OpEx Shared Practice & Applied Practice

ชื่อโครงการ : GREATER BONGKOT SOUTH AUTONOMOUS SYSTEM

บริษัท : PTTEP

คณะทำงาน

GBS- PRODUCTION, (PBS/P)

วันที่ 1 มกราคม 2560

1. Key Word (Taxonomy)

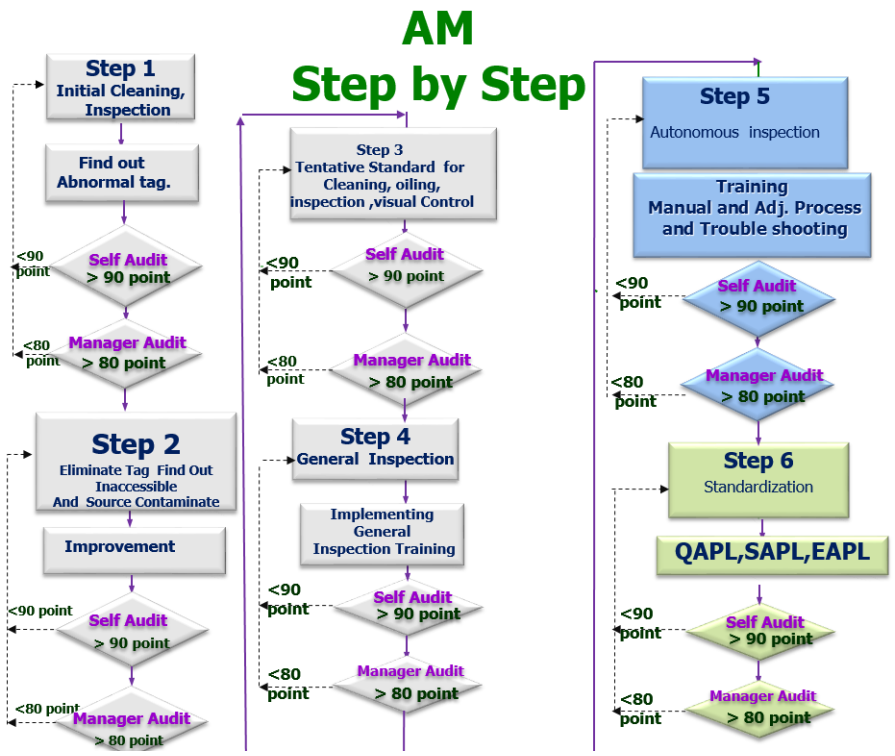
Project Type	Operational Improvement
Business Line	Exploration & Production
Operational Function	Process Engineering
Operational Unit	Electrochlorination Package
Equipment Type	Electrochlorination Package
Product Group	Chemical

