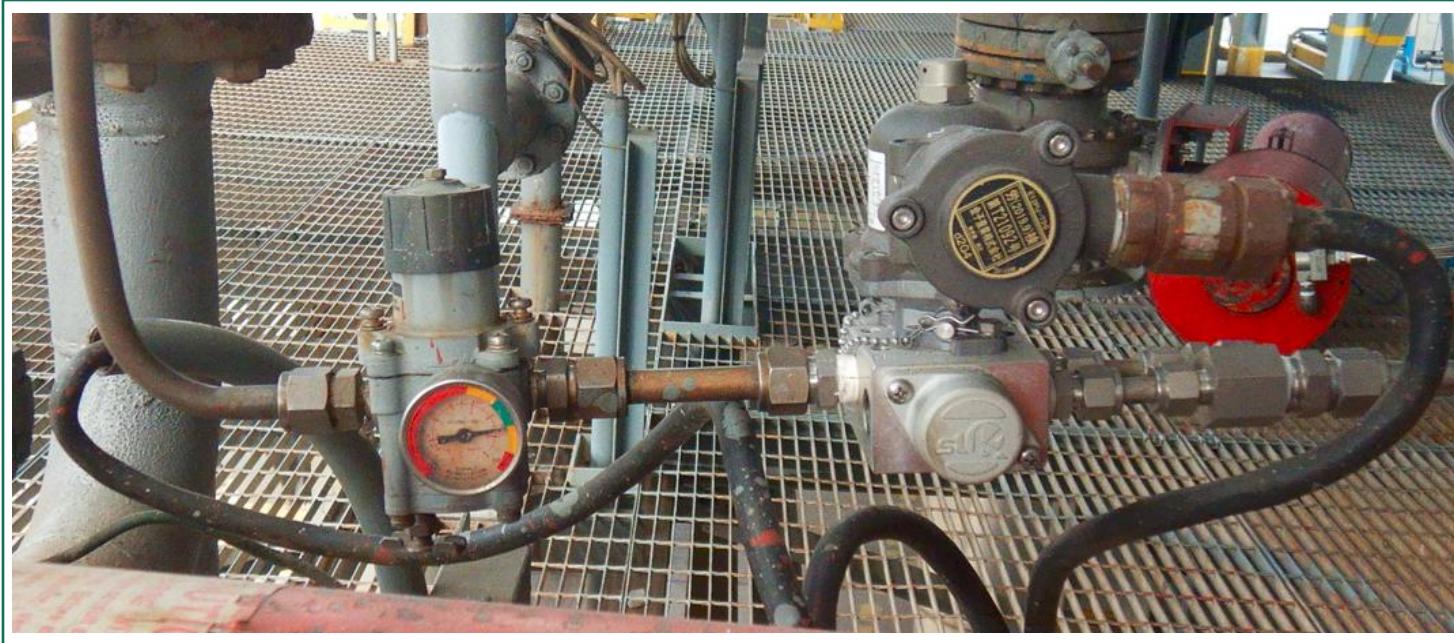
Check cable connection and output signal LS , Result no loosen and output normal (normal 24VDC)



