

JEL INSIDER

JEL celebrates Golden Jubilee

“Golden Jubilee, the 50th year that JEL has been formed”
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FEATURED PROJECTS

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INSIDER SPECIAL

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JUN 2021



RISE TO THE CHALLENGE

2,400 MW Gas-Fired Combined Cycle Power Plant Project in UAE

Project Overview

Fujairah F3 is a 2,400 MW Gas-Fired Combined Cycle Power Plant Project. The plant is located 20 km North of the city of Fujairah, in the Gulf of Oman of United Arab Emirates.

The F3 Power Plant is being developed as an Independent Power Producer (IPP) project by F3 Holding Company, a consortium formed by Abu Dhabi Power Corporation and Japan's Marubeni Corporation. The Owner's Consultant for the F3 Power Plant Project is Fitchner and the EPC for the project is Samsung C&T Corporation. Scheduled for commissioning in 2023, the F3 Power Plant will be UAE's biggest independent thermal power plant that can generate enough electricity for, approximately, 380,000 households in the northern region.

Jurong Engineering Overseas (UAE Branch) was awarded with civil works for 3 packages, namely, Power Block, Sea-Water Intake and BOP (Balance of Plant).

The **Power Block** is further divided into 3 units of Gas Turbine Structures and 2 units of Steam Turbine Structures. The raft construction for the major foundations has been completed. Works on the super structure of Gas Turbine and Steam Turbine foundations are ongoing and will be completed by the end of May 2021. Works on smaller foundations will be completed as per schedule.

The **Sea Water Intake** package consists of two major structures: Sea Water Intake Pump House and Seal Pit. The raft foundation works for Sea Water Intake Pump House were completed in February 2021. The works were completed in 45 days with a total rebar quantity of 713T and mass concrete of 3700m³. We managed to cast the foundation at one go within 39 hours. Even with a 2-month delay in the handing over of structure, the structure was completed on time by adopting slipform work proposed by JEL management. The team applied system scaffolding and formwork too. These construction methodologies not only bring the schedule to the left, but also reduce the costs incurred.

Currently, the anchor walls at the west side of the structure are under construction and



the slipform is planned to start by 17 April 2021.

As for the **Seal Pit** area, the foundation is divided into 3 levels. Two levels of raft foundation have been completed. The EPC is now working on backfilling of the third raft, after which the raft foundation works at the third level will start. The walls from the lowest level will be constructed up to 4.8m and followed by the slip forming activity. The erection of puddle flanges is now ongoing on the east walls of the Seal Pit, after which the wall construction will start. After completion of the walls, water proofing and slab works will be carried out.

The **BOP Area** is mostly under the contaminated soil area, and it is not handed over to JEL yet. Only a few structures such as DAF, Wastewater Treatment and Fuel Gas Area have been handed over to us in the month of March.

Currently, the rebar works are ongoing after the completion of the lean concrete and water proofing. After completion of the rebar works, formwork and concreting of the raft structure will start.

The contaminated area is scheduled to be released by the end of July 2021.

F3 IPP Power Plant is an incredibly challenging and critical project. The relationship built with Samsung C&T Corporation through the reliable performance by our Site team will be beneficial to future projects. The

Construction and Program Management teams brainstorm ideas and solutions to solve the problems faced. We have learnt a lot from the daily challenges. These lessons learnt will help the team grow as a unit and avoid similar situations in the future.

Challenges

1. Tight project construction duration

The team only has 17 months to complete all 3 areas with limited space on site. To meet the schedule, we engaged a sizeable direct workforce team and subcontracted the work to a few small subcontractors to reduce the risk of underperformance of subcontractors, which may cause delays to the project. In case of any delay, the direct workforce team would be deployed. We also adopted the "Just-in Time" strategy by conducting detailed planning for the delivery of materials, which helped in reducing the handling cost and effort. In addition, most materials are placed beside the respective structures, whereby workers can commence work immediately without waiting for the heavy equipment. Furthermore, we also employed DOKA system formwork. The lightweight formwork can be lifted by workers easily. This reduces the formwork installation time significantly and the work progress will not be influenced by crane availability.

2. Challenging schedule for CW Intake Structure



The construction duration for CW Intake Structure was 9 months, which is an incredibly challenging schedule. To reduce the construction duration, we introduced slipform method. The reinforcement bar installation and concrete casting, from the bottom to the top of the 13-meter-tall-wall, were completed in 24 hours without stopping. Same for the 3,700m³ Large CW Intake raft foundation, we completed cast monolith in 39 hours without stopping. It was achieved through careful planning and good teamwork execution.

3. Affected schedule for BOP Area due to soil contamination

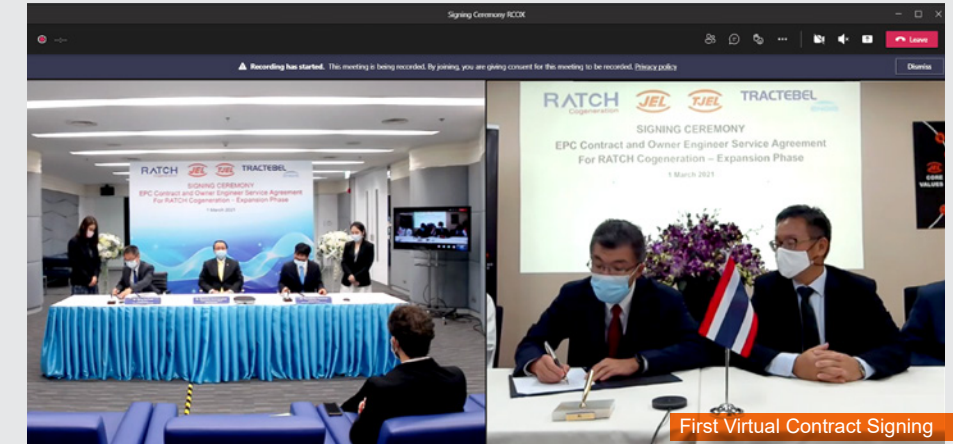
The schedule for BOP Area was affected by soil contamination. Manpower planned for this area was deployed to work on other ongoing activities instead.

We deployed our direct workforce to mitigate any potential delay and to complete a few structures ahead of schedule. Eventually, we managed to meet the project requirements and deliver satisfactory outcomes to the customer. Meanwhile, we implemented "Just-in-Time" strategy to reduce unnecessary double and triple handling. This improves the total man-hour count and saves resources so that the team can focus on other tasks which can lead to earlier completion date. On the other hand, we adopted system formwork to reduce machine-hours. The workers do not need to depend on heavy machines for formwork installation. This is in favor of accomplishing earlier structures completion.

