APIC 2016
ANNUAL PRODUCTIVITY & INNOVATION CONFERENCE & EXPOSITION 2016

From Ideas to Reality
Putrajaya International Convention Centre (PICC)
25-27 October 2016

ABSTRACT BOOK

Organizer: MPC
SEKTOR PEMBUATAN
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CIRCLE NAME : ALL FOR ONE (AF1)
ORGANISATION : DENSO (MALAYSIA) SDN BHD
PROJECT TITLE : AHSC TERMINAL BROKEN
PROJECT SAVINGS : RM 10840.00

A. PROJECT BACKGROUND

Project is related to quality issue of the product running at DENSO MALAYSIA. The terminal of the product was broken during assembly. This issue happened didn't realize by operator and size of the product. The product already preparing for shipment to customer.

B. MOST POSSIBLE CAUSE(s)

Connector at product side is broken during unplug and plugging RTB (Removable terminal block) Insertion.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

Propose to make a holding jig and the jig must consisted of ejector function for easy operator during unplug process.

D. BENCHMARK

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E. PROJECT ACHIEVEMENT & VALUE CREATION

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F. AWARD, REWARD & RECOGNITION :

i. 2nd runner up at Divisional QCC (DNMY)
ii. Finalist of Grand final QCC (DNMY).
A. PROJECT BACKGROUND

Current Staff Exit Process is tedious and time consuming. Corporate director has instructed us to review the current process to make it simpler and efficient. Using the QC tools, we have identified the root causes and come up with effective and creative solution. As a result we have managed to achieved a reduction of lead time process from 7 days to 1 day in line with top management’s direction.

B. MOST POSSIBLE CAUSE(s)

i. Process Too Long
ii. Complicated Form
iii. Communication Problem

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Enhance the Process (Make It Simple, Effective and More Efficient)
ii. Create New Form (Make It Simple)
iii. Notify Via Gyouren (Memo)

D. BENCHMARK

Reduced Days Taken To Complete The Staff Exit Process From 7 Days To 1 Day

E. PROJECT ACHIEVEMENT & VALUE CREATION

i. Tangible Benefit (Time Saving, Increase Productivity & System More Efficient)
ii. Intangible Benefit (Co-Operation Between Team Members, More Confidence To Do Future Improvements, and Increase Self-Motivation)
iii. Value Creation (Average Circle Capability Increased By 55%)

F. AWARD, REWARD & RECOGNITION :

i. 1st Runner up in DENSO Malaysia Divisional QCC Convention
ii. 5th Place in DENSO Malaysia QCC Grand Convention Acknowledgement from DENSO Malaysia Top Management (Corporate Director & HR General Manager)
CIRCLE NAME : ACROD 8

ORGANISATION : HICOM DIECASTINGS SDN BHD

PROJECT TITLE : PLATEN SINKING AT DIE CASTING MACHINE 8 (DCM 8)

PROJECT SAVINGS : 100% (RM 260,457.00 PER YEAR)

A. PROJECT BACKGROUND

Die casting machine is the main part for casting process. Platen is attached to die casting machine as a main component to fulfill the overall casting process. Flashing rejection (excess material attached to a molded or casting product caused by leakage material between two surfaces of mould) happen due to machine platen sinking. Incomplete fill part, blow hole and pin hole rejection are the highest rejects due to flashing issue among all machining reject type based on cost of rejects. Therefore, improvement must be done to eliminate 100% flashing downtime due to platen sinking.

B. MOST POSSIBLE CAUSE(s)

Gap between mould and machine platen due to machine platen sinking/dented.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

To do surface skimming for platen and add additional sub plate in order to protect platen surface from dented and eliminate gap between platen and mould. Based on pilot project, platen surface skimming is the best solution in order to prolong machine life and increase machine performance.

D. BENCHMARK

Target to eliminate 100% flashing downtime due to platen sinking issue at die casting machine.

