

# HEALTH & SAFETY EXCELLENCE

**OUR JOURNEY TOWARDS 2028** 



A PUBLICATION BY
PUB, SINGAPORE'S NATIONAL WATER AGENCY



Safety is one of the core values embedded in PUB's business operations and is of paramount importance to our mission of supplying good water, reclaiming used water, taming storm water, and resisting rising seas.

In the face of the elevating challenges e.g. constraints arising from limitation in land and water resources, PUB's investments in operations and engineering have been increasing over the years.

Despite the increasing work intensity, we have held strongly to the belief in our Health and Safety Vision of "We Choose Zero". Every Health and Safety milestone that we have charted seeks to cultivate a zero tolerance mindset towards accidents.

To this end, our Health and Safety Excellence 2020 journey began with a focus on continually improving Safety Management System, fostering positive Safety Culture, and enhancing the health management of our People.

# "We Choose Zero" encapsulates the vision of our Health and Safety Excellence (HSE) 2020 journey.

This endeavour would not be possible without the close collaboration between Senior Management, the Union, the Workforce, and our Contract Partners.

As we gear towards realising our health and safety vision for 2028, we continue to strive towards zero accidents in all core operations without compromising our priorities.



### **FOREWORD**

### BY HEALTH AND SAFETY BOARD COMMITTEE CHAIRMAN

The level of emphasis PUB has placed on both health and safety is indeed astounding. As the Health and Safety Board Committee Board Chairman, I have witnessed the strong commitment and passion demonstrated by our senior management team towards Total Workplace Safety and Health; and this leadership has helped to nurture the health and safety awareness that has been growing in each and every one of us.

Even in the face of difficult challenges arising from the COVID-19 situation, I have been very impressed by the resilience and dedication shown by PUB in ensuring continuity in our water service whilst keeping operations safe and people healthy. This is no easy feat and would certainly not be impossible without the collective contribution from every one of you.

With HSE2020, we have now built the muscles necessary for our health and safety transformation journey. However, we are still in the early stages of our transformation journey. We have yet to achieve 'zero accidents', and at this stage of our journey, it is very possible that we may still experience occasional bumps, slips or even falls.

We must continue to hold on to our belief in workplace health and safety and do more to prevent the next accident. One day when we achieve zero accident, we can look back and note that this was the momentous point in our journey. We do this because we own 'health and safety'; 'health and safety' is for ourselves, our People and our loved ones.

I am very proud of the achievements all of us have made, and I look forward to your further support in realising our vision of zero accident and occupational disease.

#### ABU BAKAR BIN MOHD NOR

CHAIRMAN, HEALTH AND SAFETY BOARD COMMITTEE

### FOREWORD BY CHIEF EXECUTIVE

No one needs to risk his life working for PUB. In PUB, there is no reason for any one of our staff or contractor to have to put himself in danger in order to do his work. No one needs to lose a finger, lose an eye, lose a limb or, worst, lose his or her life coming to work for PUB. Therefore, every accident that happens in PUB is a tragedy. And every accident that happens can and should have been prevented.

It is with this motivation that we launched the Health and Safety Excellence 2020 campaign back in 2018. HSE 2020 led us to take a whole series of actions that have strengthened our safety system, impacted on our people, and also changed, for the better, the safety culture in PUB. We did a lot in the two years of HSE 2020, and are encouraged by the outcomes that have been achieved. But there is so much more to do. And so, we have since taken another step forward, with HSE 2028, and aim to create a PUB that will be free of accidents and filled with employees who are in the pink of health.

Having good health and total safety in our workplace is not a natural state of affairs. Our workplaces can be safe and healthy only if we pay attention all of the time. We must live and breathe it, and must make good health and safety a way of life in PUB.

When it comes to health and safety, we choose zero

#### **NG JOO HEE**

**CHIEF EXECUTIVE** 







### **LIFE SAVING RULES (LSRs)**

Adapting some of the industry's best practices, we became the first Statutory Agency to implement the 5 Life Saving Rules (LSRs).

- Do not work without a valid Permit to Work when required by Law;
- Do not work without a Lockout-Tagout when isolation of energy is required;
- Do not smoke within Designated Hazardous Areas;
- Do not set off naked light within Designated Hazardous Areas without authorisation; and
- Do not work under the influence of alcohol.

