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2018 PERFORMANCE REVIEW AND MANAGEMENT DIRECTIONS FOR 2019

REVIEW OF 2018

2018 started well with good margins, particularly for ethylene, propylene and butadiene for the first three quarters of 2018. However, volatility in naphtha prices, resulted from crude oil price fluctuation, coupled with the weakening of product prices since September 2018, have caused our margins to sharply deteriorate, but 2018 is still a reasonably good year.

We have successfully completed the Shut Down Maintenance ("SDM") of PCS-I plants and restarted on 20th August 2018. Though some plant issues were encountered after the start up, we managed to recover within a short period of time. In addition to the routine maintenance, the three main compressors of PCS-I Ethylene Plant were also successfully revamped during the SDM to improve the overall energy efficiency.

Safety wise, we continued to maintain our good HSE performance and has successfully crossed the significant milestone of 40 million hours worked mark without Lost Time Incident ("LTI") for PCS employees and contractors on 1st June 2018. We were also conferred the Workplace Safety and Health Performance (Gold) Award 2018 by WSH Council and awarded Responsible Care® Leadership Award by Singapore Chemical Industry Council ("SCIC").

DIRECTIONS FOR 2019

Organisation for Economic Co-operation and Development ("OECD") has lowered their global GDP growth projection for 2019, as there are signs that expansions may have peaked, especially among emerging market economies. The trade war between the United States and China are also having adverse effects on investors' confidence and may slowdown the global economy.

Although the ethylene outlook in Asia for 2019 remains relatively positive, ethylene price is expected to soften from 2018 level,

as the regional supply situation will ease with new crackers starting up and expansions in Asia, one of which is the Refinery and Petrochemical Integrated Development project ("RAPID") in Malaysia. These new plants will also put pressure on Benzene and Butadiene. Propylene outlook is however expected to be better than ethylene as propylene on-purpose plants continue to face technical issues and economics pressures resulting in lower operating rates.

Overall, naphtha supply is expected to reduce slightly in 2019 as compared to 2018 and with the uncertainty in the geopolitical and economic climate, crude-linked naphtha price is expected to remain volatile. Under such circumstances, we need to ensure that we remain nimble and continue to respond swiftly to the changing market conditions by making timely and appropriate commercial and plants adjustments and working closely as a team.

We must also continue to operate both PCS-I and PCS-II safely and smoothly so that we are able to capture all the available product margins in this challenging environment.



(i) Good Health, Safety and Environmental performance

Strive to maintain good HSE performance and aim to reach next safety

(ii) Achieving budgeted profit by

- Ensuring safe, smooth and stable operation;
- Optimising feedstock purchases;
- Managing our sales portfolio and responding nimbly to changing market conditions and customers' operations; and
- ▶ Maintaining cash cost within 1st Quartile of Solomon's unit operating

(iii) Successful Implementation of Projects and Studies

- Implement CAPEX Projects safely, successfully, on schedule and within
- Promote digital transformation in PCS

Last but not least, we must continue to conduct our business and operations ethically, professionally and with integrity.



Farewell Message by Mr Lim Wee Chiong

There is a Spanish saying that 'at the end of the game, both the queen and the pawn go back to the same box'. Rather than taking a pessimistic perspective of such wisdom, I like to look at it from a slightly different point of view - there is a relationship between the two chess players while the game is at play and this must count for something.

ive years is not a short time. My role in PCS is the longest role that I have held in my whole career in Shell. While there were numerous tense moments, there were many more accomplishments, happy moments and I am glad that many friendship were forged during this period. In short, I enjoyed every bit of it.



PCS is a unique company in that it is a very large family. Many colleagues have spent more than 20-30 years of their lives in this family. The friendship here transcends the usual superficial acquaintance-type working relationship that we normally see in other large corporations. The ownership and pride that everyone shows in their work is a strong differentiator that I believe is critical in delivering both the outstanding financial and HSE achievements. The willingness to step in for each other during challenging times is an exceptional one - a pillar in our stellar 40 million hours work without LTI.

My parting thoughts are summarized in the following few lines:

'Crossed Paths **Shared Memories Challenged Moments** A Cup of Tea'

My appreciation to everyone in PCS for a fruitful time here. My special thanks also for the support of the feedstock team led by Keng Huat, and to Mr Foo for his many valuable insights, to Lucas for taking good care of me in every HSE walk, and to Yonemura-san for his support during my stay in PCS.

Do visit me in Beijing when you are in the neighborhood.



Welcome Message by Mr NY Chiew

I am both excited and delighted to be a member of the PCS family. Having been involved in working with PCS, first indirectly when Shell built its first Chemical Plant (Seraya Chemicals, SMPO1) in Pulau Seraya and then leading the team in Shell Jurong Island, I am impressed with the efficiency and performance culture of PCS.

aving spent the bulk of my career in Manufacturing and then in Commercial, it felt great to be back in a familiar environment that I am most passionate in -"Value Creation and Delivery".

Since joining PCS on 1st November, I have witnessed the strong performance culture in everyone, from Yonemura-san as well as the plant and office colleagues that I had engaged so far. There is no better example of this than the outstanding safety performance in excess of 42 million manhours without LTI at the end 2018!

I hope to continue the strong bonds that my predecessor, Wee Chiong, had built during the 5 years he had been in PCS. His strong focus on commercial excellence, especially in the area of feedstock procurement has enabled the team to deliver the competitive feedstock supply that contribute to our bottom line. I will continue to leverage and strengthen the existing relationships with

both internal and external stakeholders, and build new partnerships to further enhance our capability to deliver Value to our customers.