E. PROJECT ACHIEVEMENT & VALUE CREATION

i. Result in 100% eliminates flashing downtime due to platen sinking.
ii. Replication to other tonnage die casting machine after pilot project done.
iii. Improves criteria of all team members such as experience, knowledge, creativity, response thinking and thinking by 83%

F. AWARD, REWARD & RECOGNITION :

i. Awarded as champion during internal Quality Improvement Team (QIT) 2015/2016 of Hicom Diecastings.
ii. Nominated as the top best 5 companies under DRB –HICOM during 2016 DRB-HICOM ICC/QIT Convention.
NAMA KUMPULAN : ME 16
ORGANISASI : HICOM DIECASTINGS SDN BHD
TAJUK PROJEK : MENGURANGKAN KEMALANGAN MESIN PADA PRODUK JO3
PENJIMATAN PROJEK : 100% (RM 64,542.00 SETAHUN)

A. LATAR BELAKANG PROJEK
   Produk JO3 paling tinggi berlaku kemalangan untuk “Tool Management System”.

B. PUNCA UTAMA MASALAH
   Kekerapan berlakunya untuk proses pemesinan produk JO3 disebabkan kesalahan loading oleh operator.

C. CADANGAN PENYELESAIAN INOVATIF & KREATIF
   i. Memperkenalkan “Working Procedure”.
   ii. Memperkenalkan “Quality Alert”.
   iii. Melakukan modifikasi ke atas “V-Block”.
   iv. Menggunakan “Pressure Switch”.

D. TANDA ARAS
   Kos per komponen meningkat daripada jangkaan RM0.78 per komponen kepada RM1.19 per komponen.

E. PENCAPAIAN PROJEK & PENCIPTAAN NILAI
   Berjaya mengelakkan berlakunya kemalangan pada produk JO3 bermula pada bulan julai dan seterusnya.

F. ANUGERAH, PENGHARGAAN & PENGIKTIRAFAN
   Tempat pertama untuk “Internal HDSB ICC Convention 2015”.
CIRCLE NAME : COMMANDER
ORGANISATION : HICOM TECK SEE MANUFACTURING (M) SDN. BHD.
PROJECT TITLE : TO REDUCE THE ELECTRICITY PRIME COST AT MAIN BUILDING & CHROMING PLANT, SHAH ALAM
PROJECT SAVINGS : RM 535,638.00

A. PROJECT BACKGROUND
To reduce utilities cost by changing power tariff from E1 to E1S and E2 to E2S. Other than that, to waive load connect charge from year 2015/2016 to end year of 2020.

B. MOST POSSIBLE CAUSE(s)
High utilities bills at main building & chroming plant.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)
To change current electricity tariff from E1 to E1S and E2 to E2S tariff.

D. BENCHMARK
Reduction in utility bill (changes tariff) and re-imbursement from Tenaga Nasional Berhad (TNB)

E. PROJECT ACHIEVEMENT & VALUE CREATION
Total cost savings per annum is RM 535,638.00, which comes from lower rate charges (RM 489,160.00) and the balance of RM 46,478.00 is cash avoidance.

F. AWARD, REWARD & RECOGNITION :
This group won 2nd runner up place for small group activities (SGA) ICC/QIT final convention for year 2015/2016.
NAMA KUMPULAN : HOT TEMPERATURE (INNOVATIVE CREATIVE CIRCLE)
ORGANISASI : HICOM TECK SEE MANUFACTURING (M) SDN. BHD.
TAJUK PROJEK : MENGURANGKAN KEROSAKAN 'NICKEL SHOW' PADA D49A MOULDING RADIATOR GRILLE (PERODUA ALZA)
PENJIMATAN PROJEK : RM 65,875.68

A. LATAR BELAKANG PROJEK
Kadar 'rejection' dalaman pada D49A moulding radiator grille adalah sebanyak 18% disebabkan kecacatan 'nickel show'. Punca dikenalpasti adalah dari penggunaan shield (PVC) semasa proses 'electroplating' dijalankan.

B. PUNCA UTAMA MASALAH
Penggunaan 'shield' semasa proses 'electroplating' pada hanger D49A moulding radiator grille.

C. CADANGAN PENYELESAIAN INOVATIF & KREATIF
Menghapuskan penggunaan 'shield' semasa proses 'electroplating' pada hanger D49A moulding radiator grille.