These rules are to cement our bases of safety in operations. Any contractor or employee found violating any of the life-saving rules can be terminated from service. This is an uncompromising but important stand taken by PUB to deter critical non-compliance that can endanger lives.

The smooth implementation of LSRs had been facilitated not just through the engagement by the Health, Safety and Security team, but also the collective efforts of everyone - our staff, Union, and contractors.



▲ ▼ Life Saving Rules (LSRs) Signages at PUB Facilities



# **IMPLEMENTING THE LIFE SAVING RULES** (LSRs)



▲ CE Presents an Award to the Winner of the Life Saving Rules Video Competition



▲ Employees Perform a Skit Related to Life Saving Rules

Together with management representatives and the PUB Employees' Union (PUBEU), the Health, Safety and Security division organised over 50 engagement sessions.

**PUBEU** represented has employees during these engagement sessions and provided constructive feedback that have helped ease acceptance workforce among the without compromising the effectiveness of the rules.

Other than engaging our existing staff, all new staff were

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Do not set off naked lights within Designated Hazardous Areas without authorisation

Do not work under the influence of alcohol

▲ Life Saving Rules Reminder Card for Staff and Contractors

also briefed on the LSRs during their induction programme and as a form of reinforcement, all staff are required to make a yearly declaration of LSR awareness.

Today, LSRs are embedded into our tenets behind safe operations and are well respected like basic house rules in our big family. Since the launch of LSRs in 2018, none of our employees has violated the life-saving rules. Safety messages on life saving rules, including posters and videos, continue to be made in-house by our people to propagate the importance of LSRs in our day to day work.

# SAFETY MANAGEMENT SYSTEM: WORKSHOPS TO EMPOWER STAFF

WSH Incident Investigation and Root Cause Analysis Workshop was specially developed by our Health, Safety and Security Division for PUB incident investigators. The workshop sought to provide our incident investigators a standardised approach that would allow them to, more effectively and systematically identify root causes of an accident and implement corrective actions to prevent a recurrence.

Likewise, a series of workshops empowered our officers with the necessary know how to systematically conduct Safety Audits, and implement Observation and Intervention.



▲ Cross Department Audit Team at Work



▲ Investigation on Site



▲ An Enhanced Investigation Workshop in Progress



▲ Participants at an Observation and Intervention Workshop

### **USE OF TECHNOLOGY**

Aligned with our vision of "We Choose Zero" and faced with the challenges of an aging workforce managing higher work intensity, PUB has been leveraging innovative technology to make work safer, more ergonomic and efficient.



▲ Distress Signaller / Tracer



▲ Staff Trying Out an Innovative Safety Technology



▲ Use of Drone for Drain Inspection



▲ Screaming Cone – Sensor Activated Alarm System



▲ Centralised Tunnel Excavation Monitoring System



▲ Manhole Inspection via Keyhole Deployment

### MOTORCYCLE RISK MANAGEMENT

Many in our PUB workforce ride motorcycles for work.

However, as identified during the 2018 Safety Steering Committee Meeting, motorcycle traffic accidents was identified as one of the key contributors of Accident Severity Rates for the first half of the year.

The Committee, led by our Chief Executive and senior management members, promptly directed a task force to study the causes and provide recommendations.

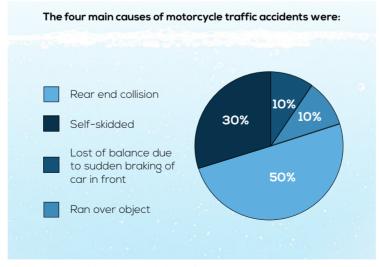
Two key causes were identified through incident trend analysis and interviews:

- Lack of visibility, especially during inclement weather
- Riders' deficiency in handling dynamic conditions en route



▲ Staff Collecting Their Set of Enhanced Rider Kit

### **Incident Findings**



▲ Findings from Incident Trend Analysis and Surveys

# ENHANCED RIDER KIT

In consultation with Senior Management, the HSE Committee and PUBEU, we invested to equip relevant staff with an enhanced rider kit.

The set includes riding shoes, high-visibility riding jackets, luminous raincoat, high-quality motorcycle helmet with camera as well as storage box.

All riders are also scheduled to attend defensive riding courses to improve their competency to handle road conditions and interact with other road users.