As a new member of the PCS family, I had the privilege of the various departments sharing the information on their functions, the issues and challenges as well as how I may be able to support them. I enjoyed the interactions (my apologies that it took longer than planned) and would like to thank everyone involved. I look forward to working with everyone in delivering our business promises.

On a lighter note, I do miss, however, the earlier days when the staff can mingle with each other during the boat rides from the mainland to the island. I hope to be able to connect and get to know everyone in PCS in the near future.

Farewell Message

by Mr Foo Siang Tien

Pirstly, I would like to thank all of you for the support and cooperation you have given me over the 34.5 years I have been with PCS. This has helped make my journey in PCS both meaningful and rewarding in terms of my personal development. If I add the 4.5 years I worked on the Singapore Petrochemical Project as part of my responsibilities in Temasek Holdings, I would have spent 39 years being involved in PCS.

Over this long period, I have experienced many ups and downs.

The deep satisfaction I have is to see PCS rise from an empty reclaimed land to the many plants and facilities we have today and more importantly, to see them managed and operated successfully to deliver excellent rewards for all its stakeholders be it customers, employees, shareholders and Singapore as a whole. Without PCS, I believe there will not be the Jurong Island as



it stands today. I am indeed proud to have

played a small part in this transformation.

However, the most satisfying for me is being part of the team that help built up this unique PCS culture of working closely together harnessing the very deep knowledge each one of us has in our respective areas of work to move swiftly and nimbly to bring the best value to PCS, both for the short and the long term. A culture that is also open to and embraces changes when needed. This culture is an extremely valuable strength for a small company like PCS. This ability to work with minimum "silos", particularly in a business environment that is constantly changing and volatile. Please work to keep this unique culture.

As you can imagine with 39 years of association with PCS, there are many, many topics and events I can cover in this article which Scope has kindly offered me but I will not bore you with them. Suffice to say that I truly enjoyed my journey in PCS working with

a great group of folks. It is always people that matters and counts.

As I move on to the next phase of my life and looking back on the many years I spent in PCS, I will not want to have it any other

I will miss PCS and working with all of you. Please give Lilian the same support as you have given me and I am very sure PCS will continue to be grow and do well whilst riding through the cycles of our industry.

My sincere and warmest wishes for a healthy, happy and successful future for all

Thank you.

Welcome Message by Ms Lilian Lee

ike many "older folks" in PCS, I joined PCS in 1984 when the 1st plant had just started, in the Accounts & Finance function as a treasury accountant and subsequently did taxation and different aspects of accounting. In 1992, I was, together with another planning colleague, transferred to the PCS-II Project business team to work under Mr Foo. This was a part of my working life that I will never forget as I was literally "thrown into the deep end of the pool" to learn and do jobs that are, often, so different from my accounting training. But it was also one of my most fulfilling time in my career life as I get to work with so many people in the Company to finally see PCS-II come into fruition in 1997. With the end of the project, I was transferred to do a short stint in naphtha procurement before I was finally transferred back to lead the Accounts & Finance function in 1998.

When asked by my friends why I have stayed in PCS for so many years, my answer has always been the company's team culture,

the people (whom many have become not only colleagues but my friends) and bosses who are willing to give us the space to listen and challenge ideas.

Now, as I take on the new role of General Manager (Commercial), I am excited but also filled with a little trepidation. Excited because the work is very challenging and I get a chance to work with even more of you in different areas. Trepidation

because Mr Foo has left behind "big shoes" for me to fill. I believe many will agree with me that he is an "icon" not only in PCS but in the petrochemical industry and his contributions to the Company is without saying. So, to my great boss and mentor for the last 26 years, I wish you all the best and good health as you venture into your next phase of life.

The Company has enjoyed good margins for the last couple of years but as we step into 2019 and going forward, the environment is expected to be more difficult with many new plants coming up together with many geopolitical issues and uncertainties. We need to challenge ourselves to think creatively and to look for more values in the way we operate the plant, the way we buy our feedstock and goods, the way we



sell our products and even in the way we administer and support the company's operations but in doing all these, let us not forget to continue to foster, what Mr Foo said in his message, "the unique PCS culture of working closely together harnessing the very deep knowledge each one of us has in our respective areas of work to move swiftly and nimbly to bring the best value to PCS, both for the short and the long term" and of course, not forgetting safety and reliability.

I look forward to working with all of you to build on and strengthen what Mr Foo has passed on to us and my warmest wishes for a healthy and blessed new year.

Thank you.

Launch of **Jurong Island Vision Zero Cluster**



What is VISION ZERO?

"A movement that aims to inculcate a mindset that all injuries and ill health at work are preventable and a belief that zero harm is possible."





ision Zero is a nationwide movement launched in 2015 to promote the mindset that all injuries and ill health at work can be prevented. Jurong Island Vision Zero Working Group was formed in January 2018, under the Workplace Safety and Health Council (Chemical Industries) Committee. PCS GM(Plant) is the current Chairman of the Working Group.

The Jurong Island community is the first in Singapore to form a Vision Zero Cluster. This Cluster is an initiative of the Jurong Island Vision Zero Working Group.

The launch of the Cluster on 23 November 2018 signifies the collective commitment stakeholders have towards a Vision Zero mindset. At the event, PCS GM(Plant), Er Lucas Ng, who is the Chairman of the Jurong Island Vision Zero Working Group, with Mr Charles Quek, President of ASPRI and various stakeholders together with Mr Zaqy Mohamad, Minister of State for Manpower and National Development, were on stage to initiate the official launch.

In his welcome address, GM (Plant) hopes that when all companies on Jurong Island share the same mindset and core workplace health and safety values, Jurong Island can be a healthier and safer workplace, not just for full time employees, but also employees of the process and chemical management industry.