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

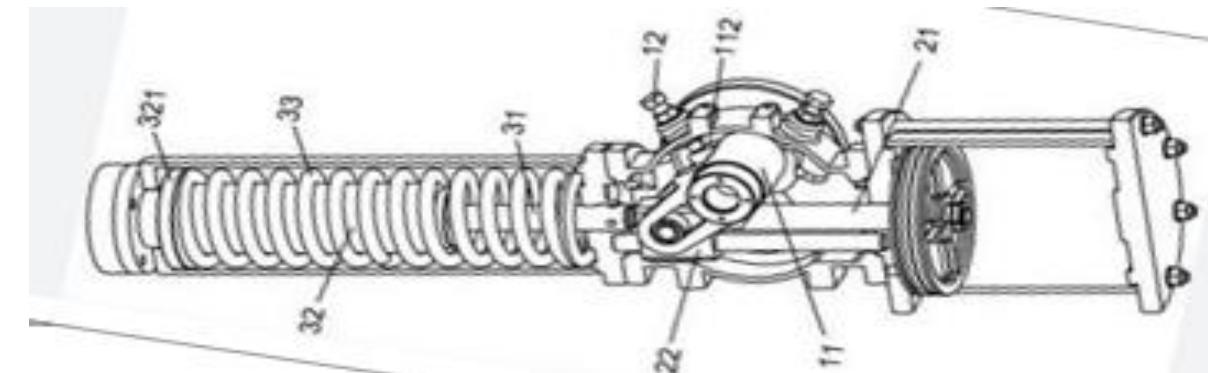
Not Good

- 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

Change Preventive Maintenance 3650450: Central Header

Complete (business)

Order MO03 3650450 FUNCTION TEST REL1

Sys.Status TECO CNF NMAT PRC SETC

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

Person responsible
PlannerGrp 853 / 1000 PE INST PLNR
Mn.wk.ctr 3000 / 1000 INSTRUMENT
Person resp ... 0

Notifctn Costs 0.00 USD
PMActType M25 SCHEDULED
SystCond.

Dates
Bsc start 03.01.2023 07:30 Priority Normal
Basic fin. 03.01.2023 11:15 Revision

Address

Reference object
Func. Loc. CA20-01-02 REACTION
Equipment KV-4106-1F CONVEYING GAS SUPPLY
Assembly

First operation
Operation CONTROL VALVE FUNCTION TEST CcKey Calculate duration
WwkCtr/Plnt 3000 / 1000 Ctrl key PM01 Acty Type PRT