D. TANDA ARAS
Mengurangkan kadar 'rejection' dalaman bagi kategori grille dari 18% kepada 10% sahaja.

E. PENCAPAIAN PROJEK & PENCIPTAAN NILAI
Jumlah penjimatan kos yang menyeluruh untuk setahun adalah sebanyak rm 65,875.68.

F. ANUGERAH, PENGHARGAAN & PENGIKTIRAFAN
CIRCLE NAME : BLACK HAWK
ORGANISATION : INSTRUMENTS TECHNOLOGY (JOHOR) SDN. BHD
PROJECT TITLE : TO REDUCE PART SHORT REJECT PROBLEM FOR MATERIAL CODE 0033 3080 AT MECHANICAL AUTO LATHE 5 PRODUCTION BY JANUARY 2016
PROJECT SAVINGS : RM 30,483.36 / YEAR

A. PROJECT BACKGROUND

Project was selected based on current problem situation at Mechanical Auto Lathe 5 production. Data was collected to determine the highest reject characteristic for all material code produce. Based on 3 months data (April ~ June 2015), part short problem was the highest reject characteristic at Auto Lathe 5 production. Further study show material with code no 0033 3080 contributed 100% of the part short problem by M/No. 5-084 and 5-114.

Part short happened when the total length of the material was shorter than the given specification. Brainstorming conducted to identify and verify the possible root cause(s). After root cause identified, team has proposed a few solution to improve the problem situation.

B. MOST POSSIBLE CAUSE(s)

i. No proper training for CAM setting activity
ii. Open/close chuck timing reading out
iii. Guide bush loose
iv. Head stock sliding not smooth
v. Auto Bar weight was not suitable
vi. Oily and dirty pipe drain for Auto Bar

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Arrange On Job Training schedule for Auto Lathe setting & CAM setting
ii. Check open/close chuck and conduct adjustment when timing reading out
iii. Change Guide Bush design
iv. Repair Head Stock sliding bar
v. Conduct testing for suitable Auto Bar weight
vi. Schedule cleaning of pipe drain for Auto Bar
vii. Oily and dirty pipe drain for Auto Bar

D. BENCHMARK

Comparison was based on 7 months part short reject data for material code 0033 3080 (average 20 cases/month). After solutions implemented, average 0.5 cases/month with total elimination from November 2015 onwards. Overall reduction was 100%.

E. PROJECT ACHIEVEMENT & VALUE CREATION

Cost Saving RM 30,483.36 (result until Aug 2016)

F. AWARD, REWARD & RECOGNITION :

i. Received SILVER (2nd place) medal during Intech Internal QCC Presentation in March 2016.
NAMA KUMPULAN : M2M
ORGANISASI : MALAYSIAN NPK FERTILIZER SDN BHD
TAJUK PROJEK : MENGURANGKAN PENGGUNAAN DIESEL DI MINI PLANT
PENJIMATAN PROJEK : RM 28,319.55 (6 BULAN)

A. LATAR BELAKANG PROJEK


B. PUNCA UTAMA MASALAH

Penggunaan diesel tidak mengikut spec yang telah ditetapkan oleh pihak Licensor

C. CADANGAN PENYELESAIAN INOVATIF & KREATIF

Mengubahsuai saiz bukaan dan kedudukan nozzle

D. TANDA ARAS

Aplikasi penggunaan dapur gas

E. PENCAPAIAN PROJEK & PENCIPTAAN NILAI

Pencapaian Projek
i. Mengurangkan penggunaan diesel di mini plant
ii. Menambah keuntungan kepada syarikat

Penciptaan Nilai:
 i. Penambahbaikan operasi kilang
 ii. Meningkat ilmu pengetahuan pekerja
 iii. Mewujudkan daya innovatif dan kreatif pada pekerja
 iv. Mewujudkan semangat bekerja berkumpulan

F. ANUGERAH, PENGHARGAAN & PENGIKTIRAFAN

ii. Anugerah Emas Konvensyen Team Excellence Wilayah Utara 2016
A. LATAR BELAKANG PROJEK
Kehilangan bahan kimia pada tangki pre-threatment kedalam pit telah mengakibatkan peningkatan kos rawatan air dan juga kos bancuh semula untuk mengekalkan tahap kandungan kimia dalam tangki prethreatment.