▲ Staff Clad in Enhanced Motorcycle Gear

# FULL SUITE OF MOTORCYCLE PERSONAL PROTECTIVE EQUIPMENT (PPE) SUPPLIED BY PUB



HELMET

Productivity and Standards Board (Singapore) approved modular full-face helmet with front flip.



VIDEO ACTION RECORDER MOUNTED ON HELMET

12 MP, WIFI enabled, up to 30 FPS at 1080P with 32GB card.



**LUMINOUS RIDING JACKET** 

high visibility, high reflectivity in low light conditions and abrasion resistant.



#### 2-PIECE RAINCOAT

withstand all weather conditions and rough handling.



**GLOVES** 

well padded gloves to protect your palms, knuckles and fingers.



MOTORCYCLE BOX 52 litre capacity.

MOTORCYCLE RIDING SHOES

water resistant and compliant with EN ISO 20345.





# RAISING AWARENESS: HEALTH & SAFETY DAY

Having a good safety management system alone will not be enough to foster a positive safety culture. We need to engage the hearts and minds of PUB's workforce to create pervasive ownership of a safe and healthy work environment.

Health & Safety Day is an annual event held at the Board and Department levels with the objective of cultivating strong awareness of, and support of health and safety in our workforce.

On health and safety day, our leaders, together with other invited staff and contractors' representatives, would together recite our safety pledge to demonstrate our commitment towards our goal of zero accidents.

Staff and contractors would develop skits, games, or videos with the aim of encouraging everyone to play their part to keep their workplace safe and healthy.



▲ Attendees taking the Safety Pledge



 ${\color{red}\blacktriangle}$  Chief Executive and Health and Safety Board Committee Chairman visiting the Exhibit of a New Safety Technology



▲ Top Management with Award Winners



▲ Staff Presents Safety Messages by Performing a Skit



▲ An Industry Expert Shares His Insights on Health and Safety

Our Chief Executive would communicate his Health & Safety vision, share PUB's safety performance, and galvanise all towards higher achievements in Health and Safety.

He would also present awards to recognise the effort that our worksites and staff and project partners have put in to achieve Health and Safety excellence.

Knowledge sharing is vital to creating a strong safety culture. We would line up industry experts to share their insights on Health and Safety.

Staff and vendors would also be invited to present safety practices, experiences, and messages via booth exhibits, through incident sharing or through skits and videos.

# **ENGAGING STAFF**

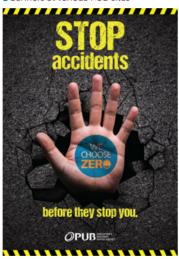
At every touchpoint, staff are constantly reminded of key safety messages.

Upon internalising the messages, many of our colleagues across various departments have since been inspired to come up with their own renditions of these messages.

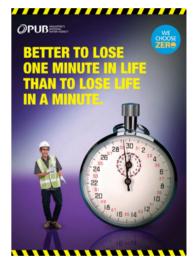












SAFETY FOR FAMILY

▲ ▼ Creative samples of Posters Created by Our Staff



# **ENGAGING PARTNERS**

Our contract partners, like our workforce, are key co-owners of this safety journey that we have embarked on. It is therefore crucial that we reach out and encourage them to walk every step of this journey with us.

In January 2019, following the launch of our Health and Safety Excellence 2020 campaign, we invited members of our contractors' senior management to an engagement session, with the purpose of aligning them to our vision of "We Choose Zero."

The PUB Health and Safety Board Committee Chairman, Mr Abu Bakar, conducted a dialogue with our partners to emphasise the need to strengthen our Safety Management System, our Safety Operational Culture and Health Management.

We ended the session with Lo Hei to mark the auspicious start of a shared journey towards Health and Safety Excellence 2020. ► Construction Safety Committee chairman sharing his reflections over PUB's Construction Safety Performance



▲ Health and Safety Excellence 2020 Engagement Session with Contractors



▲ The HSE 2020 Engagement ended with a Lo-Hei Celebration



### CONSTRUCTION SAFETY SEMINAR

Since 2015, the Construction Safety Seminar has been an annual health and safety event organised by our Construction Safety Committee. It is focused on engaging PUB contract partners on year-to-year health and safety performance, and aligning our directions with our contractors on health and safety developments.

The Construction Safety Seminars were well-attended by PUB's senior management, staff, union representatives and members of our contractors' senior management.