Through the Cluster, companies on Jurong Island will share best practices and innovations with one another. In his speech, Mr Zagy Mohamad emphasised that workplace health and safety standards must be kept as high as possible as the process operations on the Island involve hazardous materials.

The cluster approach also presents additional benefits - rather than working individually, companies can learn from one another's experiences and share best practices and innovations, banding together to remain accident free.

Leadership and commitment are key to creating a robust WSH culture. Cluster companies pledged to uphold five key attributes:

- adopting mindset that all incidents are preventable, opposing to statistical occurrences
- implementing pre-emptive measures rather than just responding when incidents happen
- coming up with comprehensive solutions for prevention besides looking at the root cause of incidents
- including all within the company's supply chain in cultivating WSH culture
- going beyond basic compliance with regulations, for instance, to implement a holistic management

It is envisioned that every company and every worker in Jurong Island embrace the mindset that all work-related injuries and illhealth are preventable. Having this culture permeate every company and individual is key in fostering a zero-harm work environment.





40 Million Hours Worked Without LTI

Commemoration Ceremony cum 4th Quarterly **PCS Contractors Dialogue Session 2018**







bout 750 PCS and Contractors' management, staff and workers, with our esteemed guests from Workplace Safety & Health Council (WSHC) & the Association of Process Industry (ASPRI) were gathered at the maintenance contractors workers rest shelter on 19 October 2018 to celebrate our 40 Million hours worked without Lost Time Incident (LTI) achieved on 1 June 2018.

In his opening address, PCS Managing Director Mr Akira Yonemura reminded everyone that this achievement is the result of PCS good and unique relationship of partnering with our contractors to ensure the safety and health of our workforce. All

our workers and staff are accorded the same level of assurance against health, safety and security hazards. He reminded everyone to focus on Vision Zero where all incidents and injuries are preventable. He encouraged our partners and Contractor Companies to be part of the Jurong Island Vision Zero Cluster by registering at the WSHC's website in support of the Vision Zero movement.

PCS MD also presented the 40 Million hours worked without LTI commemorative plagues to the Petrochemical Complex Contractors Association (PCCA) and the inhouse contractor companies.

Following the commemoration ceremony was the 4th Quarterly PCS Contractors Dialogue Session. There was active Question and Answer participation by contractors and feedback comments from

After the Q&A session, PCS DMD Mr Lim Wee Chiong gave the closing address. He reminded us on the attributes of team work, chronic unease and to be vigilant to resist complacency as we continued our excellent HSE journey.

The event ended with a resounding safety cheer and all participants proceeded to enjoy the buffet lunch provided.









PRODUCT STEWARDSHIP 2018 ROUND-UP



Mktg & Sales

It was a pleasant New Year gift for PCS when SCIC announced on 28 December 2018 that PCS has been awarded the Excellence Award in the SCIC Responsible Care Awards 2018 for all six codes of Management Practices (The seventh code, Security Code, is currently in "pilot" phase). With this continuation, we were again qualified and conferred the prestigious Leadership Award. The award is presented to companies who maintained Excellence Awards for three consecutive years for all relevant codes applicable to their nature of business operations.



ith every passing year and award, the bar is raised higher. Not only do we have to ensure that our practices are in line with the core objectives of Responsible Care, we have to reach out to share our programmes and encourage our peers, befitting that of a RC leader.

Marketing & Sales function, as the Code Custodian for Product Stewardship, has tried to diligently carry out the management programmes and activities, both in breadth and depth. As such, in 2018, we focused on the emergency response of road-tankers carrying our product to Malaysia. Together with Distribution Code, a table-top exercise and a spillage drill were carried out with our business partner and the logistics provider in January and May respectively.

As part of our Product Stewardship program, we also engaged our customers,





business associates and guests from SCIC on a half-day Outreach session at PCS on 5 October 2018 and conducted a Product Stewardship training session for 38 employees on 25 October 2018. This is the 4th consecutive year that we are running these two regular programmes and we hope to further improve on the content for future years.





2018 ended with a Product Stewardship cum Distribution Code Outreach to Kuantan, Malaysia, to visit our Butadiene customer, Kaneka (Malaysia) Sdn Bhd to learn and share good practices. The Outreach team comprised of members from Distribution Code custodian. M&S. F&S, HSE and Ole 1.

Overall, 2018 has been an eventful year for us as custodians of Product Stewardship. Despite it being a busy SDM year, we nonetheless managed to carry out the planned activities with the tremendous support from Management and selfless help from colleagues. Kudos to the many trainers and helpers for all the events and we hope to continue to showcase our good practices through the various events to ensure the high standards of our RC efforts, as well as upkeep the good image of the Company.



CCPS Asia Pacific Regional Technical Steering Committee Meeting









The Center for Chemical Process Safety (CCPS) held its Asia Pacific Regional Technical Steering Committee (TSC) Meeting at Singapore, on 2 October 2018.

t such TSC meetings, CCPS pursues the following objectives to support its members in the best way:

- To share the knowledge and experience among CCPS member companies
- To provide updates on CCPS activities in the region and worldwide
- To collect inputs and feedback from member companies on future course of action in Asia Pacific region
- To trigger new Process Safety Management (PSM) initiatives in the Asia Pacific region
- To collect inputs on future CCPS meetings and conferences, conduct of CCPS public training programmes and workshops to be held in the region

The meeting was sponsored by PCS, a CCPS member company, and the Singapore Chemical Industry Council Limited (SCIC). This collaboration between SCIC and CCPS was one of the basis points under the Memorandum of Understanding (MoU) signed between SCIC and CCPS on 1 July 2017.