We were awarded with the safety achievement of "1,000,000 Safe Man-hours" on 3 March 2021. And the first milestone of ST-20 raft foundation was completed much earlier than scheduled.

The experience gained from this project enlightened our way forward. We are more confident in taking up bigger scaled and more challenging projects.

Ratch Cogen Expansion (RCOX) Project Signing Ceremony



Jurong Engineering Limited (JEL), together with our EPC consortium partner Thai Jurong Engineering Limited (TJEL), have successfully clinched the contract for the construction of Ratch Cogeneration Expansion (RCOX) Project. The contract with RATCH Cogeneration Company Limited was signed on 1 March 2021.



Located in Khlong Luang District, Pathum Thani in Thailand, this project will expand the existing Ratch Cogeneration Power Plant through installation of additional 4 units of Gas Engines, 4 units of HRSGs and necessary BOP (Balance of Plant).

This plant is owned by RATCH Cogeneration Company Limited, a subsidiary of RATCH Group Public Company Limited. The expanded plant will generate an additional 30MW of power and 6 tons of process steam per hour, which will help meet the higher demand from regional Industrial Users (IU). The expansion project will begin in March 2021, spanning over 18 months. We aim to hand over a fully operational expanded plant to the client in September 2022.

The strength of JEL and TJEL in the EPC market is the capability of providing one-stop support and solutions to our clients. Our understanding of the company's core values, and vision also enhances our working relationship with the client. The close working relationship with RATCH Group from past projects (RWC Project, NNEG Project and BPC Project) and ongoing project (NRER Project) since 2012 allows us to fully understand the needs of our client and always provide the best

support. This gives us an edge over our competitors.

Mr. Boonchai Jarunwaraphan, Chief Project Development Officer of RATCH Group, expressed tremendous confidence in JEL and TJEL's contribution to this project. In his speech during the contract signing ceremony, "JEL is our partner of choice who will handle the project construction and complete with full concern on safety, community and environmental plan," he said. "With splendid track record, experience from previous power projects, as well as world class professionals and expertise, I am confident that JEL can achieve the RATCH Cogeneration Expansion Project as per contractual schedule to enable the delivery of electricity and steam to our customer in 2022."

The contract signing is a major milestone for JEL and TJEL amid this global pandemic period. It is the first contract signing held at two different places: Singapore and Thailand. This virtual contract signing proves our resilient and adaptable attitude towards global changes. We use the latest technology to adjust to changes and adapt to the latest trends and environment.

Appointment of Mr Koichi Watanabe as Managing Director and Chief Executive Officer

This April, JEL welcomes our new Managing Director and Chief Executive Officer, Mr Koichi Watanabe. He has taken over the position of Mr Masao Akamatsu with effect from 1 April 2021. Mr Masao Akamatsu will be returning to IHI for other positions. JEL would like to take this opportunity to thank Mr Masao Akamatsu for his contribution and wish him the absolute best in his future endeavors.

Mr Koichi Watanabe has worked in various management positions and experienced many significant projects in Japan, Taiwan, Australia, and Germany. In our recent conversation with Mr Koichi Watanabe, he shared with us his stories and vision. Excerpts from the conversation:

“ This was my very first step, having an interest in construction.

Q: First and foremost, could you share with us your background?

A: I was born in Fukuoka, the south part of Japan on 19 February 1969. In 1970s, Japan is still in the mid of changing its infrastructure, especially the road and sanitary piping. Construction works were ongoing everywhere. When I was a kid, I really loved to see roadworks. This was my very first step, having an interest in construction.

And I love cars, just like other boys. I went to college for mechanical engineering, with the aim of becoming a designer for car engines. While I was in university, I went to IHI as an intern, dealing with aircraft engines. That was my first time in IHI, and I was extremely impressed by its works.

My professor once said, “Human needs two things: food and energy.” His words inspired me. After that, I joined IHI’s Boiler division in 1994 and hoped to join the Construction Department as I had loved construction jobs since I was a kid.

“ Since then, I began to think, ‘Someday I would love to join JEL, it is such a nice company.



Mr Koichi Watanabe's Photo with Veeramani-san, Zaw Moe-san and others from JEL in 2007 in Algeria

Q: Could you share with us more on your career path with IHI?

A: The very first construction site I worked at was Tachibanawan No.1 Boiler, a 1050MW super critical boiler, the biggest one in Japan and worldwide. Thereafter, I went back to IHI HQ in 1999, and met Abiko-san, who was the General Manager of Construction Department. He asked me a simple question, “What do you want to do next?” Without hesitation, I answered, “I want to be the site manager of an overseas project.” I was so surprised that he then assigned me a position for the next project in Taiwan in 2002.

After completing the job in Taiwan in 2005, I moved to the Project Management Department as a Project Manager. One day, my boss asked me to go to Algeria for the Sonatrach Boiler Project as a Project Manager and IHI Representative.

This was the first time that I worked with JEL team, including Veeramani-san. This project had a tight construction schedule, we had to pitch 4 boilers in 1 month. During this project, I was really impressed by JEL’s performance and effort. Eventually, we managed to hand over the project on time in 2007. Since then, I began to think, “Someday I would love to join JEL, it is such a nice company.” Fortunately, this one little dream has come true now!

From 2008 to 2010, I stayed in Western Australia with my family for the Boiler EPC Project. In 2012, I stayed in Germany for the first Tower Boiler there. Three years later, in 2015, I went back to Taiwan for the first SOVR Boiler Project. From 2017 to 2020, I oversaw the Engineering Group in Boiler Construction Department, for estimation, concurrent engineering and IoT (Internet of Things).



Mr Koichi Watanabe Enjoying his Hobbies

I am serious sometimes but quite easy-going most of the time. I always try my best to spend the time most efficiently for myself, my family, friends, and of course, at work.

I have plenty of hobbies and interests. I enjoy playing guitar and singing songs by The Beatles. I have a collection of more than 1000 vinyl records, and most of them are from The Beatles and their solos. I also enjoy cycling, especially cycling on my 1957’s Rene Herse, a French handmade bicycle called “Running Jewelry of Paris”. Another hobby of mine is to shoot monochrome photographs with my lovely 1958’s Leica Camera. It is the same model as the camera of my hero, Henri Cartier-Bresson, co-founder of Magnum and a photojournalist. I also love cars and motorbikes made in Italy, such as Alfa Romeo and Vespa Scooters.