2. Project Details

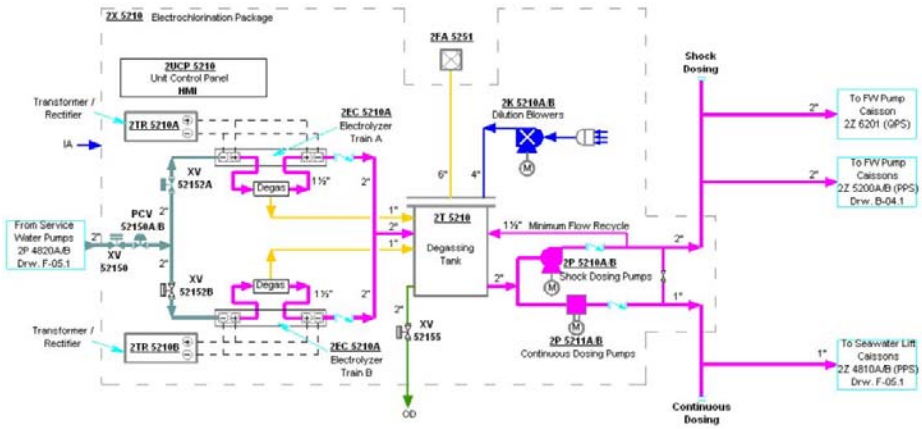
No.	Title	Details
1	Project Name*	(English*) 2X-5210 Electro chlorination package by autonomous system. (Thai) การบำรุงรักษาเครื่องผลิตโซเดียมไฮโปคลอไรต์ด้วยตนเอง
2	Objective*	• To decrease operating and maintenance costs through machine and equipment by zero breakdown. • Production with zero accident • To do self maintenance by operators
	Project Type (please select)	☒ Operation [โครงการที่เกี่ยวข้องกับ core operation ของบริษัท ซึ่งส่งผลโดยตรงต่อประสิทธิภาพหรือประสิทธิผลของการผลิต] ☐ Operation-support [โครงงานที่สนับสนุนและส่งผลโดยตรงต่อการดำเนินงานของสายปฏิบัติการ/ธุรกิจหลัก อาทิ โครงการที่เป็นกิจกรรมในสายโซ่อุปทาน (supply chain) ซึ่งได้แก่ Procurement, Inventory, Logistic, Sale & Marketing]
3	Executive Summary*	• Background - This unit function is to generate hypochlorite from seawater. The hypochlorite is used for marine growth and bio fouling prevention in piping. Otherwise, line will be blocked. - Hypochlorite is supplied to important unit such as fire water ring main, service water pump and fire water pump. Therefore, continuous injection of hypochlorite is very critical for plant. • Method - Autonomous or self maintenance by operator • Results - Decrease loss, operating and maintenance cost. - Zero accident from this operating equipment unit. - Equipment zero breakdown
3.1	Detail	

2X-5210 Electro chlorination

- This unit function is to generate hypochlorite from seawater. The hypochlorite is used for marine growth and bio fouling prevention in piping. Otherwise, line will be blocked.
- Hypochlorite is supplied to important unit such as fire water ring main, service water pump and fire water pump. Therefore, continuous injection of hypochlorite is very critical for plant.
- 2X-5210 Electro chlorination was selected to be implemented autonomous maintenance and detail step systems as below;



2X-5210 - PFD



Targets to improve (KPI) AM manager model 2017

Preventive maintenance program improvement by x%	Bad actor elimination by x%	Predictive analysis implementation by x%	Stock holding cost reduction by x%	PMI Objectives / PBS/P Objectives / PBS Objectives / Targets to improve (KPI)	Minimum concentration of Cl equivalent must be ≥ 0.2 ppm	cost of maintenance of the unit reduced by 10% comparing to 2016	maintenance man-hour of the unit reduced by 10% comparing to 2016	number of unit breakdown reduced by 10% comparing to 2016
	○	○		number of LTIF does not exceed 0.6/MMhrs	○			○
	○			Loss of primary containment rate does not exceed 0.17/MMhrs	○			○
			●	2017 OPEX reduction by 10%		●	●	
	○	○		zero accident (TRIR for medical treatment)	○			
●	●	●		Zero unexpected shutdown	○			●
			○	Complied with SPEND SMART campaign		●	●	