During the event, the Construction Safety Committee Chairman would review the safety performance for construction projects and steer our partners towards areas to focus on in the coming year.

Industry experts and experience engineers from PUB or our project partners contractors would also be invited to share on safety, health and environment-related issues pertinent to construction operations.

# FELT LEADERSHIP: TOP MANAGEMENT SAFETY WALKS

Walking the talk is key to achieving a zero-incident workplace.

Twice every year, our Chief Executive, the Health and Safety Board Committee Chairman, together with PUBEU, the Health, Safety and Security Division, and the Safety Committees, would lead the Top Management Safety Walk at PUB plants or construction worksites.

This demonstration of felt leadership reinforces our commitment to our Health and Safety Excellence, and ensures all employees and contractors are engaged with PUB's health and safety values.





▲ Minister Grace Fu (1st from left) at a Deep Tunnel Sewerage System Safety Walk



▼ Top Management Interacts with Staff Onsite

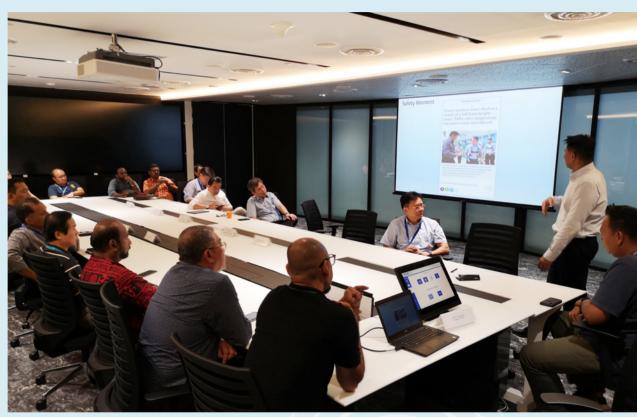


# SAFE OPERATIONAL CULTURE: WORKFORCE SAFETY COUNCIL (WSC)

To foster a strong sense of ownership, Union safety members and selected safety champions from every operational department formed the Workforce Safety Council.

The Workforce Safety Council members will take the lead to propagate and permeate a strong safety culture among the workers by:

- Serving as feedback and communication channels between management and workers
- Looking out for unsafe acts and conditions at the workplace; they are an extra pair of eyes to make sure that the workplace is safe
- Walking the safety talk and being involved in safety and health activities in the workplace
- Rallying fellow workers to work for the safety and health of one another
- Influencing fellow workers to reinforce learning points from past accidents



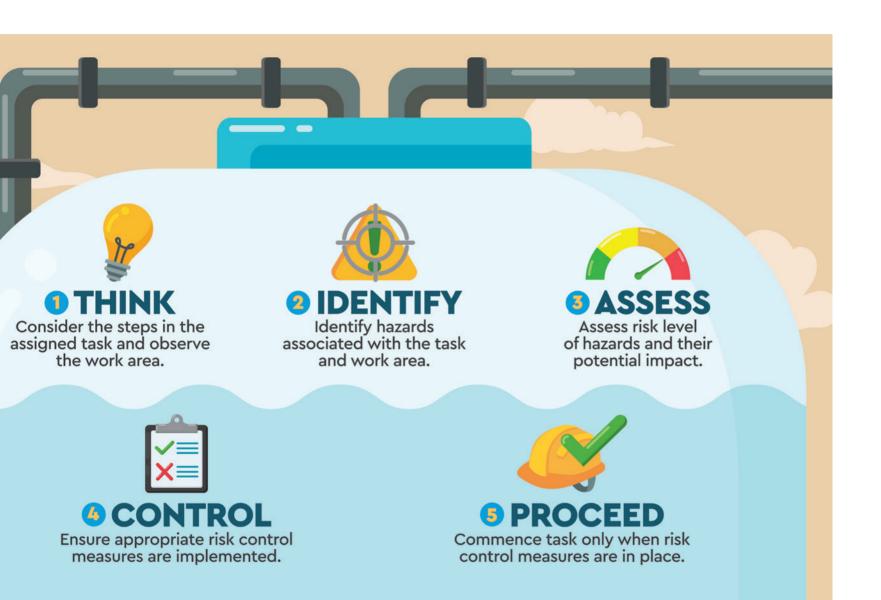
Δ Union Safety Advisors and Safety Committee Members at a Workforce Safety Council meeting engaged by Health & Safety Board Committee Chairman Mr. Abu Bakar

### **TAKE 5 FOR SAFETY**

Take 5 for Safety is one of the core safety practices that every worker, regardless if you are PUB staff or our project partners, must adopt before commencing any task.