Root Cause Analysis (RCA) - Verification

Verification for X5 - Miss installation

Good

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

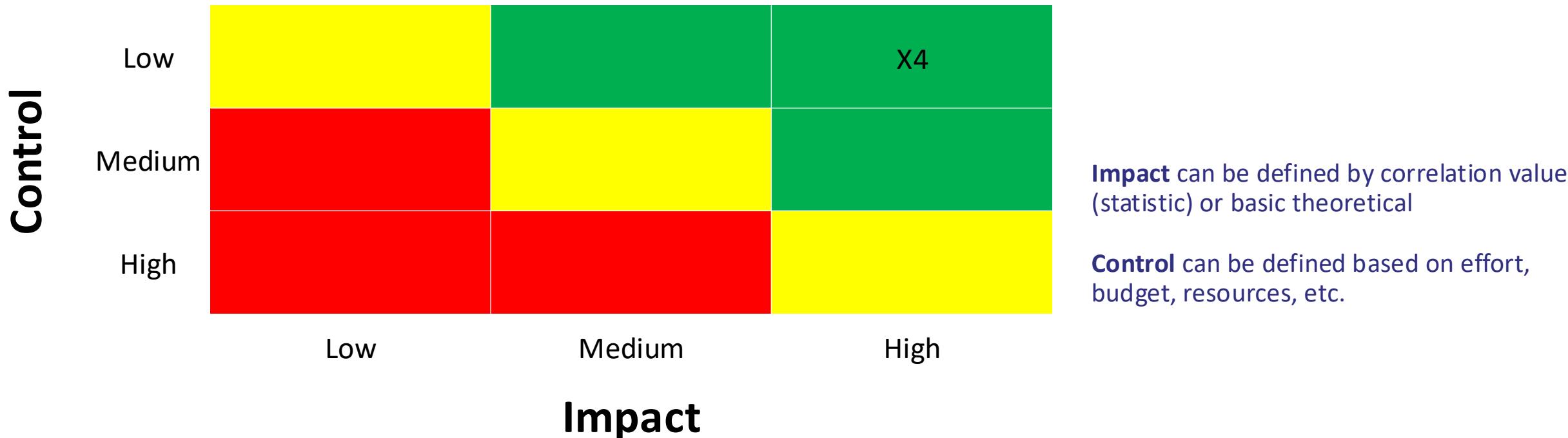
Good

NO	PROCEDURE STEP TO CHECK PDS	Maintenance Check Sheet For Product Discharge System LDPE-Plant											REMARK	
		KV-4106-1A	KV-4106-1B	KV-4106-1C	KV-4106-1D	KV-4106-1E	PDS 2			KV-4106-1G	KV-4106-1H	KV-4106-1J	KV-4106-1K	
1	Proximity Switch Sensor						V	V	V	V	V	V	V	V
	Check proximity gap (2 mm - 5 mm)	V	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	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						V	V	V	V	V	V	V	
	Instrument air tubing installation (I / A supply : 5kg/cm ² - 7 kg/cm ² c)	V	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	V	
	Check drop voltage while energize (110 vac)	V	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	V	
3	Pointer						V	V	V	V	V	V	V	
	Check the pointer welding plat no crack	V	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	V	
4	Actuator						V	V	V	V	V	V	V	
	Check actuator (leak or no)	V	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	V	
	Check actuator moving (Normal if travel time lower than 5 second)	V	V	V	V	V	V	V	V	V	V	V	V	
5	Coupling						V	V	V	V	V	V	V	
	Check coupling connection	V	V	V	V	V	V	V	V	V	V	V	V	
6	Valve						V	V	V	V	V	V	V	
	Check connection bracket to PDS (stud bolt)	V	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	V	
	Check extermal leak (stem valve)	V	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	V	

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 (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				

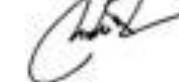
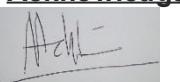
Corrective Action: to eliminate the cause of a non-conformity and to prevent recurrence.
 Pro-Active Action: to prevent undesirable potential situations in other areas of similar nature (roll out to other similar system/items)

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	 Name : F INDRO K	 Name : 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				

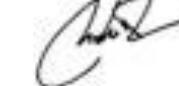
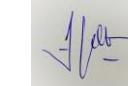
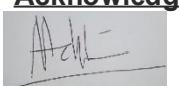
Preventive Action: to eliminate the cause of potential non-conformity or other potential undesirable situation

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 : FINDRO 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	<ul style="list-style-type: none"> - Additional maintenance cost - Time based replacement didn't conduct as schedule 	<ul style="list-style-type: none"> - Create budget planning for replacement - Close coordination with operation and PNO to conduct replacement at window time shutdown 	31.10.2023	IWAN.P	CLOSED

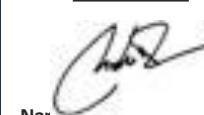
Potential Risk : to identify potential problem that occur when implemented Corrective Action

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 : NARMINA ...	 Name : HAMIM T.	 Name : 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

SAP Change Preventive Maintenance 3770560: Central Header

Order M003 3770560 PM REPLACE SPRING CONTROL VALVE

Sys.Status TECO CNF NMAT PRC SETC REL1

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

Person responsible

PlannerGrp	853 / 1000	PE INST PLNR	Notifcn	
Mn.wk ctr	3000 / 1000	INSTRUMENT	Costs	0.00 USD
Person resp...	0		PMActType	M25 SCHEDULED
SystCond.				
Address				

Dates

Bsc start	30.05.2024 07:30	Priority	Shutdown	
Basic fin.	30.05.2024 07:30	Revision		

Reference object

Func. Loc.	CA20-01-02	REACTION	
Equipment	KV-4106-1F	CONVEYING GAS SUPPLY	
Assembly			