Oh, I love playing golf too! I enjoy interacting with people. So, if you have something to talk to me, please come to me and let us talk about anything! I always welcome you!

“ I believe JEL will continue its magnificent work even under this situation.

In the meantime, I was working as a proposal Project Manager for the Van Phong Boiler Project, which will start soon with JEL. I have been working on this project for 10 years since 2010 and now waiting for the project realization.

“ I always try my best to spend the time most efficiently for myself, my family, friends, and of course, at work.

Q: What is your personality? What do you enjoy during your leisure time?

A: When I was 17, I started to think how I could live with no regret. I prepared “The Plan of My Life” with things I wanted to do listed. Fortunately, I have been following that plan with little fixing. One of the things listed was joining JEL.

Q: What direction do you set for JEL in consideration of the Covid-19 pandemic? What are your thoughts for the coming years?

A: Covid-19 is very abnormal, which nobody can imagine. It brought tremendous changes to our living and working style, for instance, working from home. I do appreciate the people working at job sites during such challenging times, but we shall overcome it. This will be a good chance for us to change our working style with IoT and even lifestyle with family and friends.

Energy is always demanded worldwide, I believe JEL will continue its magnificent work even under this situation. Most importantly, I truly wish you, your family and friends are safe and well.

In the last part of the conversation, he added, “I am so excited about coming to Singapore. Working in JEL and living in Singapore has always been part of my wishes. I will try my best to be a good team member of JEL and enjoy it!”

Mr Koichi Watanabe, welcome to the team! We hope the best for the company with your leadership.

Hamriyah IPP 1,800 MW Combined Cycle Power Plant Project in UAE



GT Generator Unit 2

The Sharjah Electricity & Water Authority (SEWA) in the Emirate of Sharjah, United Arab Emirates (UAE) awarded a consortium of GE Energy Financial Services Inc, a subsidiary of General Electric Company (GE), and Sumitomo Corporation (the 'developer' or consortium) to design, build, own and transfer a new Combined Cycle Power Plant (CCPP) Project.

The project is located within the Hamriyah Power and Water Plant (HPWP), on the Arabian Gulf coastline near the Hamriyah Free Zone.

The proposed project, consists of three combined cycle units, will be developed adjacent to the existing power and desalination plant.

JEL secured a project from Tecnicas Reunidas (TR), the EPC main contractor responsible for supplying power.

TR's recent working experience with JEL on the successful project completion of RAPID Package #3 (Erection of REFORMER 2-Units) in Pengerang, Malaysia, bolstered and strengthened TR's confidence in awarding JEL the two major subcontract works namely HRSG Installation & BOP Unit #00 Mechanical Erection and Turbine Packages (GT, ST, GEN., CONDENSER & TRANSF). The contracts were signed on 26 August 2019 and 9 January 2020, respectively. The erection schedule is from October 2020 to June 2022.

JEL's scope of work includes the fabrication and installation of piping works, stack, bypass stack, HRSG module lifting, GT, ST, GEN., CONDENSER, TRANSF and BOP common equipment. The first column erection and module lifting for HRSG Unit 1 started on 31 October and 15 December 2019, respectively.

During the peak period, the workforce is estimated to be 520 staff and workers, including locals and foreigners.

Most of the staff and workers are from JEL's Kuwait project team, who are determined to accomplish this project profitably and successfully with flying colours as we continue to thrive and expand our horizons in the region.

There are major challenges and obstructions faced during the summer season where the temperature topped degree Celsius, and the extreme humidity continued for 3 months. At the same time, the unexpected outbreak of Covid-19 shook the whole world and turned into a global pandemic. This was a nightmare for us. We had to deal with the travel restrictions on having staff and workers from different countries to join this project. The local government imposes strict movement and time restrictions. Moreover, the delivery of permanent equipment and materials was affected.

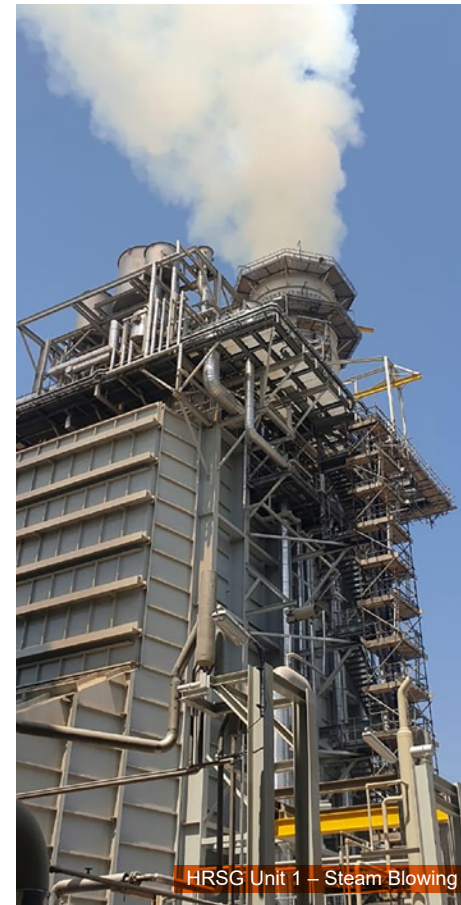


HRSG Unit 1 & 2

However, with our strong leadership, proper guidance, day-to-day encouragement, and utilization of available manpower on the marketplace, we managed to pursue the goal.

Awards Received

1. Certificate of Recognition Award "Turbine Contract" as Best Subcontractor of the Month — March 2021
2. Certificate of Recognition Award "Mechanical Contract" as Best Subcontractor of the Month — January 2021
3. Best Subcontractor USD10k Award for the year 2020
4. Certificate of Recognition Award "Mechanical Contract" as Best Subcontractor of the Month — December 2020
5. Certificate of Recognition Award "Mechanical Contract" as Best Subcontractor of the Month — October 2020
6. Certificate of Recognition Award "Turbine Contract" as Best Subcontractor of the Month — September 2020
7. Certificate of Recognition Award "Turbine Contract" as Best Subcontractor of the Month — June 2020
8. Certificate of Recognition Award "Mechanical Contract" as Best Subcontractor of the Month — May 2020
9. Certificate of Recognition Award "Mechanical Contract" as Best Subcontractor of the Month — January 2020



HRSG Unit 1 - Steam Blowing



HRSG Unit 1 - Steam Blowing

These awards are testament of the effective HSE Programmes carried out in JEL. This significant achievement is made possible by our management's dedication and commitment in reinforcing the value of safety to the organization and individual. The team put in effort in identifying risk factors, providing necessary resources & support, and ensuring every individual's willingness to pursue a safe, healthful, and environmentally sound workplace.