● Primary correlation
○ Secondary correlation

Step 1 : Initial Clean-up

1.1 Perform cleaning

1.2 Inspection

1.3 Anomaly Classification

1.4 Resolve finding and Follow-up

1.5 Prepare temporary procedure

1.6 Self audit and manager audit before go to step 2

Step 2: Eliminate tag find out inaccessible and source contaminate

2.1 Identify inaccessible point and source of contaminate

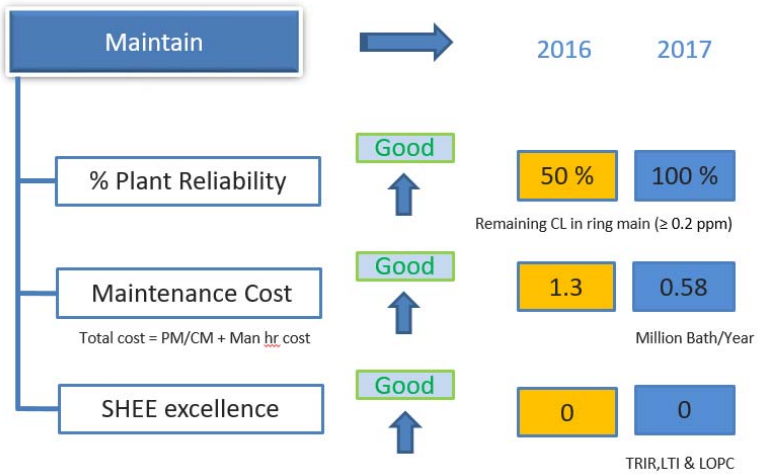
2.2 Apply why-why analysis

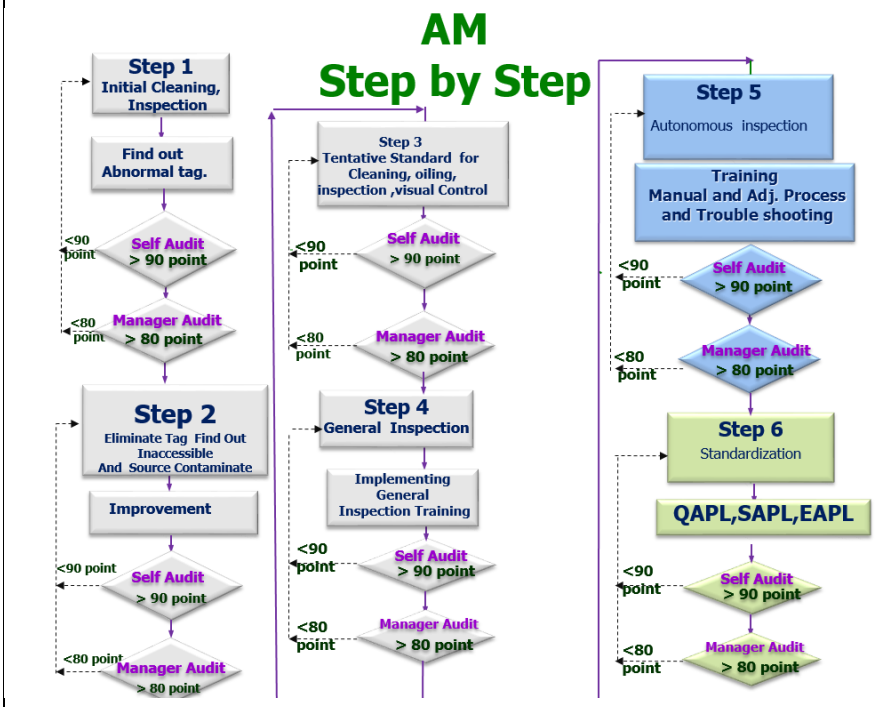
2.3 Resolved finding or provide mitigation