To promote the key steps in Take 5 for Safety, posters, cards and even a video were developed and made accessible across PUB.





# SAFETY PERFORMANCE MANAGEMENT: FROM LAGGING TO LEADING INDICATORS

Advancing towards a zero-accident safety culture calls for a more pre-emptive approach, which identifies latent risks before an accident occurs.

On top of incident tracking, which is a lagging performance indicator, we have embarked on monitoring leading indicators to proactively manage safety performance.

These leading indicators include keeping track of accidentfree days, adhering to training plans and near miss or hazard reporting, across PUB Ops Departments, and construction sites.



▲ Onsite Counter of Accident-Free Days



Nonetheless, incident tracking shows us where we have been and how best to continue our journey towards Health and Safety Excellence.

While we have strived to boost our safety performance since 2018, the journey does have its bumpy course.

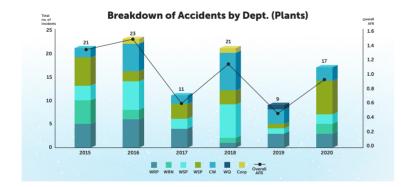
For plant safety, we recorded a fatal incident in 2020. There had also been 17 reportable workplace accidents in 2020 compared to 9 in 2019 and 11 in 2017.

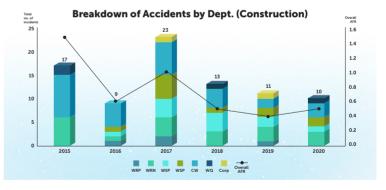
For construction safety, accident rates continued to stay low. Since 2018, we have managed to keep accident rates more than halved the rates as compared to 2015-2017.

In 2020, accident frequency was at 0.5 accidents for every million man-hours worked and we had the lowest severity rate at 11.3 man-days lost for every million man-hours worked.

Health and Safety Excellence is a continuous journey. We may have made progress, but unfortunate incidents are solemn reminders that we still have a long way to go.

We must soldier on – be safe, and be aware of our work surroundings and our own selves as well as proactively intervene if we encounter hazards – for the sake of our colleagues and loved ones.





### **CE'S CHALLENGE SHIELD**

In 2019, our Chief Executive launched the CE's Challenge Shield, which recognises the best department each year that has not only excelled in accident prevention, but also demonstrated strong leadership in Health and Safety.

The award would be presented personally by our Chief Executive at the annual Health and Safety Day. This positive reinforcement from the top aims to enhance performance across PUB, and drive continual improvements in System, Culture and People.



Chief Executive Mr. Ng Joo Hee (right) Presented the Prestigious Safety Award, the CE's Challenge Shield in 2019 ▲ and 2020 ▼





SOME OF THE WINNERS AT THE 2019 HEALTH & SAFETY DAY AWARDS

# OUR MOST SAFETY CONSCIOUS OFFICERS

Recognised as exemplary role models in safety consciousness, the following winners of 2020 share their views:



"Every safe choice that we make is an investment into spending quality time with our loved ones"

Muhd Hamdan, WSF



"I am fortunate to have good support from close work mates and a strong teamwork with our consultant/ contractors. This drives the safety culture and creates a balance on managing projects timely."

**Bobby Hisham WSN** 



"My Family motivates me to practice safe practices at work.

I do my job safely because I want to be able to provide for my family.

My family depends on my ability to earn an income. If I am injured due to work, I can lose that ability very quickly. The financial and emotional effects on my family can be drastic."

Nathan Muniyandy, WRF



"I would like to share this award with my supervisors and colleagues for believing in me and supporting me all this while. Lastly I appreciate the chance to work alongside my contractor as a full-time RE and together improve workplace safety."

Jarvan Yang, WRN



"Safety at workplace is not confined to individual. Safety involve practices everyone from every level and section. With everyone's involvement. it motivates me to work safely and reminds me that any unsafe act which resulted in injury, would not only affect myself but also mv co-workers and family."