If we work in the same direction with the same objectives, the goal that is set in front of us is possible to achieve despite the difficulties.

BCC2 Combined Cycle Power Plant Project in Thailand



BCC2 Combined Cycle Power Plant Project



146MW
net power output



100 tons/ hour
of demineralised water



90 tons/ hour
of process steam

The EPC consortium partners, consisting of Jurong Engineering Limited (JEL) and Thai Jurong Engineering Limited (TJEL) successfully clinched the contract for the construction of BCC2 Combined Cycle Power Plant (CCPP) Project.

It is located at Map Ta Phut Industrial Estate in Rayong province in Thailand and it consists of 2 gas turbines, 2 heat recovery steam generators and 1 steam turbine. The plant can generate 146MW net power output, 100 tons per hour of demineralized water and 90 tons per hour of process steam to meet the increasing needs of industrial users in the vicinity.

The site access was granted on 15 October 2020 and the ERC permit was approved on 30 March 2021. The major equipment has been procured and the sourcing of remaining BOP (Balance of Plant) components is in progress. HAZOP review with the owner is scheduled in the month of May 2021 via remote conference. We have established office and temporary facilities on site. Currently, the piling works are in progress and the foundation works shall soon commence.

As the project is in its initial stage, at this point in time, the overall progress is on track without encountering any major risks or concerns.

Glow Energy Phase 2 Replacement Cogeneration Plant in Thailand

This project is located at Map Ta Phut Industrial Estate in Rayong province, 2.5 hours' drive away from Bangkok, Thailand. Our team for the Glow Energy Phase 2 Replacement Cogeneration Plant (GSPPR) is actively working on shaping 2 Blocks of 4 Siemens SGT800 Gas Turbines with 4 Heat Recovery Steam Generators, which generates net power of 196MW and 460 tons of process steam per hour for Industrial Users (IU) in the estate and Electricity Generating Authority of Thailand (EGAT), within the 28-month schedule including demolition works.

Demolition was the initial phase prior to the construction scope, as the area was occupied by part of the existing Glow Energy Phase 2 facility. Demolition works include the removal and dismantling of power plant equipment, and demolition of structures.

One year after LNTF issued on 1 April 2020, we successfully executed the comprehensive scope of demolition and site preparation. Civil works are being carried out in tandem as the demolition of the existing factory and its environs were still under way. Engineering activities started with NTP issuance on 31 July 2020. Civil construction works began with the first pile and the ground-breaking ceremony was done on 24 December 2020. Thereafter, piling works at various foundations carried out successfully. Construction activities at this current point of time are greatly focused on civil activities.

Concurrently, Engineering is working full steam ahead for timely submission of documents and drawings. Procurement activities are on track in sealing the deal with approved vendors for various packages. As of now, about 40% of the equipment are procured.

Challenges & Countermeasures

The appointed Owner's Engineer team, AFRY, formally known as Pöyry, is known for paying attention to precise accuracy and compliance of the project specification. Our engineering disciplines did stringent checks prior to submission, following the latest engineering codes and standards, to ensure customer satisfaction.

This project is special because some of the construction activities are done simultaneously with the demolition activities. Pre-studies on parameters of the design basis may differ from the actual situation on site during the demolition phase. Engineering conducted pre-analysis of the potential issues and issue the documents catered to minimize the impact as much as possible.

Since the construction site was narrow and only medium in size, larger equipment and vehicles had difficulties maneuvering and navigating through the site. There were complications raised by the daily heavy downpours during the peak demolition activities in monsoon season.

Additional pumps were deployed to dewater areas deemed unsafe or unworkable due to the large amount of water occupying the affected areas. Careful and meticulous planning regarding the mobilization of such equipment had to be carried out. This is to avoid having excess equipment on site that would be obstacles to the tasks that were already on hand.

Finally, the Covid-19 pandemic has also contributed its fair share of impediments. Management employed Covid-19 countermeasures like social distancing among the workforce and regular site sanitization sprays. Although there were complications and inconveniences with regards to such enforcement, it was mitigated by dividing workers into smaller working groups. Efficient workforce planning also played a vital part in upholding the efficacy of such division. Having virtual meetings with the Owner or Owner's Engineer have become a new norm.

Complete EPC Solution Provider

Customer satisfaction is of paramount importance to ensure the success of the project. One of the strengths of JEL is that we are a complete EPC solution provider. Having a dedicated Engineering team, issues could be resolved in a specified time frame with coordination between site team and Engineering. We set up a system of technical queries to ensure that our efforts will be performed with the best efficiency.



Demolition



Oil Storage Tank — Before



Oil Storage Tank — After



Piling



WTP UG Storage Tank Backfilling



Groundbreaking Ceremony 24 December 2020

Achievements & Awards

Glow Phase 2 Replacement Plant Project has achieved the "100,000 Safe Man-hours Without LTI" achievement on 1 September 2020, within 5 months from LNTF.

Owner Project Manager stated that

“ This achievement is contributed by all contractors and project team for their good teamwork and good site management. Wish to achieve more safety milestones for this project with Zero harm to all persons and the environment.

According to Owner Deputy Project Manager,

“ Congratulation. This is a great achievement for everyone involved in this project. I would like to thank everyone that made it happen. We shall continue to ensure and improve the health, safety and environment at site.

We are looking forward to achieving the next milestone, "500,000 Safe Man-hours Without LTI", in coming months.

Way Forward

Continuous learning is one of our core values. The experience learnt in this project will be a perfect steppingstone for us to further understand and gain exposure to the issues raised in the context of demolition and interface with existing utilities.

The precautions and standards practiced in this project will set our capabilities to new heights. This will in turn help us to secure more projects, and successfully carry them out in the safest way possible.