The high level MoU established a strategic collaboration between SCIC and CCPS, among the objectives:

- Technology transfer and sharing through Short Courses, Certificate and Train-the-Trainers Programme
- Joint services on short courses, handson training, incident investigation, Process Safety tools development, etc
- Joint event hosting and assistance for scientific forums, conferences, workshops, etc
- Joint publicity and marketing through news releases, advertising, websites, etc
- Exchange of information, including scientific and scholarly publications, reference materials, etc

The TSC meeting was facilitated by CCPS Executive Director, Mr. Shakeel Kadri, with the opening remarks by GM (Plant), Er Lucas Ng HK. He noted great process safety performance can be achieved through many organisations working together to advance process safety around the world, with CCPS as one such

unique organisation that brings together manufacturers, government agencies, consultants, academia and insurers to lead the way in improving process safety. He shared that PCS has engaged CCPS in conducting in-house custom training for their core staff, Process Safety Boot Camp, annually, for the past five years, and are now working with CCPS for a custom refresher course, on the 20 elements of Risk Based Process Safety, and recent case studies and lessons learnt. Further, he enthused that he is an advocate of open sharing of programmes, practices, and incidents as he feels that in learning from an internal incident, we can only see from a single perspective, whereas if that incident is shared and discussed, there could be alternative views or measures that were not initially apparent from within.

inaugural The address for this meeting was by Mr Terence Koh, Executive Director, SCIC. Terence was more than

happy to see the response to the meeting, exceeding initial estimates, which further underlines the importance placed on process safety. He saw this as an opportunity to share and learn from each other how we can further secure the safety of our processes as well as safety and health of our workforce. He also spoke on areas where he sees potential collaboration with CCPS in levelling up, especially on the fundamentals of process safety management.

Incidentally, a separate MoU was signed between SCIC and CCPS on 1 October 2018, to jointly organise the "5th CCPS Global Summit on Process Safety" to be held in Singapore on 22 and 23 October 2019.



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The TSC meeting focused on lessons learnt from recent past incidents related to Process Safety. Speakers from leading companies from Asia Pacific region shared their experiences and views.

The final session was shared by HSE Manager, Er Bernard Leong, on "Six Senses for Process Safety".

With the meeting coming to a close at the end of a warm exchange and informative day, a thank you note and closing were jointly done by GM(Plant) and Mr Shakeel Kadri.

> The meeting was very well attended by over 65 delegates from over eight countries of the Asia Pacific Region. It was a diverse group

of industry delegates participating including Berkshire Hathaway Specialty Insurance, JXTG Nippon Oil & Energy, Mitsubishi Chemical, Mitsui Chemicals, Nghi Son Refinery & Petrochemical, PTT Energy, and many others. There were an interesting mix of Chemical, Petrochemical, Energy, Insurance and Consultant companies.

The feedback from attendees was positive and encouraging to have such meetings in Singapore on a frequent basis. There were ample networking opportunities during coffee breaks and lunch.



Photographs of the meeting can be viewed at https://scicccps.shutterfly.com while the event information can be accessed at

https://www.aiche.org/ccps/resources/conferences/events/ccps-tsc-meeting/2018-10-02

10th Anniversary Finale Celebration of the Marina Barrage on 27 October 2018



- Reminder to all of the need to conserve water



Water is a finite, scarce resource and to be conserved (curb wastage). As a small island, Singapore has scarce natural water resources. Over the years, domestic households and businesses have been constantly reminded of our water situation through save water campaigns and other initiatives. Most Singaporeans and businesses understand the pressing need to conserve water.

ogether with Private, People and Public, the Singapore Government through National Water Agency, Public Utilities Board (PUB) has adopted a multi-pronged approach to making water & sanitation a priority in keeping Singapore sustainable and resilient. This is even more pertinent in view of erratic weather patterns. Singapore has to manage such weather extremities to ensure that there is enough water for everyone.

One of the key strategies in PUB's holistic approach to water management is to collect every drop of water through built reservoirs and catchment areas. To prevent cross-contamination, Singapore has adopted a two-water collection systems -Separate systems for collecting rainwater and used water. Used water is collected

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0 FLOOD CONTROL Flood Control - The Giant Pumps



Flood Control - The Crest Gates

> Mr Lee Kuan Yew as a freshwater reservoir, augmenting Singapore's water supply for generations to come [2].

Lifestyle destination - All

to enjoy and

appreciate

MB was officially opened on 31 October 2008 by Prime Minister Mr Lee Hsien Loong. The primary function of MB is to supply water to Singaporeans by keeping seawater out where level is kept constant by crest gates and giant pumps. By doing so, it helps to alleviate floods in low-lying areas especially when there is a heavy downpour coinciding with high sea water tides. Another benefit of MB is that it doubles up as a recreational place for family to enjoy and appreciate.

After a year-long celebration, it was very symbolic that during the 10th Anniversary Finale Celebration of Marina Barrage on 27 October 2018, Deputy Prime Minister (DPM) Teo Chee Hean announced under the Sustainable Singapore Blueprint[3]. a new target of average household water consumption of 130 litres per person per

day, reduction from 140 litres per person per day by 2030.

A very significant achievement of reduction from 155 liter per person per day in 2009 to 140 liters per person per day in 2017, achieved within a short span of time, is a testament of strong public support and partnerships to achieving water selfsufficiency. By setting a new target, the Singapore government is encouraging all stake holders to continue to improve the efficiency of water use, which is akin to the 5th Water Tap [4] after the current four (4) Water Taps namely Water from local catchments, Imported Water, NEWater and Desalinated water.