First operation

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

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



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

Improve – CAPA/PAA Implementation

PA1 EVIDENCE IMPLEMENTATION

- Cleaning & purging solenoid every 2 years as PM schedule

Order	M003 3803306	FUNCTION TEST																																																		
Sys.Status	TECO CNF NMAT PRC SETC																																																			
<table border="1"> <thead> <tr> <th>HeaderData</th> <th>Operations</th> <th>Components</th> <th>Costs</th> <th>Partner</th> <th>Objects</th> <th>Additional Data</th> </tr> </thead> <tbody> <tr> <td colspan="7"> Person responsible <table border="1"> <tr> <td>PlannerGrp</td> <td>853 / 1000</td> <td>PE INST PLNR</td> <td>Notifctn</td> <td colspan="3"></td> </tr> <tr> <td>Mn.wk.ctr</td> <td>3000 / 1000</td> <td>INSTRUMENT</td> <td>Costs</td> <td>0.00</td> <td>USD</td> <td></td> </tr> <tr> <td>Person resp...</td> <td>0</td> <td></td> <td>PMActType</td> <td>M25</td> <td>SCHEDULED</td> <td></td> </tr> <tr> <td colspan="7">SystCond.</td> </tr> <tr> <td colspan="7">Address </td> </tr> </table></td></tr></tbody> </table>				HeaderData	Operations	Components	Costs	Partner	Objects	Additional Data	Person responsible <table border="1"> <tr> <td>PlannerGrp</td> <td>853 / 1000</td> <td>PE INST PLNR</td> <td>Notifctn</td> <td colspan="3"></td> </tr> <tr> <td>Mn.wk.ctr</td> <td>3000 / 1000</td> <td>INSTRUMENT</td> <td>Costs</td> <td>0.00</td> <td>USD</td> <td></td> </tr> <tr> <td>Person resp...</td> <td>0</td> <td></td> <td>PMActType</td> <td>M25</td> <td>SCHEDULED</td> <td></td> </tr> <tr> <td colspan="7">SystCond.</td> </tr> <tr> <td colspan="7">Address </td> </tr> </table>							PlannerGrp	853 / 1000	PE INST PLNR	Notifctn				Mn.wk.ctr	3000 / 1000	INSTRUMENT	Costs	0.00	USD		Person resp...	0		PMActType	M25	SCHEDULED		SystCond.							Address						
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SystCond.																																																				
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Dates <table border="1"> <tr> <td>Bsc start</td> <td>02.07.2024</td> <td>07:30</td> <td>Priority</td> <td>Normal</td> <td></td> <td></td> </tr> <tr> <td>Basic fin.</td> <td>02.07.2024</td> <td>11:15</td> <td>Revision</td> <td colspan="3"></td> </tr> </table>							Bsc start	02.07.2024	07:30	Priority	Normal			Basic fin.	02.07.2024	11:15	Revision																																			
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Cleaning and Purge SOV
Status Done

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

Order	M003 3803306	FUNCTION TEST																																																		
Sys.Status	TECO CNF NMAT PRC SETC																																																			
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Set Press Normal 6 kg/cm²
Status Done

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

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

Improve – CAPA/PAA Implementation

PA2 EVIDENCE IMPLEMENTATION

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

SAP Change Preventive Maintenance 3770560: Central Header

Order	M003 3770560	PM REPLACE SPRING CONTROL VALVE	<input checked="" type="checkbox"/>																				
Sys.Status	TECO CNF NMAT PRC SETC	REL1	<input checked="" type="checkbox"/>																				
HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control																							
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Assembly	<input type="button" value=""/>	<input type="button" value=""/>																					
First operation <hr/>																							