B. PUNCA UTAMA MASALAH
Titisan yang berlebihan pada gland packing torishima pump melebihi tahap biasa. (Tahap biasa titisan adalah 10 hingga 15 titis/minit)

C. CADANGAN PENYELESAIAN INOVATIF & KREATIF
Membuat takungan untuk mengumpul semula air rawatan dan merekacipta sistem vacum tanpa seal dan menyedut kembali air rawatan menggunakan litar kawalan auto sistem.

D. TANDA ARAS
Baby Flu Pump & Hukum Bernoulli

E. PENCAPAIAN PROJEK & PENCIPLETAAN NILAI
Boleh juga digunakan pada sistem tukar minyak enjin forklift sebagai Vacuum Oil di Modenas dan boleh menggantikan sistem Diaphragm Pump

F. ANUGERAH, PENGHARGAAN & PENGIKTIRAFAN
i. Anugerah Johan Peringkat Kaizen Modenas
ii. Anugerah Emas Team Excellence Peringkat Wilayah Utara di Langkawi
NAMA KUMPULAN : SPYDER
ORGANISASI : MOTOSIKAL DAN ENJIN NASIONAL SDN BHD
TAJUK PROJEK : MENINGKATKAN PRODUKTIVITI DI ENGINE ASSEMBLY LINE 2 SEBANYAK 45%
PENJIMATAN PROJEK : RM1,000,785.00

A. LATAR BELAKANG PROJEK
i. Kumpulan SPYDER adalah daripada bahagian pemasangan engine.
ii. Memilih projek untuk meningkatkan produktiviti di enjin assembly line 2 sebanyak 45%.
iii. Projek ini dipilih disebabkan oleh peningkatan jumlah pengeluaran yang meningkat menyebabkan beberapa masalah timbul iaitu kegagalan memenuhi jadual pengeluaran menyebabkan penghataran yang terganggu, peningkatan kos disebabkan oleh jumlah kerja lebih masa yang tinggi dan penurunan tahap kualiti disebabkan tumpuan yang keterlaluan terhadap kuantiti.
iv. Dengan menggunakan kaedah modenas production sistem serta lean konsep, ahli kumpulan cuba meningkatkan produktivi di line enjin assembly 2.

B. PUNCA UTAMA MASALAH
Pembaziran dalam pergerakkan (waste motion) dikenalpasti sebagai punca masalah disebabkan oleh susunatur/layout line yang tidak mengikut pengiraan yang tepat serta sistem pembungkusan dan sistem penyimpanan barang yang kurang effisien menyebabkan tempoh masa untuk menghasilkan seunit engine menjadi tinggi menyebabkan produktivti rendah.

C. CADANGAN PENYELESAIAN INOVATIF & KREATIF
Mengurangkan pembaziran pergerakkan dengan menyusun atur semula line berdasarkan pengiraan yang tepat serta meningkatkan keberkesanan sistem pembungkusan barang dan sistem simpanan barang bagi mengurangkan tempoh masa sesuatu proses.

D. TANDA ARAS
Syarikat kumpulan DRB yang menerima Anugerah Platinum untuk audit HICOM Management Sistem (5S,Autonomous,Lean,Improvement Project, Quality Improvement Project & Cost Reduction & etc)

E. PENCAPAIAN PROJEK & PENCiptaan NILAI
i. Mengurang cycle time daripada 180 saat kepada 130 saat atau pengurangan sebanyak 28%
ii. Pengingkatan produktiviti sebanyak 48%
iii. Penjimatan setahun = RM1,000,785.00

F. ANUGERAH, PENGHARGAAN & PENGIKTIRAFAN
i. Disahkan kejayaan project oleh Jabatan Kewangan
ii. Mendapat pujian daripada pihak pelanggan iaitu Kawasaki Motor Philippines co. dan akan dijadikan rujukan oleh pihak mereka untuk perubahan yang dilakukan.
A. PROJECT BACKGROUND

Dust are mainly generated by effect of friction between product (pellets) and equipment at the finishing area of the LPDE plant. When dust are not sufficiently removed from the final product it will cause product downgrade (price of non-conformance) and customer complaints.