Norman Abu Bakkar, CW



"Safety has always been a key concern for me. It is extremely important to ensure safe practices so that fellow peers have a comfortable environment to work in, since we handle many potentially volatile chemicals.

All of us have a duty to incorporate safe practices and it should remain at the top of our mind."

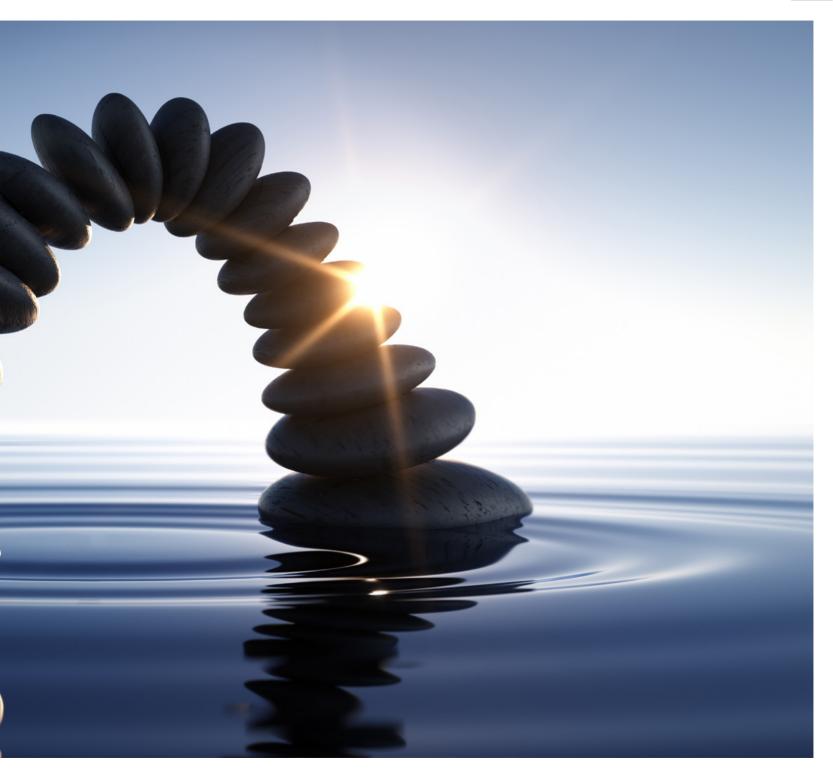
Yong Hon Shim, WQD



"One life lost is one too many. Every accident is preventable. Every worker has the right to return home safely."

Kang Teng Wee, DTSS2





### **HEALTH SCREENING**

An ounce of prevention is always better than a pound of cure. We approach health the way we do for workplace safety - preemptively.

Once every two years, our staff undergo free comprehensive health screening.

Early detection through regular health screenings allows one to better manage his or her health conditions thereby lowering the risk of serious complications from illnesses or chronic diseases.

We also offer optional genderspecific tests as well as influenza vaccination.





You will receive the bonus if:

- · Your BMI reading taken at the annual Health Screening is 22.9kg/m<sup>2</sup> and below
- · Or if you enrol and complete all sessions of the Weight Management or Smoking Cessation Programme

You will enjoy

### FREE

#### Comprehensive Health Screening

every two years with PUB's appointed vendor so that you can take the necessary steps to maintain good health



▲ Pamphlet for PUB's Comprehensive Health Screening



▲ Staff Can Also Opt for Influenza Vaccination



▲ Staff Undergo Free Comprehensive Health Screening Every Two Years









# WEIGHT LOSS CAMPAIGN

Excessive weight increases the risks of health complications.

In an effort to help staff reduce excess body fat, increase muscle mass as well as boost metabolic rate, we introduced a new and improved weight management programme.

In this structured weekly programme, participants stay motivated through trainer-led group exercises. They are also empowered with the knowledge of the right workouts and nutrition that will help achieve weight loss.



▲ Staff Working Out at One of PUB's Four World-class Gyms



▲ Trainers Providing Guidance to Staff on the Right Workouts and Nutrition to Shed Weight



▲ Group Exercises Keeping Participants Motivated



▲ Group Participation at the National Steps Challenge

### 100% SMOKE-FREE

Smoking is addictive, posing many health risks to smokers and the people around them.

As of 1 January 2020, all PUB premises have been designated 100% smoke-free.