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

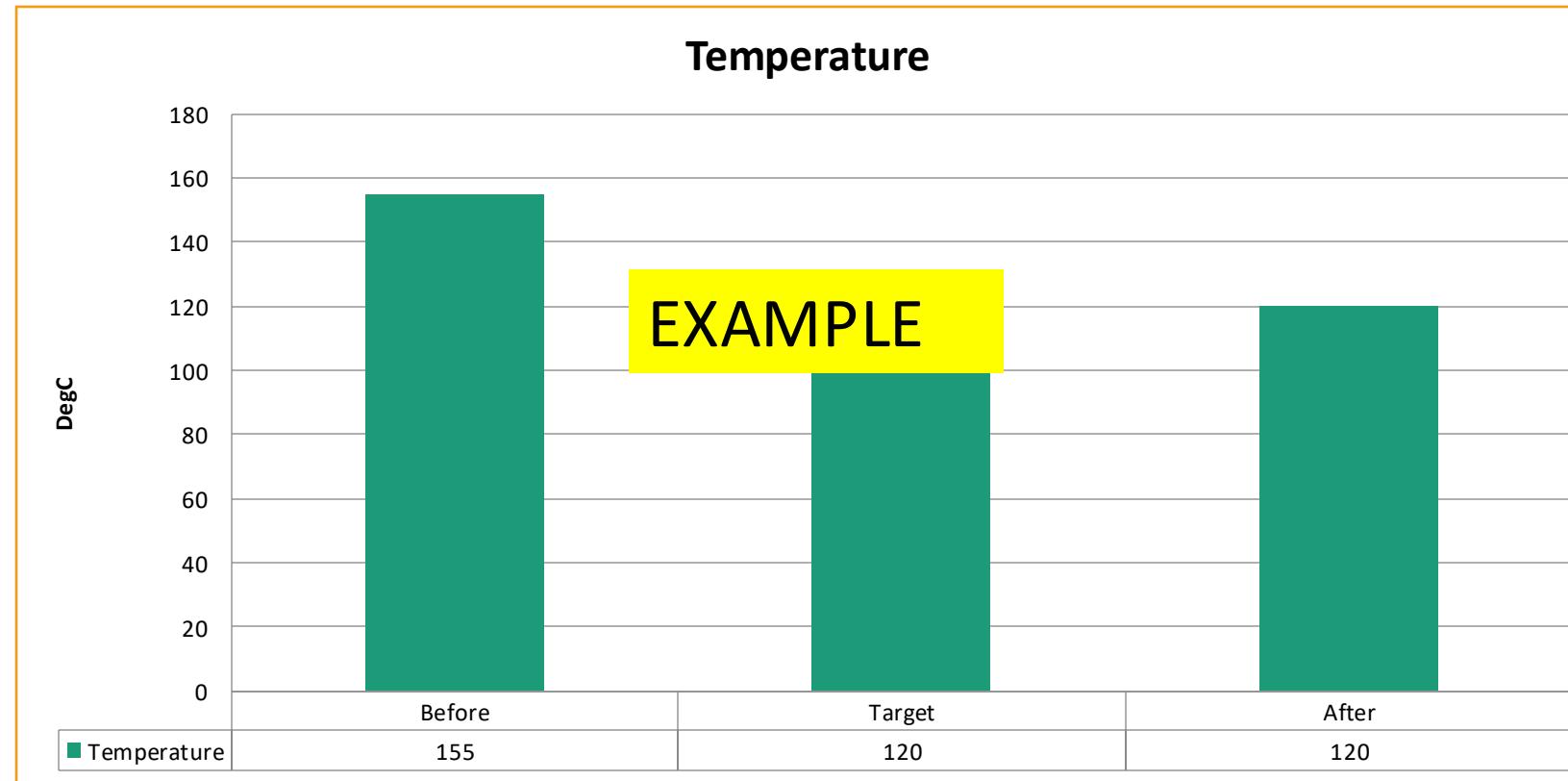


Executor: Operator / Supervisor / Engineer / Sr. Engineer / SI / Staff
Verifier : SM / DM / GM

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

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

Standardization - ESIC Monitoring

CA1

• Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ::
Date :	Date :

Standardization - ESIC Monitoring

CA2 etc

- Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ..
Date :	Date :

Standardization - ESIC Monitoring

PA1

• Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ..
Date :	Date :

Standardization - ESIC Monitoring

PA2 etc

- Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ::
Date :	Date :

Standardization - ESIC Monitoring

PAA1

• Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ::
Date :	Date :

Standardization - ESIC Monitoring

PAA2 etc

• Evidence implementation

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

<u>Executor CAPA/PAA</u>	<u>Verifier</u>
Name :	Name ::
Date :	Date :

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 DIVDEPTSECbase
d on A0111-P0018-15 Att 4 -
 Organizational Code for
 Document Control Rev 15