B. MOST POSSIBLE CAUSE(s)

i. Small dust bin size for dust collection
ii. Poor dust monitoring

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Modification of deduster/blowback systems – using bigger bins for dust collection with additional pneumatic cover/lid control and rail/guide for easy operational routine job
ii. Establishment of an online worksheet to record daily dust collection

D. BENCHMARK

Target setting is set based on management expectation which is 80% reduction of product downgrade due to high dust content. Target duration is set at 6 months (starting November 2013, with realization by April 2016).

E. PROJECT ACHIEVEMENT & VALUE CREATION

Reduction of product downgrade due to high dust content by 100% after implementation of the project (October 2013) which is above target of 80% that translated to a value creation of RM 895,747 per year.

F. AWARD, REWARD & RECOGNITION:

i. 2nd place in PCLDPE Continuous Improvement Convention (CIC) 2015
ii. Gold Award and Top 5 in PETRONAS Downstream Continuous Improvement Convention (DCIC) 2015
iii. Gold Award in Mini Convention Team Excellence 2016
iv. Gold Award in Regional Convention Team Excellence 2016
A. PROJECT BACKGROUND

Torn bag occurs due to movement of the product and contacting with other object during forklift handling. It happens when stacking product in the warehouse, picking and stuffing activity. The impact of the problem as loss of product value (downgraded), unnecessary rework (low productivity) and HSE issue due to spillage.

B. MOST POSSIBLE CAUSE(s)

i. Driver behavior that can lead to rough handling
ii. Forklift fork protruding too far through the pallet
iii. Sharp edge at beginning of the fork

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Problem: Driver behavior that can lead to rough handling. The solution is safety campaign to cultivate safety culture.
ii. Problem: Forklift fork protruding too far through the pallet and sharp edge at beginning of the fork. The solution is install pallet stopper to prevent fork protrudes too far & to create a gap between sharp edge and product

D. BENCHMARK

i. Benchmarking is based on survey report by Warehouse Education & Research Council (WERC) in 2015. The tolerance percentage of material handling damage is <0.01% for Best In Class.
ii. Target is <0.003% based on contract with TLSP which is far below the benchmark of WERC survey report to achieve Best In Class.

E. PROJECT ACHIEVEMENT & VALUE CREATION

Tangible

i. Project achieved actual 86% reduction (13 bags/month) which exceed the target setting of 73% (25 bags/month).
ii. Maximize quantity of prime product for sales

Intangible

i. Improve cleanliness of warehouse condition
ii. Increase company reputation to be a reference within the industry standard

F. AWARD, REWARD & RECOGNITION:

i. Gold Award and First Place at PCLDPE Continuous Improvement Convention 2015
ii. Gold Award at Petronas Downstream Continuous Improvement Convention 2015
iii. Gold Award at Mini Convention Team Excellence 2016
iv. Gold Award at Regional Convention Team Excellence 2016
A. PROJECT BACKGROUND

i. One of the company’s main KPI set was to achieve the yearly production volume of 274kMT. The Reactor area is one of the major area which contributes to the volume produced. Identification of problems occurred in reactor area through brainstorming have led the team to the problem of Slow Rate Recovery after Start-up.

ii. The “Slow Rate” is defined as unplanned event due to certain upset caused by fouling deposition. Formation of fouling inhibits the amount of initiator could be injected which is one of the reactant in the reaction. Less initiator injection contributes to lower production rate could be achieved.

iii. Historically, total days required to achieve target production rate is 32.6 days. Estimated price of non-conformance (PONC) due to the problem is RM2.41 mill per year.

B. MOST POSSIBLE CAUSE(s)

i. Unavailability of historical de-fouling strategy

ii. Unavailability of CTA dosing ‘Standard’ / Reference Guide

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Problem: Unavailability of historical de-fouling strategy. The solution is to develop general de-fouling procedure.


D. BENCHMARK

Information on slow rate recovery after start-up has been inquired to other LDPE facility of the same reactor type. However no definitive figure was provided. Thus, benchmarking for improvement used is the 90:50 rules in six sigma principal for improvement based on industrial environment which is 50% reduction in loss.