All of us can play our part and make water conservation as our way of life in our pursuit to achieve water self-efficiency. Every effort to conserve and use every drop of water counts.

in a network of sewers and channeled to water reclamation plants through the Deep Tunnel Sewerage System (DTSS) in Changi and an upcoming under-construction in Tuas. Rainwater is collected through a comprehensive network of drains, canals and rivers and channeled to reservoirs before it is treated to become drinking water [1].

Marina Barrage (MB) is the vision of the late Mr Lee Kuan Yew (the first Prime Minister of Singapore) more than two decades ago when he envisaged damming the mouth of the Marina Channel to create a freshwater reservoir. Built across the mouth of Marina Channel, MB creates Singapore's 15th reservoir, and together with other reservoirs, it has increased Singapore's water catchment from half to two-thirds of the country's land area. Desalting (Displacement of seawater) was started in April 2009 through natural replacement by rainwater. On 20 November 2010, Marina Reservoir was commissioned by the late

References:

- [1] The 3Cs of our 4 taps: A feature of Gov.sg
- [2] Marina Barrage: PUB Website
- [3] Transcript of speech by DPM Teo Chee Hean at the 10th Anniversary Final Celebration of the Marina Barrage delivered on 27 October 2018 [PMO Office]
- [4] CHANNEL NEWSASIA, 10 November 2018 Commentary: The Marina Barrage, a dream 20 years in the making By Cecilia Tortajada and Asit K. Biswas

Asit K. Biswas is a distinguished visiting professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. Cecilia Tortajada is a senior research fellow with the Institute of Water Policy at the Lee Kuan Yew School of Public Policy.

PEPS Dialogue 2018

on 27 November 2018





Knowledge is the source of WEALTH.

Applied to tasks we already know, it becomes PRODUCTIVITY. Applied to tasks that are new, it becomes INNOVATION.

A quote by Peter F Drucker and is exactly what our employees' participation scheme is all about!

[Peter Ferdinand Drucker (November 19, 1909 - November 11, 2005), an Austrian-born American management consultant, educator, and author, whose writings contributed to the philosophical and practical foundations of the modern business corporation. He was also a leader in the development of management education].



PEPS Dialogue, held on 27 November 2018, is an annual event organized by T&O Plant Services. The objectives are sharing of good ideas and good work practices among functions, recognition of outstanding suggestions as well as suggestions that add values to our company and learning from others.

n GMP's opening address, he reiterated that PEPS has an important role in contributing towards improvement in savings and revenues, work productivity and plant reliability and HSE. It is also a good platform to promote small group activities and encourage teamwork to identify problems, brainstorm ideas and propose solutions. He also related the importance of FIND activity to near miss reporting that potentially eliminates nearmisses and serious HSE incidents.

He cited the 3Cs interruptions of No. 1 Ethylene Plant start-up after SDM 2018



as lessons learnt. The 3Cs interruptions were (i) the presence of CO in Ethylene Tower (T-440) due to decomposition of Dimethylformamide (DMF) to carbon monoxide, (ii) CO₂ breakthrough in the Caustic Scrubber (T-350), forming dry ice at the downstream process and cause equipment plugging and product off-spec and (iii) Corrosion Under Insulation (CUI) at Deethaniser Tower (T-430) reflux pump minimum flow line.

He encouraged all workgroups to continue our best effort to achieve safe and stable operations.

The main highlights of the dialogue was the workgroups sharing, where 14 topics from various functions were presented. Examples of topics shared were improved holding hook for fire hydrant cap, cavity clamp for leaking line and positive identification of control switch.

The dialogue was indeed a good platform for sharing and learning.



Energy Efficiency National Partnership Awards 2018







The annual Energy Efficiency National Partnership (EENP) serves as platform to help member companies to reduce energy consumption by providing opportunities for learning and sharing of energy efficiency best practices.

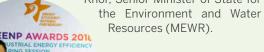
his year, PCS bagged one award Honourable Mention Awards in the Best Practices category awarded by NEA during the annual Energy Efficiency Partnership (EENP) Awards 2018 ceremony held on 11 October 2018. The Award was proudly received by PCS GM(P), Er Lucas

Ng from the Guest-of-Honor Dr Amy

Khor. Senior Minister of State for

Following the ceremony, PCS was given the honor to share about PCS's Energy Conservation efforts. Mr Benjamin Tan shared on PCS's positive experience of carrying out

regular seawater back-flushing of overhead N-Butene Tower-B Condenser







Er. Lucas Ng receiving Honorable Mention Award from



2E-085. The reflux rate to distillation column 2T-080 was optimized resulting in improving specific energy consumption by approximately 9%.

Other speakers also shared on their energy efficiency (EE) journeys made through high level of commitment in adopting Energy Management Practices such as through adoption of innovative and improvement processes, real time monitoring of Cooling Water Tower performance as well as adoption of digital transformation for corrosion monitoring, access control and rescue locating during special operations in petrochemical plants.

This annual best practice platform continues to encourage industries to come together to collaborate with service solution providers to promote and sustain EE improvement by discovering the latest best industry practices for adaption to their operations.



CHEMEX 2018

The Chemical Industry Experience (ChemEx) 2018 was held on 26th October 2018 at Oasis @ Sakra, Jurong Island. This event was organised by the Singapore Chemical Industry Council (SCIC) to raise awareness of career opportunities in the Energy & Chemicals (E&C) industry amongst students from the polytechnics tertiary institutions and ITE. ChemEx also provided a platform for students to engage with working professionals to gain some insights into the industry.





here were two parts to the event; the first was an introduction at the respective sponsored company, and the second was at Oasis where the students can visit different company booths. PCS is proud to be an active participant for this annual event.