1. AR Type

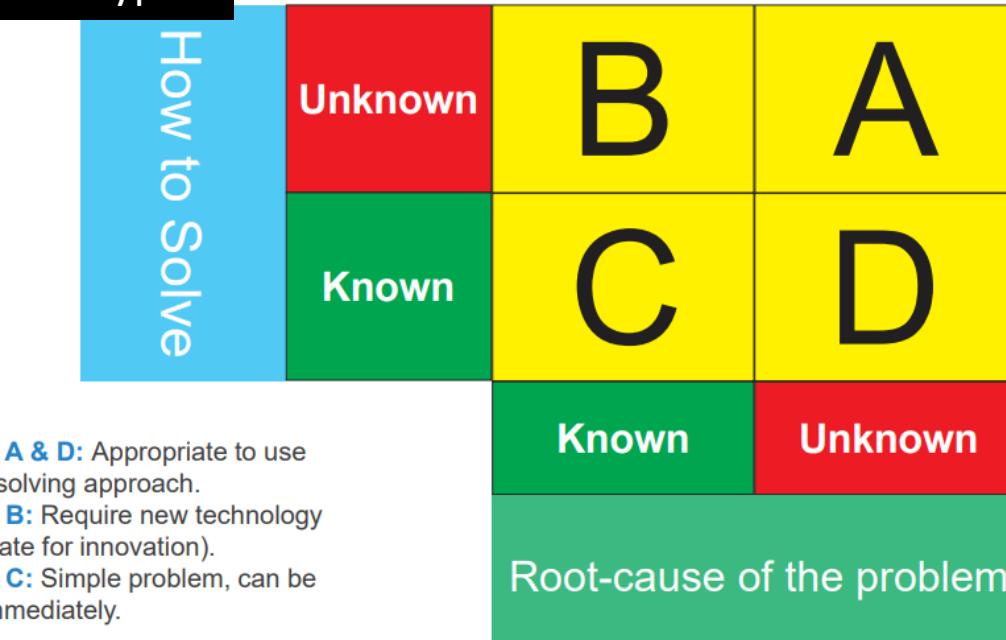
No	AR Type
1	Policy Management (PM) <ul style="list-style-type: none"> Daily Management <ul style="list-style-type: none"> • Operation Problem Report (OPR) • Equipment Problem Report (EPR) • Non OPEDR
2	<ul style="list-style-type: none"> Turn Around Maintenance (TAM) Performance Management (PMS) Incident 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



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"> • FAA - Non recordable • Single/multiple over exposure causing noticeable irritation but no actual health effects 	< 2.5K	Tier 3
Minor	<ul style="list-style-type: none"> • MTA – Recordable • single/multiple health effects from common source/effect 	2.5 - 25K	Tier 2
Moderate	<ul style="list-style-type: none"> • LTA • Permanent partial disability • Several non-permanent injuries of health impacts 	25 - 100K	Tier 1
Major	<ul style="list-style-type: none"> • Single fatalities (1 fatality) • ≥ 10 health effects either permanent or requiring hospital more than 24 hours 	100K - 10M	Tier 1
Catastrophic	<ul style="list-style-type: none"> • 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	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	Major	D 0	D + 5 <small>7days</small>	D + 15 <small>21days</small>	D + 18 <small>3days</small>	D + 21 <small>4days</small>	N* D + N* + 28
		Catastrophic	D 0	D + 3 <small>7days</small>	D + 10 <small>14days</small>	D + 12 <small>3days</small>	D + 14 <small>4days</small>	N* D + N* + 21

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 Verifier	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)	Ver (Type)
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:					
Operator/ Technician/ Lab. Analyst/ SV	MTN/TEC Eng./ Sr. Eng/ SI	MTN/TEC DM	CSO1 SM	1. Operation 2. MTN/TEC	1. Operation 2. MTN/TEC
	MTN/ TEC SM	MTN/ TEC DM	CSO1 SM	1. Operation 2. MTN/TEC	1. Operation 2. MTN/TEC
	MTN/ TEC DM	MTN/ TEC GM	CSO DM	1. MFG BC 2. MTN/ TEC	1. MFG BC 2. MTN/ TEC
	MTN/ TEC GM		CSO DM	1. MFG BC 2. MTN/ TEC	1. MFG BC 2. MTN/ TEC
Daily Management (Non-OPEDR type)					
Officer/ Analyst/ Eng./ Chemist/ Sr. Eng./ Sr. Chemist/ / Sr. Officer/ SI	Officer/ Analyst/ Eng./ Chemist/ Sr. Eng./ Sr. Chemist/ Sr. Officer/ SI	SI / Sr. Eng / Sr. Officer	CSO1 SM	SM	SM
	SM	SM	CSO1 SM	DM	DM
	DM	DM	CSO DM	GM	GM
	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)