100,000 Safe Man Hours Without LTI



100,000 Safe Man Hours Without LTI

Rayong Waste-to-Energy Project in Thailand



Rayong Waste-to-Energy Project in Thailand

Unlike the Biomass Power Plant Project executed by JEL and TJEL at Lamphun, Thailand, **RDF Power Plant** is a **Waste-to-Energy** (WtE) Plant. It is designed for incineration of Refuse Derived Fuel (RDF) and can generate 9.9MW of electricity (gross output). This allows the plant to sell 8MW net electricity output to Provincial Electricity Authority (PEA) of Thailand.

WtE is a safe and hygienic method of treatment which reduces the waste volume by approximately 90%. The plant is located close to existing GPSC RDF Plant built at Rayong Municipal Waste Centre, Tambon Thap Ma, Amphoe Mueang, Rayong province Thailand. RDF from the RDF Plant is transported to the WtE Plant by long transfer conveyor.

JEL and TJEL collaborated with **Hitachi Zosen Corporation**, Japan, a leading technology solution provider for waste-to-energy plants, who provides the basic engineering of RDF boiler plant as well as supplying the stocker waste combustor, exhaust gas treatment equipment and auxiliaries. The plant utilizes innovative technologies such as HZI Semi-dry and EGR (exhaust gas recirculation) systems. These establish high-efficiency flue gas treatment systems which comply with the local environmental regulations.

Our teamwork and prudent foresight helped us successfully tackle the obstacles that came up at various stages of construction. During ground leveling, a section of the highly resistive soil was replaced with imported soil of less resistance to meet the optimum condition. Meanwhile, the ground design was changed to meet the grounding design requirement.

During the execution phase, our team rose to the challenges and resolved various issues through regular clarification meetings. We managed to offer solutions that resonated with customers and suppliers and accelerated progress. Finally, we achieved good progress whereby all piling & major foundation works were completed within 6 months of site preparation followed by early start of boiler structure installation.

The outbreak of Covid-19 in January 2020 aggravated the situation and impacted vendor's supply chain and manufacturing. In March and April 2020, most manufacturing facilities came to a halt due to this pandemic. Travel restrictions and extended lockdowns by respective governments have delayed the delivery of key equipment and ruled out mobilizing overseas technical personnel.

Despite these challenges, we successfully completed the installation and commission

the facility to achieve commercial operation of the plant on 28 May 2021, before the planned date agreed with Owner.

This achievement was only possible through constant liaising with all vendors across the globe, discussing every means of expediting and mitigation by considering airlift, expediting manufacturing plan by arranging additional shifts and resources, changing erection sequence, and expediting shipping of parts. The team used RealWear cameras to enable remote supervision and online technical assistants. On top of that, there was good support from Owner and Owner Engineer throughout the project execution.

The project has achieved "2,000,000 Safe Man-hours Without LTI" in February 2021 and this marks our significant efforts spent in practicing the safe working procedures.

With prompt and superior service delivery, this project shall herald our commencement in the field of **Waste-to-Energy** plants.

China Gezhouba Group Company (CGGC): UAQ Independent Water 150 MIGD SWRO Desalination Project

JML has consecutively secured its third SWRO Desalination Project in the gulf region and its first in United Arab Emirates.

The UAQ Independent Water 150 MIGD SWRO Desalination Project is located at the north of Emirates Modern Industrial area in the Emirate of Um Al Quwain, adjacent to the border with Ras Al Khaimah. It is approximately 20 km North of the city



SWRO Desalination Project

of Um Al Quwain and in the vicinity of the coastline of the Arabian Gulf. The capacity of the UAQ Project is 150 million Imperial gallons of water per day (approximately 68,200 m³ per day)

The EPC contract has been signed between SIDEM Veolia and Naqa'a Desalination Company. For construction works, SIDEM Veolia has partnered with China Gezhouba

Group Company Limited (CGGC).

CGGC selected JML to carry out part of its piping works equivalent to 150,000 Inch-diameter (both metallic and Non-metallic) and 300 ton of steel structure works at plot-6 work area.

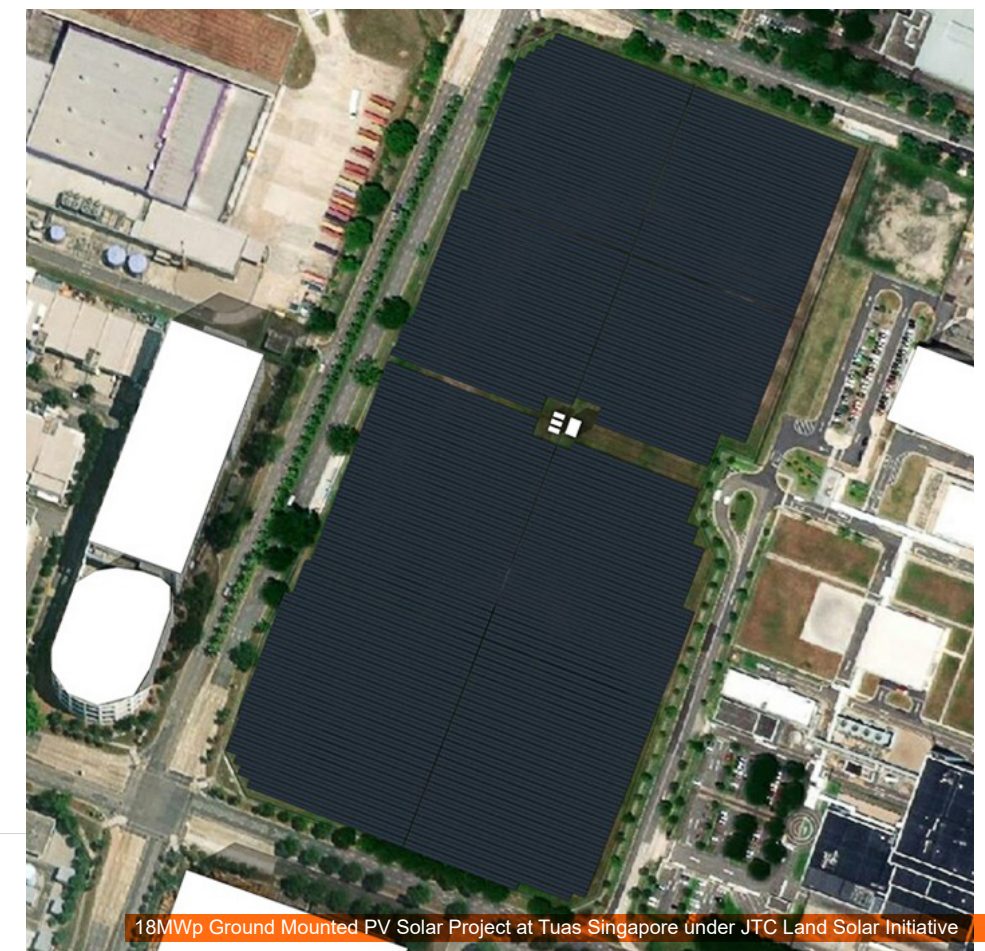
Sembcorp Solar: 18 MWp Ground Mounted PV Solar Project

Sembcorp Solar awarded JML their first ground mounted independent PV Solar Plant Project, 18MWp on 9 Hectare of land at Tuas, Singapore. This project is part of JTC's initiative to implement PV Solar on vacant land for interim use to contribute to clean energy generation in Singapore.