This year, PCS hosted about 40 students from Singapore Polytechnic. The group was first welcomed with a reception before being given an introduction to PCS by HRA. This was followed by presentations of personal experiences by 2 process engineers from T&O which gave the students greater insight into the daily roles and challenges of an engineer and what motivates them to work in PCS. Subsequently, the students were given a bus tour around the complex where they witnessed for themselves the scale of the plant and equipment that they read about in their textbooks.

At Oasis, there were company booths set up where students could have greater interaction with different company representatives. There were also mass games which helped made the atmosphere livelier and provided greater understanding and appreciation of the chemical industry in Singapore. This year, PCS organised a quiz session to draw students to the PCS booth. Students were required to answer 5 simple questions about the history and







HRA welcoming the students to PCS







achievements of PCS and would stand to win attractive prizes which include a Victorinox travel organizer and a Sony radio clock. This brought in a huge crowd to the PCS booth, which helped to raise the profile of PCS and facilitated a platform for students to know more about PCS and its role in the industry. It also gave the opportunity for PCS representatives to interact with the students and teachers.

The students and teachers gave positive feedback of the event and gained greater awareness of the companies and the E&C industry. It also provided a platform for the academic institutions to partner with companies on a deeper level. For the PCS team who had been working in front and behind the scenes, it was a fulfilling experience to witness the success of ChemEx 2018. PCS looks forward to participate in this event again next year.

PCS Dinner & Dance 2018



SRCC Chairperson, Tan Thian Chye. affles City

Happily selecting accssesories at the Magic Mirror Corner



Bok Koon revels in the game at hand, holding his focus. Looking steady

the entire event experience by engaging the guests throughout the evening and kept everyone entertained with his witty sense of humour. The ice breaker games were true bonding experiences for all who attended

PCS threw its Annual Dinner & Dance at Swissotel The Stamford on 13th October 2018, hosting almost 300 employees and their partners. The theme of the party was 'Polka Dots, Checkers and Stripes' and everyone came prepared to have a good time and let loose for the evening. Something classy? Something funny? Something wild? Everyone picked out a pose of their own, something to express their unique personalities and ready to spend the night with jokes and laughters.

NNERX

Phis was a party filled with smiles and celebration. All guests came dressed in their finest with elegance. At the

ballroom foyer, there were the Magic Mirror photo booth, making, the Maze Corner and the popular Coconut Shake & Icewere many activities for everyone to enjoy, breathing even more life into an already vibrant party. was never a dull moment throughout the night.

The night began with the lighted Poi show, giving a glamour touch to the event. SSRCC Chairman, Mr Tan Thian Chye, gave

> an opening speech and shared the activities organized for

the year. PCS Managing Director, Mr Yonemura, followed up with a warm inspiring speech to thank everyone for their great efforts. Thereafter, the grand feast begins! Everyone dined in style, munching down all the delicious foods. Wayne Chua the

emcee that night, elevated

PCS Managing Director Mr Yonemura











ime to vote for their favourite singer











The best dressed nominees got up on stage with their favourite managers.

the party. The best dressed nominees even got up on stage with their favourite managers, and got the crowd really excited.

The PCS staff performance was the highlight of the evening. Participants of the 'Voices of PCS' blew everyone away with their strong vocals and their commitment

to entertaining. Some colleagues were swaying at their tables, others waving their napkins in the air, and for most cheering them on. The performances were both electrifying and relaxing, a fine compliment to the delicious meal. The 'Voices of PCS' was talent, grace, and merriment all rolled into one! Everyone voted for their favourite singer, casting their votes one by one. A lucky voter, drawn by the winner, also received a little gift when the results were announced. Staff performance never fail to get people moving and that sticks in the mind for nights and weeks and years to

PCS is a family, and when we all come together, magic happens – as this D&D had proven that! When the PCS Management walked up to the stage, the employees were all cheering them on. All united as one with incredible positivity displayed. Our will to collaborate is undeniably strong, and we definitely have the potential to continue to grow and excel. We are a special family, working and thriving together, supporting one another as we build lives for ourselves. As you hum the tunes that you heard at 'Voices of PCS', you can reflect on this unforgettable night – the sense of belonging you felt throughout it!

One PCS: we are strongest when we come together as one!









GMP Cup

Futsal Tournament 2018





It was a dynamic and charged Saturday, 10th of November, held at Golazo Futsal Singapore as this is the first time where the annual GMP Cup Futsal Tournament was held. A total of 7 teams consisting of more than 50 players turned up to display their scintillating and brilliant skills to dethrone the reigning champions from Olefin II, for 8 consecutive years.

lefin I sent their one and only finest team, with young and experienced heads in the hope of winning the tournament, but coming ever close.

Fire and Security sent a team which were down on numbers but are always up for a fight, living up to its tough as nail but friendly persona and giving a great challenge.

Team TNO, the team which accepts no room for marginal errors put up a great fight with their year-on-year improvement.

Team QC, their first participation after a long sabbatical showed up in numbers and proved to be no whipping team, up with great sportsmanship after every game. (P.S Team QC made history in PCS by having 2 female players representing them, kudos to the 2 ladies)

Olefin II sent a total of 3 teams each with different strengths; Elites, by its name, needs very little to no introduction, the reigning champion for the past 7 years and experienced no match loss in the past 5 tournaments (albeit losing one this year).

Young and Dangerous, a team composed of 7 youthful souls marshalled and managed by the expertise of the ever young Mr Joffri, a crafty and elegant player himself.