E. PROJECT ACHIEVEMENT & VALUE CREATION

Project achieved actual 71% reduction (9 days/start-up) which exceed the target setting of 50% reduction (16 days/start-up). The actual realized value achieved was RM 2.43 mil per year.

F. AWARD, REWARD & RECOGNITION :

S2R Team has won the following awards:

i. 2nd Runner Up in PCLDPE Internal Convention in 2015

ii. Gold Award in Mini Konvensyen Team Excellence Wilayah Tengah 2016

iii. Most Promising and Innovative Creative Circle Award in Mini Konvensyen Team Excellence Wilayah Tengah 2016

iv. Gold Award Regional Konvensyen Team Excellence Wilayah Tengah 2016
CIRCLE NAME : THE Q-TEAM
ORGANISATION : PETRONAS CHEMICALS LDPE SDN BHD
PROJECT TITLE : LATE ISSUANCE OF ePTW
PROJECT SAVINGS : RM 516,728.00

A. PROJECT BACKGROUND
PCLDPE is using electronic PTW (ePTW) to control and monitor all non-routine works in the premises. It was observed that ePTW were issued completely for these activities at least by 1100hrs during normal day. The late issuance lead to low productivity as work can only be done at least after 1100hrs.

B. MOST POSSIBLE CAUSE(s)
i. Long toolbox meeting with non-standard agenda.
ii. Single Approving Authority (AA) to approve all PTW.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)
Using DMAIC and Ishikawa diagram to identify and verify possible cause. Final solution are:
i. Improving toolbox meeting time & standardization via creation Term of Reference for toolbox meeting.
ii. Additional Approving Authority (AA) to expedite the PTW issuance process.

D. BENCHMARK
Issuance of PTW by 0930hrs as per PCLDPE Management target setting

E. PROJECT ACHIEVEMENT & VALUE CREATION
i. Nurturing high productivity culture to all staff and contractors.
ii. Increment of maintenance productive hour.
iii. Value creation through this project is reported at RM516,728 / year thru early finish project schedule.

F. AWARD, REWARD & RECOGNITION :
i. Focused Recognition during PCLDPE Continuous Improvement Convention 2015
ii. Gold Award at Team Excellence Regional Convention 2016
A. **PROJECT BACKGROUND**

This project by PDH is about the usage of propylene bullets in solving the issue of frequent BPC plants tripping, during bullet switch from 2012 to 2014. Both human error and low suction pressure contributed to the frequent tripping. A total of 10 BPC tripping was observed for the 2-year period, which PDH plant reputation and the confidence level of the panel operators were affected.

In April 2014, PDH Asset set up a team to look into the frequent BPC tripping issue. The team recommended for the bullet switching sequence to be modified so as to minimize pressure drop and human intervention during the switching activity. Since the implementation of this method, zero BPC tripping was observed.

B. **MOST POSSIBLE CAUSE(s)**

This project is about the usage of propylene bullets in solving the issue of frequent BPC plants tripping, during bullet switch from 2012 to 2014. Both human error and low suction pressure contributed to the frequent tripping.

C. **PROPOSED INNOVATION & CREATIVE SOLUTION(s)**

Changing all the bullet instrumentation sequence without any cost impact.

D. **BENCHMARK**

To continuously supply propylene to main customer, BASF plant.

E. **PROJECT ACHIEVEMENT & VALUE CREATION**

i. Increased Customer (I.E. BASF-Petronas Chemicals (BPC) Confidence Level Customer

ii. Increased plant reliability by eliminating the risk of propylene supply cut/drop to BPC during bullet switching activity.

iii. Allows continuous improvement of work process specifically in the bullet switching procedure

F. **AWARD, REWARD & RECOGNITION :**

i. Gold award during Petronas DCIC

ii. Gold award during ICC East Cost Regional august 2016

iii. Received focused recognition by Petronas chemical MTBE by CEO

iv. Shared succes by team during company’s event
A. PROJECT BACKGROUND
   i. For 2015, GT B, C & E experience tripping on Flame Loss due to 3 out of 4 flame scanners sensed "Loss of Flame"
   ii. Early investigation revealed that the flame scanners experience loss of signal due to increased Turbine Compartment Temperature (ATTC) from 60degC to 129degC within 3-hours resultant from insufficient heat removal from Turbine Compartment Cooling Blower (88BT).