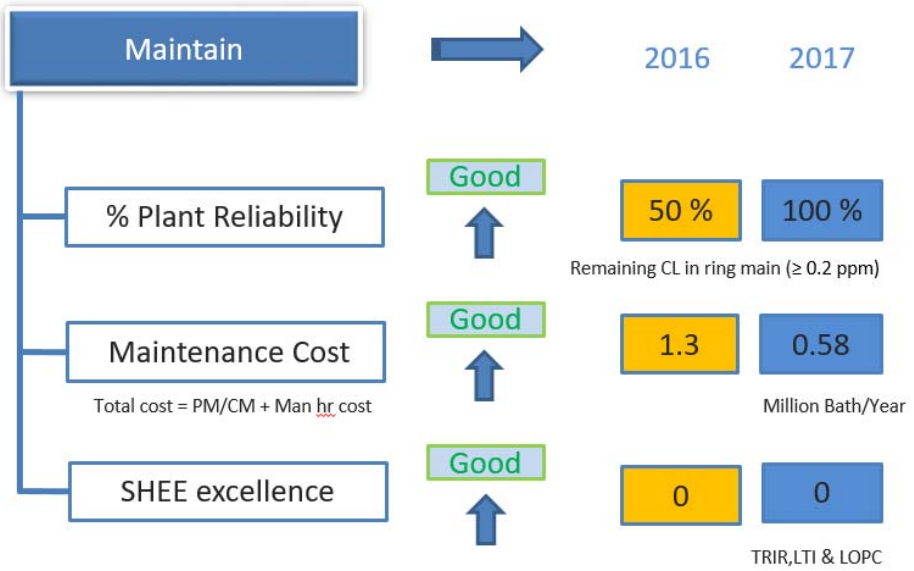
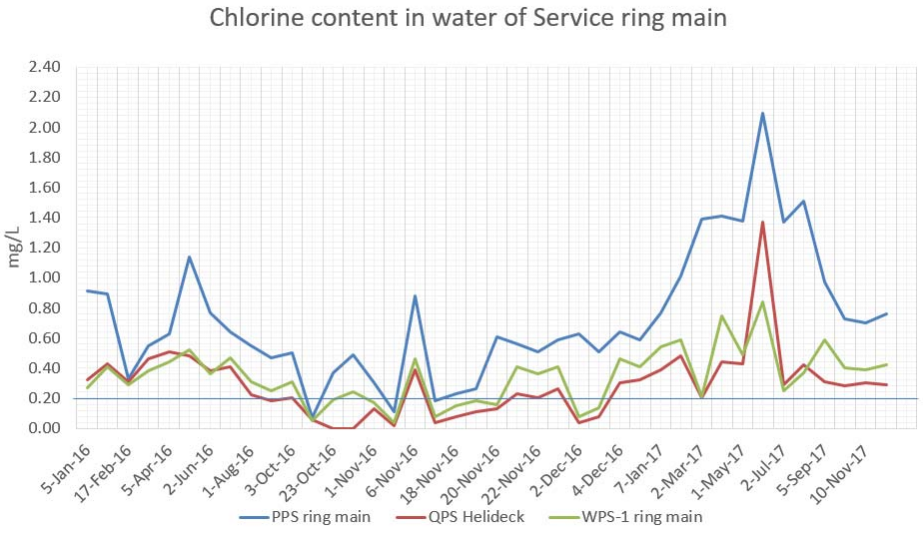
2.4 Audit before continue to step 3

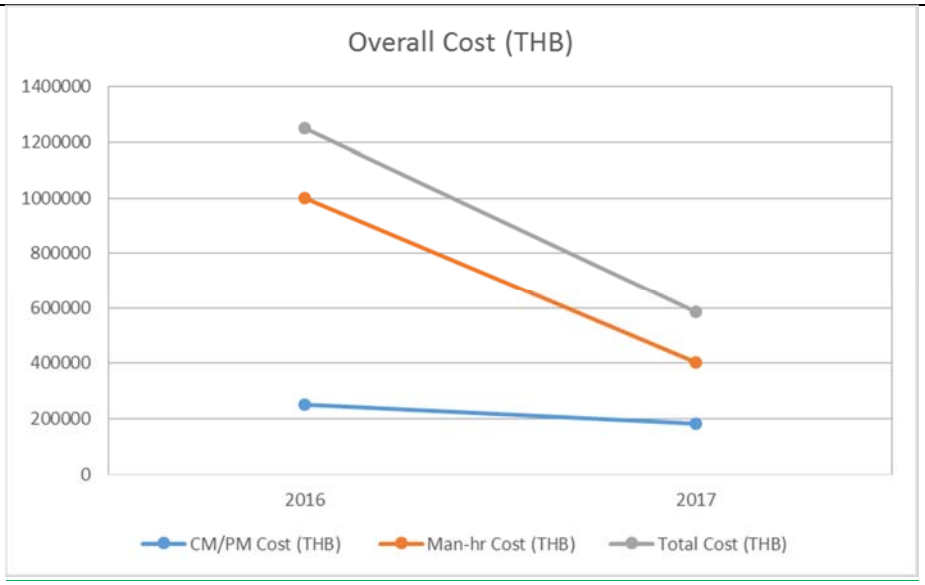
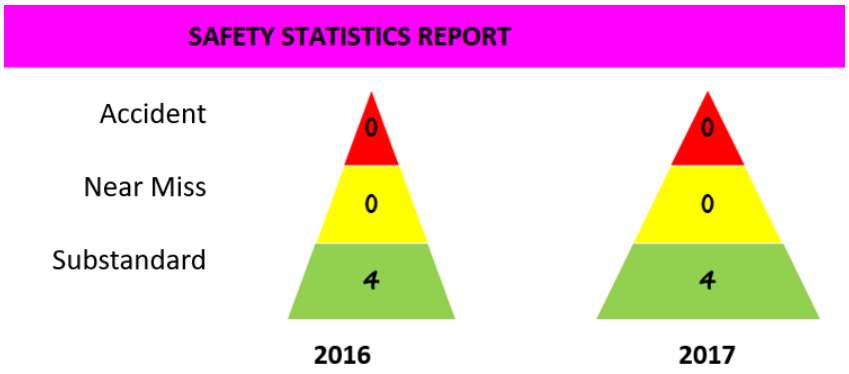
Step 3: Tentative Standard for Cleaning, Oiling, Inspection and Visual Control