The last team from Olefin II, Team Legend, comprised of a team aging on average no younger than 42 but deceiving almost all of its opponents and giving them a run for their money with their not-so-young legs galloping up and down marauding the pitch reminiscent of their younger days.

The tournament started out with a safety briefing at 9.30am and the game commenced at 10am with every team battling out with a siege of array in both attack and defence, pitting their wits against each other. When the dust has settled and smoke is cleared, Olefin II's Elites was crowned champion for the 8th consecutive year. Olefin II's Young and Dangerous came in as runner up (the team that broke Team Elites winning streak of 5 years) and Olefin I coming in as 2nd runner up with their admirable ever persistent challenge of the tournament championship.

On behalf of the SSRCC committee, I would like to thank all the participants, the supporters, the managers and family members who managed to throng down despite the gloomy weather which threatened to ruin the day for this competitive yet friendly fiesta. Not the least, Mr Yusri from Olefin I for organising the whole tournament and not forgetting the sumptuous food to compliment the day.

Till next year's GMP Cup, Adios and Au Revoir!





TGIF: Wine **Appreciation**

Wine appreciation this year was held at New Ubin Seafood @ Chijmes on 7th Dec 2018. A whole new different experience for PCS colleagues and friends.

ew Ubin Seafood offers a different yet very Singaporean Flavored variety of cuisine, New Ubin Seafood has a Unique Local Zi Char with a Twist of Italian, French & Indian cuisine mixture.

The menu consisted of 4 different type of wines and respective food pairing along with it. We started off the night with Shaw & Smith Sauvignon Blanc 2017, a pre-meal wine that stimulates the appetite, a fruity wine with a light and delicate fruit flavours of pear, star fruit and gentle passionfruit. It was paired with Shrimp Wadeh with Coconut & Tomato Chutneys and Hei Chor*, a combination of Indian & Chinese delicacy.

*Prawn & minced meat mashed together and fried.

The second white wine we had was Satori Pinot Grigio delle Venezie IGT Northern Italy 2016. This wine is light-bodied, dry and crisp, with sweet flavours like citrus, green apple and honey. Most of the ladies prefer the first 2 types of white wines due to the sweetness and fruitiness of the wines. The Pinot Grigio was paired with Pacific Oyster "Orh Chien" Omelette & Ubin-Style fried Mee Sua.

After savouring both white wines and a brief description of the different wine's grapes and characteristics by the Wine Sommelier. Julian, I could literally read everyone's thoughts in their mind craving for more food and wine.

So without further ado...

First of the 2 reds was Ata Rangi Crimson Pinot Noir Martinborough 2016 which has aromas including roses, fruits, black cherry, berry, and currant. Pinot Noir grapes are fresher and less tannic as compared to the fourth wine, Shiraz. In conventional pairing, red wine always pairs with red meat. But in the New World of wine and pairing explained by Julian, red wines can also be paired with other types of food. In this instance, New

·Ubin Seafood actually paired it up with Garlic Baked Crab. For the second red which was the last

wine of the night, we had the Silvern Shiraz Barossa Valley 2014. New Ubin Seafood has also placed their signature dish at the back to pair with this wine. We had the Smoked Pork Curry & USDA Black Angus "Choice" Rib-eye with "Heart Attack" Fried Rice*. Why the "Heart Attack"? It's because the Fried Rice is actually cooked with the Minced Beef Fats giving it a very flavoury taste of the Black Angus in the rice but it also means Blood Pressure is going to go up very high for the day =P.

Ending our menu was dessert which was also quite a surprise to everyone, Toast with Kaya and French butter. A simple yet fulfilling dessert with the sweet Kaya and the fragrance of the French Butter.

It was a fun and thrilling night of surprises accompanied with good food & wine. Everyone was very engrossed at the table discussing and chit chatting with drinks to accompany them. We definitely had a great TGIF night and ended the night with non-stop "Huats" and toasts wishing everyone's well-being in 2019 and a mandatory group photo.















The tournament was held at the Marina Bay Golf Course which is located near to the city. The golf course provides a scenic panoramic view of the Central Business District buildings including MBS, etc.

ctober month had been a period of stormy and raining weathers. We were blessed with no rain on the tournament day itself. All golfers enjoyed the fine and cool weather with high spirits. Most of us completed the 18 holes with no sweat and stress.

PCS has been blessed with fine weathers for all the previous three tournament in Year 2014, 2015, and 2017.

PCS 4th Golf tournament had fourteen participants from Management, HRA, Engineering, Fire Brigade, OLE I, OLE II and Maintenance. We were honored to have our MD Yonemura-san to grace the golf event. It was indeed a memorable time to rekindle our camaraderie spirits to play and socialize together with various functions' members.

To avoid undue stress amongst golfers by having a competitive game, we introduced "Honest John Game" where each golfer had to predict his own score before the game and to tally with his final score at the end of the game. The golfer with closest scores (predicted vs final) wins.

The tournament commenced at 1340hrs and ended at 1830hrs. Congratulations to the respective winners of "Honest John Game",: 1st - Jack Ho; 2nd - Ho Thean Seng; 3rd - Hiroya Tezuka. For their enthusiasm & passion in the tournament, all golfers were declared winners and awarded with participation prizes.





At the end of the golf game, we gathered for dinner and drinks at the Canopy Café for some bonding time together.

Hailing all who are unable to join us in this tournament - do join us next year for a time of bonding session with fellow colleagues. Colleagues who are beginners in golf are welcome to join us. Please be on the look-out for this great and enjoyable event.