JML's scope comprises overall system design, supplies of mounting structure, complete electrical (AC/DC) system, MV Transformers and Substation, as well as the complete installation and commission. While Sembcorp Solar provides the PV Panel and Inverter.

The complete system design is able to relocate within 6 months. It is also designed with rainwater-harvesting feature as part of the mounting structure of the PV panels.

Project is currently under construction with targeted completion by mid July, 2021.



18MWp Ground Mounted PV Solar Project at Tuas Singapore under JTC Land Solar Initiative



JEL Golden Jubilee 2021

Golden Jubilee, the 50th year that JEL has been formed, is not an easy milestone to achieve. During the half a century, we worked hard with our core values in mind and achieved excellence. To celebrate this precious and exciting milestone, our JEL family gathered in various events in the past months. Now, let us walk you through the events and feel the joys!



01
Lion Dance
17 February 2021

Lion Dance, the first event to celebrate JEL's Golden Jubilee. It is a traditional dance in Chinese culture that brings good luck and fortune. We held and enjoyed the Lion Dance event at our office in Singapore.



02
Birthday Cupcake Distribution
17 February 2021

A birthday celebration is incomplete without delicious cakes. To celebrate JEL's 50th birthday, we bought delicious cupcakes and distributed them to each family member to share the joy.



04
Happy Birthday JEL Video Contest
17 February 2021

We held Happy Birthday JEL Video Contest for JEL Group of Companies to share their well wishes for our 50th birthday! We have received a total of 50 videos!



03
Festa Virtual Party
17 February 2021

Over 700 staff from 50 different sites joined the celebration via a virtual party. We shared our best wishes to JEL and held a lucky draw session to appreciate the participants.



05
Launch of Revitalized JEL Song
17 February 2021

The JEL song was written in the 80s. In celebration of our Golden Jubilee, we put in new music elements and involve JEL local and overseas subsidiaries staff in the corporate song and video.

The song reflects JEL spirit of Rising to the Challenge.



06
Meals-on-Wheels
26 February 2021

Meals-on-Wheels is a joint project with Touch Home Care to deliver meals to homebound elderly residing in Jurong and nearby neighborhoods.

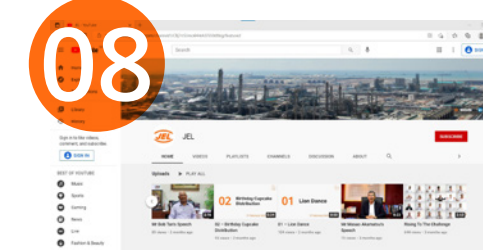
Golden Jubilee is an important milestone and as we commemorate our progress, we will be giving out goodie bags to some 300 beneficiaries of Meals-on-Wheel programme over the course of the Meals-on-Wheels events in 2021.



07
Launch of JEL Golden Jubilee website
8 March 2021

As part of our rebranding, we have revamped our website.

For this remarkable milestone, we created the Golden Jubilee page on our website to share the joyous moment and appreciate all our stakeholders, business partners and staff.



08
Launch of YouTube channel
31 March 2021

In celebration of JEL Golden Jubilee, we have created JEL YouTube channel. A new platform to document our moments of joy and our progression. Stay tuned for more videos!



09
Golden Jubilee Office Decoration
14 April 2021

Our office was decorated to boost up the mood of the celebration atmosphere. The decoration will remain till end of 2021 to commemorate our Golden Jubilee.



10
Meals-on-Wheels
16 April 2021

Another group of volunteers gathered for a picture with our Golden Jubilee banner before heading to Touch Home Care.

We packed goodies bags and meals for the beneficiaries.



11
Golden Jubilee Town Hall Meeting
7 May 2021

Staff at various locations joined the Golden Jubilee Town Hall Meeting with our management team virtually. Representatives from various departments and project teams shared the latest updates and presented respective directions for development. From senior management to ground workers, everyone was able to express their opinions and best wishes through the tools and platforms provided.



13
Commemorative FlashPay Card
7 May 2021

In celebration of our Golden Jubilee and the launch of new Vision & Mission. We produced this commemorative FlashPay card based on the most voted design.



VISION

The preferred global partner at the forefront of innovating for a sustainable future.

MISSION

We provide reliable, superior and comprehensive engineering solutions focused on optimising life cycle efficiency, safety and delivering maximum value to stakeholders.

12
Launch of new Vision & Mission
7 May 2021

To continue grow and shine, we considered and re-adjusted our Vision and Mission statements for a clearer and more effective guide for making decisions, and to ensure that all the decisions made are properly aligned with the overall goal.



14
Completed Planting 50 Trees
15 May 2021

Tree planting is another memorable event in the list. It is for us to contribute to the greening of our 'City in Nature'. The program started in 2019 with the aim of planting 50 trees by 2021 in celebration of our 50th anniversary. On 28 September 2019, 14 trees planted at East Coast Park, Singapore. This May, we have successfully planted another 36 trees at Jurong Central Park with the help of NPark team!

Eat Healthy, Live Healthy



Chester Teo Wee Loong
Senior Executive
Risk Management Department

Healthy Lifestyle

As for exercising, other than riding my bicycle, I do not like to exercise. Instead, I try to move more. If it is nearby, I will walk. Slightly further, I will cycle. In the office, I use the stairs. Instead of riding the escalator, I walk up the escalator. When watching TV, I will jog on the spot and do squats. I stopped reading web novels and switched to listening to audiobooks so that I could walk and listen.