B. MOST POSSIBLE CAUSE(s)
   i. No Insulation within Bearing compartment
   ii. No Insulation within Belt Housing
   iii. Grease accumulate inside bearing housing
   iv. Non-Standard belt tensioning method

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)
   i. Reinstate Insulation with improved specification and increased thickness
   ii. Introduce grease outlet point at bearing housing
   iii. Standardize belt tensioning method using specialized tool

D. BENCHMARK
   i. Gas Turbine unit from other Division (Utilities Gebeng of PGB)
   ii. Performance Benchmarking from OEM

E. PROJECT ACHIEVEMENT & VALUE CREATION
   i. Zero Interruption
   ii. Increased Product Delivery Reliability
   iii. No HSE Incident during site execution

F. AWARD, REWARD & RECOGNITION:
   i. Recognition Award by Senior General Manager
CIRCLE NAME : GPU ROVERS
ORGANISATION : PETRONAS GAS BHD
PROJECT TITLE : INNOVATION FOR COMPRESSOR CASING LEAK REPAIR METHODOLOGY
PROJECT SAVINGS : RM 800,000.00 COST SAVING

A. PROJECT BACKGROUND

A horizontally split centrifugal compressor which has an expected Mean Time Between Overhaul (MTBO) of 12 years has experienced premature casing leak in April 2015. After HSE aspect and impact has been managed properly, the team has been assigned to understand the failure mechanism and subsequently to implement a decent rectification plan. Eight months was the available time that the team had, in order to do a comprehensive study and plan for the repair works. The rectification was successfully completed during a turnaround window in January 2016.

B. MOST POSSIBLE CAUSE(s)

Uncertainty of root cause of the premature leak problem which need for innovative assessment method and a rectification plan that is advance from the typical practice.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

Assessment method:

i. Introduction of the use of surface profiler film to determine clamping force between top and bottom casing.
ii. Use of dial gauge at the mating surface to measure casing flatness.

Assembly Innovation:

i. Use of primer to enhance bonding between sealant and casing material
ii. Innovation of special tool to increase controlled bolt tightening method
iii. Re arrangement of torque sequence based on the pressure mapping

D. BENCHMARK

i. No leak after pressure test
ii. No leak after run at rated speed, pressure and temperature

E. PROJECT ACHIEVEMENT & VALUE CREATION

i. Enhance networking and professional relationship with international bodies and local contractors
ii. Improve capability, knowledge and skills within mechanical fraternity

F. AWARD, REWARD & RECOGNITION :

i. Gold Award at MPC East Coast Mini Regional Team Excellence Convention
ii. Gold Award at MPC East Coast Regional Team Excellence Convention
A. PROJECT BACKGROUND

The Boiler Feed Water (BFW) pump P6-1102A at Gas Processing Santong experience high downtime of 5 month Mean Time to Repair (MTTR). There were a lot of unforeseen errors and mistakes that happen during the repair works. This is evident from lack of preparation during the repair planning period where unexperienced staffs are in charged for.

In addition, miscommunication between Operations and Maintenance team before and during the repair works had caused long delays in decision making. Each day of prolonged repair time will cost around RM8600 production loss which is equivalent to RM260K per month.

B. MOST POSSIBLE CAUSE(s)

It is found that improper knowledge transfer, lack of site execution preparation and no checklist nor procedure for repair works are the main root causes of this problem.

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

The team had come up with the innovation ‘Maintenance Job Pack’ which includes Job Hazard Analysis, maintenance checklist, consumables, drawings/P&ID and schedules to solve this problem. These are to ensure staff efficiency, easy equipment update to Operations and institutionalize technician/ engineer capability.

D. BENCHMARK

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E. PROJECT ACHIEVEMENT & VALUE CREATION

Reduced BFW repair time from 5 months to 2 months. Improvement of communication and cooperation between Maintenance & Operations team, staff efficiency, easy equipment update to Operations and institutionalize technician/ engineer capability.