Wishing all colleagues and their beloveds

Blessed, Prosperous and Healthy Year 2019...and Beyond









Employee News

LONG SERVICE

Presentations on 22, 23 & 26 October 2018



Maintenance

5 Years

Noor Mohammed Azrul b Ahmad Fire & Security

Vijayasarathy Devanathan Olefin-II Senthilkumar Govindaraj Olefin-II Joshua Wong Wei Jie Olefin-II

Tok Ai Tee Quality Control

10 Years

Estella Lim Business Development & Planning

Tan Hong Yeung Ho Jia Quan Maintenance Murali Balakrishnan Olefin-I Gunaseelan Sargunan Olefin-I Vignesh Adayapalam Chandrasekaran Olefin-II Karthikeyan Jayaraman Olefin-II Nagarajan Krishnamoorthy Olefin-II

Foo Suan Kim Technology & Optimization

20 Years

Lean Chin Hee Quality Control

25 Years

Tan Keng Huat Feedstock Procurement

Chuah Yew Teck William Olefin-II

30 Years

Lilian Tang Health, Safety & Environment

Chew Hung Boon Olefin-I Tan Hua Cheng Olefin-I Tan Joon Boon Olefin-I Olefin-I Tang Choon Teck Tham Kuan Hoy Olefin-I Kew Khee Chiung Olefin-II Lee Chin Huat Olefin-II Jescinda Yeoh Purchasing Jean Ho Purchasing

Tan Kok Vui Francis Technology & Optimization

35 Years

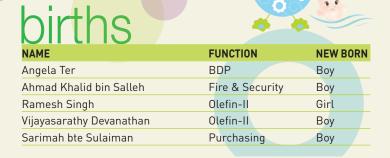
Hoon Kim Huat Maintenance Gan Beng Chuan Olefin-I Daud bin Mohd Noor Meon Olefin-I Han Wang Kwang Olefin-I Wai Kai Nam Olefin-II Wahid bin Noordin Olefin-II Tan Khim Hiam **Quality Control**







OLAHONS			
marria	ag	e	
NAME		FUNCTION	SPOUSE
Balvinder Singh A/L Reginder Singh		Olefin-I	Ashreen Kaur
Mohamed Yusri bin Yusoff		Olefin-I	Nurratinah bte Sahat
Muhammad Hanaffe bin Haironi		Olefin-I	Nurul Fairuz bte Zaharim
Koh Kok Eng		Quality Control	Tan Pei Yi







Tan Peck Luan T&0

Our entourage of 15 people began the vacation by flying to Kaohsiung, located at the southern part of Taiwan. We then travelled northwards by car to Tainan, Chiayi,

Alishan, Nantou and Taichung, before our last stop in Taipei.



Taichung

In Taichung, we visited the Lavender cottage, a quiet farm started by two young women. Then we went on to the Carton King Creativity Park, which had decorations ranging from worldwide landmarks (Eiffel

tower etc.) to restaurant furniture made from corrugated cardboard.

Another attraction the Rainbow Village, which is street art created by former soldier Huang Yung-Fu, now more than 90 years old. He began painting houses in his settlement to

save them from demolition, and it has since spread over to 1,200 homes.



Taipei

The weather in Taipei was significantly wetter and colder than the southern parts of Taiwan. However we still managed to visit the Yehliu Geopark which is famous for its sea-erosion landscape. Of course, a picture there with its iconic 'queen's head' rock is a must.

Last but not least, the food of Taiwan definitely deserves a mention! We visited various night markets during our trip, enjoying street foods such as Taiwan sausages, stinky tofu, pepper biscuits, taro balls, coffin bread and much more. Other traditional popular snacks such as pineapple tarts, sunny biscuits, shao bing, braised pork rice, oyster mee sua etc also went into our tummies. And not forgetting the famous Tiger Sugar bubble milk tea originating from Taiwan which is seeing super long queues at its 2 outlets in Singapore currently (heard they are opening a 3rd one soon). The queues in Taiwan are definitely shorter than those in Singapore, and the verdict: worth the queue if you have a sweet tooth.





- from south to north

Kaohsiung

Despite being the winter season, temperatures here were hovering around a warm 20+ degC in the daytime. Our first stop was the Fo Guang Shan Buddha Museum, which covers an area of more than 100 hectares and houses one of the tallest sitting bronze Buddha statues in the world at 108 meters high.

Tainan

In Tainan, we visited the Chimei Museum, which is known for its ancient Greek style architecture. We also went to the Cigu salt field, which was once the largest solar salt field in Taiwan supplying salt for the domestic agricultural and industrial sector, but has since ceased production.

Chiayi

Next stop was the Tian Chang Di Jiu Suspension Bridges, which were built in 1937 and used by the early villagers from other areas to go to Chiayi. They are also known as the Lover's Bridges as "Tian Chang Di Jiu" means "eternal love" in Mandarin.



Alishan

was eager and full of anticipation. We even managed to do some stars-gazing

Nantou

We then went on to the famous Sun Moon Lake, the largest body of water in Taiwan. The east side of the lake resembles a sun while the west side resembles a moon, hence the name. Next to it is the Wen Wu Temple, where visitors used to have to take a boat and climb a long flight of steps in order to reach it. There are a total of 366 steps and each of them symbolizes a birthday. Although nowadays the temple is accessible by road, you can still have fun climbing the steps if you want to take a picture on the step corresponding to your birth date.

We spent the night at a farmstay in Cingjing Farm which is located 2000 meters above sea level. The next morning, we visited the Green Green Grasslands that featured herds of sheep grazing on the grassy hill and an equestrian show. Lastly we completed the experience with a 1.2km long walk downhill on the Skywalk, which has a restriction of 4,000 visitors per day.