Result :



4	Best Practice Process / Procedures*	 Autonomous step 1. Initial Cleaning, inspection 2. Eliminate tag find out inaccessible and source contaminate 3. Tentative Standard for Cleaning, oiling, inspection and visual control 4. General Inspeciton 5. Autonomous Inspection 6. Standardization
5.1	Operation Duration*	start date: 11/10/2015 end date : present
5.2	Lifetime of Project*	-10 years
6	Application*	- Maintain implementation for 2X-5210 Electrochlorination package (Manager model) in 2018. - In year 2018, apply to others equipment as AM small group activities. Area of assignment is following. Group A 2P-5201A, 2P-5030A, 2P-5040A, 2P-3450A ,2P-5031A Group B 2P-5201B, 2P-5030B, 2P-5040B, 2P-3450B ,2P-5031B Group C 2P-6201, 2P-5030C, 2P-5040C, 2P-5050 A/B - AM target of year 2018 is STEP-2 achievement within October 2018.
7	Project Cost & Investment (Mil.Baht)*	No investment cost

8	Project Cost & Investment per year (Mil.Baht/ Yr)*	No investment cost
9	Benefit*	Result of KPI 2017  Target to improve (KPI) : Minimum concentration of Cl equivalent must be ≥ 0.2 ppm  Target to improve (KPI) :Total cost of maintenance & maintenance man-hours of the unit reduced comparing to 2016 

		 Zero Accident 
10	Benefit Value (Mil.Baht/ Yr)*	 Total reduce cost = Year 2017-2016 = 1,249,977-584,350 = 665,627 Bath.
11	Benefit Value Calculation	CM/PM Cost: - Track from SAP system as attachment II. Man-Hour Cost: - Breakdown time x man-hrs cost - Man-hrs cost = 43$/hr.
12	Apply From	GBS Autonomous Phase2, apply to others equipment

13	Company	PTTEP
14	Team member*	-GBS,Production department
15	Contact Person*	Name : Singhtong J. or Chattrawutt H. Phone: 02-537-7917,02-537-7915 Email: GBS.Production-Supv@pttep.com, GBS.Production-Oper@ pttep.com
16	Year Contest	2018
17	Project Type	Operational Improvement
18	Business Line	Exploration & Production
19	OEMS Element	EP Operations
20	Operational Function	Process Engineering
21	Operational Unit	Electrochlorination Package
22	Equipment Type	Electrochlorination Package
23	Product Group	Chemical
24	Community of Practice	-
25	People Tag Account	sompanw@pttep.com paisona@pttep.com
26	People Tag Name	-

1. Support Information

- Attachment I : Autonomous Activities Presentation
- Attachment II : CM/PM Cost & Breakdown time