As for riding my bicycle, my favorite route is the scenic Marina Bay and Gardens by the Bay area. When speeding along on my bike with the wind on my face, I feel so happy and free like a bird soaring in the skies! It has kept me sane and healthy, both physically and mentally, through this Covid-19 period.

Diet

There is a saying that 'It is not possible to out exercise a bad diet'. Well, I totally agree! In construction terms, I believe that a good diet is the piling upon which a healthy lifestyle is built on. You will be better off with a good diet and minimal exercise than with a bad diet and lots of exercise.

Below are a few points that I follow to achieve a good diet.

- 1. Eliminate sugar, especially processed sugar, from your diet.
- 2. Avoid processed food and go for real food.
- 3. Calories in, calories out. If you consume fewer calories than you use up, you will lose weight.

Although they are simplistic concepts, they work for me.



Nora Norman
HR Administrator
Human Resource Department

Healthy Lifestyle

Covid-19 does not stop me from being active and maintaining my fitness. Although there are limitations, I can still exercise in Gym, attend classes such as Zumba, Yoga or go for brisk walking. My lifestyle is simple, besides taking care of my bound wheelchaired parents, I exercise twice a week, either indoor or outdoor, to release stress, gain more energy, and regain self-confidence. Do join me if you would like to go for brisk walking in the lake-garden, it is wonderful.

Diet

I do not really skip any meals to get fit but instead, I eat more vegetables & fruit and drink juice. Balancing our meals and eating at the proper time are the best ways to maintain a healthy lifestyle. Never miss my favorite ice-cream once every week and that is the way I am enjoying my life without dieting.

A healthy lifestyle not only changes your body, but also your mind, your attitude, and your mood. It is not about being the best, but better than you were yesterday.

What is your opinion?

Interested to share your story?

Write to us at
paulow@jel.com.sg

We will choose the most voted stories to share in the next Insider.

What is so great about working in JEL?

JEL has been listed in The Straits Times Singapore's Best Employers 2021. This prestigious award identifies the Top 200 employers out of 1,700 who qualify for the criteria of having 200 employees in Singapore.

What is so great about working in JEL? Our young talents working for different projects at different sites shared their stories with JEL.



JEL is a big multicultural family that gives us opportunities to grow and learn. Effective communication and quick adaption to environments are the two most important skills I have learned.

Chua Wei Cheng
Piping Engineer
Rayong, Thailand



JEL gives me opportunities to travel, experience various projects, and learn different skills from different roles. Continuous learning is the key to success.

Andy Nguyen Minh Dung
Project Coordinator
Semarang, Indonesia



JEL family is friendly and helpful. I was given many opportunities to meet different people and learn from them. Happiness is having a co-worker who becomes a friend.

Foo Wei Ting
Piping Design Engineer
Singapore



The spike in Covid-19 cases in India shocked the world. We have friends and colleagues who are stationed in Sinmado Engineering (India) or working in project sites in India. Since the start of this pandemic, over 600 of our staff and workers have been infected. Thankfully, most have since recovered.

To help the people suffering from this crisis, on 14 May 2021, JEL launched a fund-raising campaign to contribute and help. On 31 May 2021, we successfully closed the campaign with a total of SGD 5,362 raised.

Funds raised will go to the 'India Health Relief Fund', set up by the Singapore Red Cross (SRC) via Giving.SG.

Thank You

A big THANK YOU to all the donors!

Every bit of help could save a life. Your kindness is greatly appreciated. Meanwhile, we would like to extend our best wishes to our friends, colleagues, and their families in India!

Insider Conversation



2010 during IRPC project HRSG 1st Module Lifting: Mr. Toh Wai Tong's photo with Ms. Zaihana, Mr. Wong and others

Our people are always our most precious asset. JEL will not make it here without the diligent staff.

As we celebrate our 50th anniversary, Mr. Toh Wai Thong started his 50th year with the company. He began his career with JEL as a Welding Supervisor in the Kuwait Project. Over the past years, he has worked for various JEL projects in various roles such as Engineer, Piping Manager, Construction Manager, and Site Manager. He is currently working in Thailand Project as the Fabrication Shop Manager.

A "No-Nonsense" Guy

Mr. Edwin Wong met Mr. Toh in 1997 during his first project in Wang Noi Phase 2. "Mr. Toh was the Chief Piping Engineer while I was still a junior Trainee Engineer," he shared.

He describes Mr. Toh as a "No-Nonsense" guy, "My first impression of him was a knowledgeable senior who take great responsibility in his work, and I learned a lot of technical knowledge from him."

“Mr. Toh never stop learning even at the age of 71,

Mr. Edwin added, "He is currently working on improving the fabrication efficiency by adopting innovative technologies such as Automatic Welding Machine."

A Knowledgeable and Reliable Man

1994, about 27 years ago, that's when Mr. Wong Chow Yee first met Mr. Toh, "He was rather skinny and small built, so I was wondering how he could survive in such a tough and challenging working environment on site."

However, Mr. Wong's view was proved unfounded shortly afterwards. "After getting to know him better, I found out that he is equipped with excellent welding skills," Mr. Wong added,

“He also demonstrates great leadership in controlling several tens of welders.

Mr. Wong sees him as a knowledgeable and reliable man, "He is always very resourceful in finding solutions to all kinds of technical issues and will never promise things that he cannot deliver."

"He is confident when facing clients and always provided comprehensive explanations," Mr. Wong highlighted, "He has earned lots of respect and trust from various clients." Many times, Mr. Wong received requests from clients asking for Mr. Toh as the project leader.

"With his knowledge and performance, he deserved to be promoted to become section engineer, chief engineer and even site manager in his career with JEL," Mr. Wong said.

To celebrate this remarkable milestone, we have also invited Mr. Toh for an interview. Let us hear about his journey with JEL.

Project at JEL

Mr. Toh has worked on many challenging projects. "The project in Fujairah would definitely be one of the most exciting projects," Mr. Toh shared. "Our team had to complete the fabrication process in Thailand and deliver them to site for erection works. We needed to monitor the timeline of the fabrication process closely and ensure that we follow the drawings exactly."

"Schedule and accuracy were the most critical things of this project," Mr. Toh added. "Our team traveled from Thailand to Fujairah together for the erection works. Nevertheless, we managed to complete the task in time."



Our COO, Mr. Koh, presenting a token of appreciation to Mr. Toh.



Mr. Edwin Wong and Mr. Toh Wai Thong

Moment at JEL

When we asked Mr. Toh for his most memorable moment in JEL, he said, "celebrating the 50th anniversary with JEL is a very important and memorable moment" in his career.