F. AWARD, REWARD & RECOGNITION:

i. Gold Award in Mini ICC Wilayah Pantai Timur 2016
ii. Gold Award in Regional ICC Wilayah Pantai Timur 2016
CIRCLE NAME: SEMUT MERAH
ORGANISATION: PETRONAS GAS BERHAD
PROJECT TITLE: HIGH MAN HOURS FOR COOLING TOWER LUBE OIL REPLACEMENT PM ACTIVITY
PROJECT SAVINGS: RM141,400.48 PER YEAR

A. PROJECT BACKGROUND
i. Gas processing Plant Kerteh (GPK) utilize cooling tower fan for plant product cooling and for process demand.
ii. Problem was identified within the work process flow between the site preparations until lube oil filling activity during preventive maintenance (PM) activity. High man hour and high cost was recorded during the PM activity.
iii. The objectives are to reduce man hour from the activity and eliminate cost from the internal scaffolding erection

B. MOST POSSIBLE CAUSE(s)
i. High man hour due single top up line and flushing line is used during the top up activity.
ii. High cost is due to internal scaffolding erection inside the cooling tower fan for lube oil top up

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)
i. To install new lube oil top up line outside the cooling tower casing and managed to increase the flow rate thus reduce the man hour.
ii. Eliminate the work of internal scaffolding erection by utilize the new top up line outside the fan casing

D. BENCHMARK
i. 1 Man hour was selected based on the Maintenance Plan (M-Plan) for 1 unit cooling tower inspection PM check list versus 4 man hours for the 1 unit as per current practice.
ii. Zero cost from the internal scaffolding erection was decided due elimination of the scaffolding erection work.

E. PROJECT ACHIEVEMENT & VALUE CREATION
i. 912 Man hours save per year
ii. RM 141,400.48 per year save due to internal scaffolding work eliminated.

F. AWARD, REWARD & RECOGNITION:
i. Presented in GPU Sharing Forum on August 2015 – Silver Award
ii. Participated in PETRONAS Downstream Continuous Improvement Convention (DCIC) 2015 at AWANA Resort World.- Silver Award
iii. Participated in Konvensyen MINI ICC 2016 at Kuantan – Gold Award
iv. Participated in Team Excellence/ICC Convention 2016 East Coast Region, Kota Bahru – Gold Award
A. PROJECT BACKGROUND

Nature of operation for diaphragm pump is producing vigorous movement to the flexible hose. In time, it is almost impossible for the hose not to fail externally. Based on data collected via Turnover Book and SAP system, hose leak has been consistently found to be one of the highest recurrence issue in Oil Movement and Shipping Section. This issue can be classified as high rank issue to be dealt with as it can be give impact to environment by soil and water contamination, consumed cost, and loss of productivity to attend same issue. So far no proper tool being made, thus Hose Blade 2.0 has been invented to solve this issue.

B. MOST POSSIBLE CAUSE(s)

i. Rough surface of the floor
ii. Vigorous movement from nature of diaphragm pump operation

C. PROPOSED INNOVATION & CREATIVE SOLUTION(s)

i. Use of material that can withstand rubbing to eliminate shear force effect to the hose
ii. Use of material that can absorb/neutralize effect of vigorous movement to the hose

D. BENCHMARK

Hose Vendor Datasheet: All length shall have standard lead time of 12 weeks

E. PROJECT ACHIEVEMENT & VALUE CREATION

i. Realize saving of RM29000 per month and RM348000 annually.
ii. Improve operational reliability by reduction of 75% of leak hose issue in a month
iii. Maintain continuous achievement of groundwater and final discharge water as DOE standard B.
iv. Maintain good company reputation from government body and locals.
v. More productive time gained by contractor leads to more productive works.

F. AWARD, REWARD & RECOGNITION:

i. GOLD AWARD Konvensyen Team Excellence Wilayah Pantai Timur 2016
ii. GOLD AWARD Internal ICC PPTSB 2016
iii. Focus Recognition from Head of Section Oil Movement and Shipping
iv. Focus Recognition from PPTSB Environment Executive