PUB has also been sponsoring employees wishing to give up smoking to attend the Smoking Cessation Programme.

Diversifying approaches to maximise the chance of success in smoking cessation for our employees, PUB had also partnered the Health Promotion Board on trial programmes, including cognitive behavioural therapy and relaxation techniques to help smokers quit.

### Don't think of quitting 33.

### Think of gaining!



Quitting cigarettes isn't a process of losing. It's a process of gaining. Gaining years to your life, gaining health, gaining happiness, gaining new habits...gaining a new start.

Come join the starting line in the race to quit smoking.

Register your interest with Dawn at dawn\_phua@pub.gov.sg now!

<sup>►</sup> Pamphlet for PUB-sponsored Smoking Cessation Programme





# HEALTH & SAFETY JOURNEY SIGNIFICANT EVENTS



- CE announcing a zero tolerance safety culture in PUB
- Identified Room for improvement for safety culture, awareness and compliance to safe work procedures



 Development of Life Saving Rules to drive safety compliance, followed by engagements before launch in early 2018



- PUB Safety Day renamed Health and Safety Day
- Launch of Health and Safety Excellence 2020 (HSE2020) campaign
- Start of Safety Moment
- Use of leading indicators in safety performance management
- Launch of Senior Management Safety Walk



- Inaugural Lo-Hei engagement with senior management from PUB's contractors to get them on-board HSE2020
- Launch of HSE incentive scheme to motivate contractors towards excellence in health and safety management
- Introduction of Take 5 safety practice
- Inception of Workforce Safety Council
- Launch of CE's Challenge Shield to inspire safety leadership among the operations departments
- PUB launched new courses including Observation & Intervention and Safety Incident Investigation Workshop
- Launch of Comprehensive Health Screening, Weight Management Programme and Smoking Cessation Programme for all staff



- All PUB workplaces are designated smoke-free
- Establishment of Safety Advisory
   Panel, where experts advise
   PUB on safety and business
   transformation
- Formation of Contractor Safety Watch Group
- PUB Motorbike Risk Management Taskforce issued enhanced provisions to staff who rides
- Establishment of PUB's Safety Incident Investigation Panel
- PUB issues high risk activites (HIRA) guides
- Preparation begins for Health and Safety Day 2028



Our journey towards Health & Safety Excellence continues onto the next lap towards 2028

# HSE 2028: MINDSET-HEART-BODY MODEL

### STRENGTHEN WORKPLACE SAFETY AND HEALTH OWNERSHIP

In HSE 2028, we will continue to build on the foundation laid in HSE 2020 through enhancing our System, Culture and People, with new emphasis on Enhancing our focus on Occupational Workplace Health and Promoting technologyenabled WSH.

### ENHANCE OUR FOCUS ON OCCUPATIONAL WORKPLACE HEALTH

We will expand our efforts in preventing occupational diseases and build companies' capabilities to promote workforce health.

Our sharpened focus will keep our People in the pink of health, both physically and mentally, so that they work safely and productively.

### PROMOTE TECHNOLOGY-ENABLED WSH

We aim to boost our Safety Management System and WSH training via applied technology by developing a WSH technology ecosystem to deepen industry capability.

Moving forward and guided by our model, we strive to transform to become a sustainable and healthy workplace with zero accidents and occupational disease.

### PUB Health HEART- MINDSET



Strong Health Management that strengthens our People and WORKPLACE HEALTH and keep us resilient at all times to work safely and productively.

### **And Safety Excellence 2028**

BODY MODEL OF CULTURE SYSTEM PEOPLE



### **TOWARDS 2028**

Health and Safety Excellence 2020 is a transitional journey.

We now advance towards Health and Safety Excellence 2028, where our transformation will take place

Together, we have made PUB a much safer and healthier place to work in.

But the next lap of this journey will not be easy.



It will take absolute courage to confront our weaknesses and dilemmas at work, and cultivate a positive mindset to embrace better and safer ways of working.

Not just for ourselves, but also for our loved ones, let's all "Choose Zero" together!







All above: Staff Demonstrating their Commitment to Choosing Zero

#### **SPECIAL THANKS TO**

Health and Safety Committee Chairman

**Abu Bakar Mohd Nor** 

**Chief Executive** 

Ng Joo Hee

Deputy Chief Executive, Operations

**Harry Seah** 



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