"JEL has a very friendly working environment," he added.

“We are always given opportunities to improve, and this is the main reason for me to stay with the company until now.

Challenges at JEL

Each challenge is an opportunity because, "we grow when we face challenges," he explained.

"Work with positive mind is my key to solve the problems and challenges faced," he shared. "I sincerely appreciate the management, staff and the most lovable workers who supported me during the challenging times."

Next Chapter in Life

Retirement is not the end of the road but a fresh start to a journey filled with new experiences and relaxation. Many of us have great plans for it, and so does Mr. Toh.

"After my retirement I will take a break and spend more time with my family," Mr. Toh mentioned. After years of hard work and dedication, "I will be more than willing to share my knowledge with those in need," he added.

Mr. Toh's stories reflects the core values of JEL: **Diligence, Continuous Learning, Shared Ownership, Customer Satisfaction and Respect**. It is our great honor to have Mr. Toh be part of the JEL family.

Happy 50th work anniversary Mr. Toh! We are proud of your achievements, and we genuinely appreciate your contribution to the company! We look forward to continuing the story with you.



Key Management MBTI Workshop 2019

MBTI Program in JEL

The Myers-Briggs Type Indicator (MBTI) is one of the most popular personality assessments in the world and is used by most Fortune 500 companies for people and team development.

It traces its history to 1921, when Carl Gustav Jung, a renowned Swiss psychiatrist, published his theory of personality types in the book "Psychological Types". Inspired by Jung's theory, Katharine Cook Briggs and her daughter, Isabel Briggs Myers, spent decades researching and validating the theory. They developed the MBTI instrument and published it in 1962.

Myers believed that if people understood each other, they would work better together and there would be less conflict. Bearing the same belief, JEL conducts MBTI program to enhance communication and cooperation among the employees. Through gaining insights about ourselves and others, we learn to appreciate, value, and work with all the personality types. Diversity is not merely in culture, gender, and nationality, it is also in personality type. Eventually, we intend to optimise team effectiveness through leveraging differences constructively.

To date, more than 190 employees within JEL Group, including the members of the Management Committee, have taken the MBTI assessment. A total of 9 workshops, with the aim of exploring all 16 personality types, were conducted by either external or certified internal facilitators over the past 5 years.



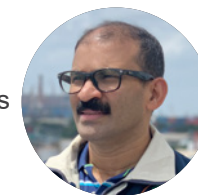
16 Personality Types



HOD Virtual MBTI Workshop 2020

Project Manager, Mr. Johnson P. John, felt that he knew more about himself through the program and learned to apply his strengths to his advantage. He commended,

I would recommend this to my colleagues and better half.



Mr. Alan Phang, General Manager of Human Resources and Administration Division, is one of the certified internal facilitators in JEL. He has used MBTI for team development and leadership development in his workshops.

The participants enjoyed the program and found MBTI

useful in improving numerous aspects of work and personal life. I would like to encourage more staff to participate in our workshops in the future.



HSE Conference 2021

HSE Conference

The 8th JEL Annual HSE Conference was organised by the JEL HSE Department on Wednesday, 17 March 2021, from 9am to 2.30pm. The event was attended by JEL Management Committee members, while the rest of the management team and HSE professionals attended virtually, via Microsoft Teams platform.

The event started with an introduction speech by Mr. Masao Akamatsu. He outlined JEL's past year's HSE performance and addressed challenges and areas for improvement. Akamatsu-San gave an inspiring speech on the importance of good safety management to achieve zero loss time injury (LTI) at work.

Participants in the HSE Conference include various JEL subsidiary representatives from HSE project teams and corporate departments including PTJEL, TJEL, EESB and JELO and the JEL Singapore HSE department. The presentations from corporate and project teams include challenges faced during current pandemic situations and how it is controlled at the workplaces such as daily temperature checks, social distancing during mass tool-box meetings, and maintain clean and hygienic office and eating areas through regular sanitising and housekeeping.

Mr. Koh Kew Sek, COO of JEL, closed the Conference and addressed HSE challenges ahead by

being resilient during the current pandemic and continuing to implement Health, Safety and Environmental control measures diligently at the workplace.

Insider Picks

In this issue, we asked our colleagues from overseas to name one of their favourite local food, yet not known by many foreigners. Hope they may interest you to give it a try during your next travel.



คั่วกลิ้งหมู



Benjawan Poonperm
Accounting Officer
Thailand

Kua Gling Moo | Dried Pork Curry

This spicy Thai dish is an absolute classic southern Thai food. It is minced pork (or any other type of minced meat) stir-fried with southern curry paste and turmeric. It is spicy, super flavorful and versatile!

Southern Thai food is usually very spicy and is usually served together with some vegetables. The strong spices and the flavorsome curry are what I love most about southern Thai cuisine.

However, I have only tried to cook this dish once. The taste was super good!

I would like to recommend this dish to the rest, and you can try it with steamed white rice and fresh raw vegetables on the side.



Gulai Kikil



Ita Sabrina Pelawi
HR Manager
Indonesia

Goat's Leg Curry

This dish is cooked with goat's leg and full of local ingredients like chilies, coriander, onion, turmeric, etc.

Goat's leg curry is usually served with hot rice. I like this dish because of its spiciness and rich flavor. Not only is it very tasty, but it also has a very chewy texture.

I have cooked this dish many times as this is my family's favorite food.

I would recommend reducing the chilies used for foreign friends who do not like spicy food.



潮州肉粽 & 豆沙粽



Cristina Lee
Office Manager
Taiwan

Sticky Rice Dumpling

In our culture, sticky rice dumplings are made to celebrate Dragon Boat Festival but now we get to enjoy them on normal days. I like the simple ingredients. It is just wrapping the marinated pork belly (salty taste) and red bean paste (sweet taste) with bamboo leaves and a string.

During my childhood, my mother would wrap sticky rice dumplings of just these two flavours. My mother makes the most delicious ones as compared to those available on the market.

Now, I prepare sticky rice dumplings before Dragon Boat Festival every year to share with my friends and family.

I surely would love to recommend these to the rest. They can also try to wrap other ingredients inside.

Editorial Notes

Special thanks to all the article contributors and editorial team members. Every reasonable care has been taken to ensure the accuracy of the information printed in this bulletin. No responsibility can be accepted therefore. For enquires and feedback, please contact us:

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