

# 以人為先 優化生活 PUTTING PEOPLE FIRST FOR A BETTER QUALITY OF LIFE



#### **ORGANISATIONAL PROFILE AND STRUCTURE**

機電工程署是香港特別行政區政府的一部分,負責兩個不同的職能:職能之一是作為香港的機電安全及能源效益規管機構,另一職能是為其他政府部門及公營機構提供機電工程服務。機電工程署服務香港已近70年,一直致力創造公眾價值,提升全港市民的生活質素。

機電工程署透過兩個團隊為公眾提供服務:規管服務及營運服務。後者也稱為機電工程營運基金(營運基金),在特區政府下以營運基金的模式運作。

我們的規管服務團隊,透過執行法例和推動公眾教育,規管電氣、機械及氣體安全、鐵路安全及推廣能源效益,並根據「管制計劃協議」,監管電力公司的技術表現及發展計劃。我們也時常為政府的多種安全和環保工作,提供專業意見及技術支援。同時也一直是推動能源效益的先驅,來為香港引進了能源效益各種新理念和計劃,例如能源效益產品標籤計劃、建築物能源效益法規及最佳實務做法、及為一個重要的全新發展區引進區域供冷系統等。

我們的營運基金服務團隊,為本港政府部門及公營機構,以暢順有效及環保的方法,提供電氣、機械、電子工程及屋宇裝備服務。團隊為種類多元化的客戶場地提供服務,包括機場、醫院、學校、紀律部隊、運輸及公路、港口及海港、政府合署及法院大樓、和公共文娛康樂設施等,最終目標是提升全港市民的生活質素。營運基金須與市場上其他服務供應商競爭,而客戶部門長期以來對我們的服務都給予高度評價,認為具競爭力及物超所值。

The Electrical and Mechanical Services Department (EMSD) is part of the Hong Kong Special Administrative Region (HKSAR) Government and performs two distinct duties in Hong Kong: as the regulatory body of E&M safety and energy efficiency matters, and as a provider of E&M engineering services to other government departments and public bodies. The Department has been serving Hong Kong for almost 70 years and plays an important role in creating public value to enhance the quality of life for all in Hong Kong.

The Department discharges its services to the public via two separate teams: Regulatory Services (RS) and Trading Services (TS). The latter is also known as the Electrical and Mechanical Services Trading Fund (EMSTF), operating as a trading fund under the HKSAR Government.

Our RS team regulates electrical, mechanical and gas safety, railway safety, as well as energy efficiency, via law enforcement and public education. It also monitors the technical performance and development plans of the electricity supply companies under the Scheme of Control Agreements, and gives professional and technical support to the Government's wide range of safety and environmental initiatives from time to time. It has been the pioneer which introduced many energy efficiency concepts and schemes into Hong Kong, such as the energy efficiency product labelling schemes, building energy efficiency laws and best practices, and a district cooling system for a major new development area.

Our EMSTF team provides electrical and mechanical (EM), electronic engineering (EE) and building services (BS) to government departments and public bodies in an effective, efficient and sustainable manner. The team serves diverse client venues including the airport, hospitals, schools, security forces, transport and highways, port and harbour, government offices and law court buildings as well as public recreational and leisure facilities, with the ultimate goal of improving the quality of life for everyone in Hong Kong. EMSTF has to compete with other service providers in the market and its services have been consistently rated by client departments as competitive and of excellent value.







「機」字以人為本,機器和工程也以服務人的福祉為先。同樣,機電工程署的所有工作,均以 服務人的福祉為依歸。

People are at the core of engineering and the purpose for which machines exist, as aptly illustrated by the structure of this Chinese character. Likewise, people and their well-being are at the core of everything we do at the Electrical and Mechanical Services Department.

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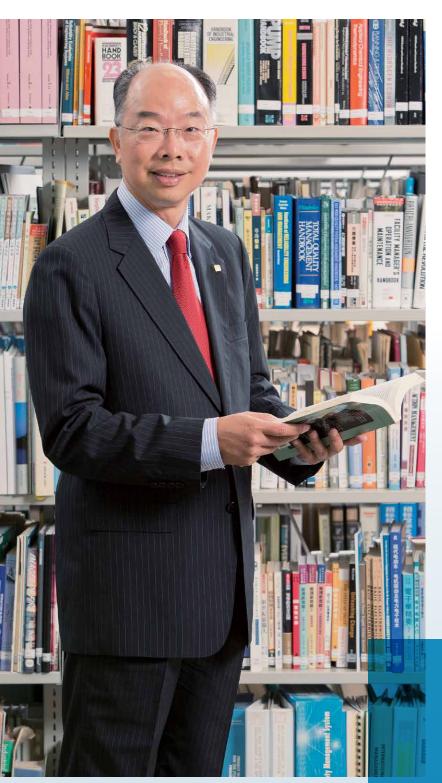
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#### 署長及總經理的話

# MESSAGE FROM THE DIRECTOR AND GENERAL MANAGER



電工程署(機電署)轄下的規管和 營運服務在2014/15年度的整體 表現良好。機電署以人為本,致力提升 市民的生活質素。在我們規管團隊的努力下,本地機電安全事故數字維持於低 水平,部分範疇更錄得下降趨勢,令人 欣慰。而營運服務的總收入錄得54.92 億港元,收入回報率為5.3%,業績表 現符合業務規劃和微利營運原則。

In 2014/15, both the Regulatory and Trading Services under the Electrical and Mechanical Services Department (EMSD) performed well. We put people first and strive to enhance the quality of life of the public. With the efforts of our regulatory team, the number of E&M safety incidents in Hong Kong was maintained at a low level, with some aspects even showing a downward trend. The Trading Services recorded HK\$5,492 million in total revenue and the return on revenue (ROR) was 5.3%. The performance was consistent with our business plans and our principle to operate with the slim-profit model.

#### 陳帆太平紳士

Mr Chan Fan, Frank, JP

機電工程署署長

機電工程營運基金總經理

Director of Electrical and Mechanical Services General Manager, Electrical and Mechanical Services Trading Fund

#### 安全為先 市民安心放心

作為機電安全的規管機構,我們的首要目標是令 市民安全安心。去年社會上曾發生一些令人難 過的安全事故,引起市民關注。我們的規管團隊 迅即跟進處理,為受影響市民提供協助,並主動 透過傳媒發放訊息,釐清事實,以釋除市民的憂 慮。我們將一直秉持開誠布公的原則,發布公共 資訊。我們也會繼續留意境外發生的事故,引以 為戒,避免類似事故在本港發生。

去年,我們首次公布升降機的保養價格數據供市 民參考,同時亦與業界探討人力需求和工作環 境等問題,目的是透過與業界及公眾共同協作, 從根源消除升降機的安全隱患。另一方面,為配 合香港鐵路網絡的發展,我們亦增加鐵路科的資 源,以應付多條新路線的審批工作,確保有關運 作安全穩妥。誠然,規管工作的目標不止於「零 事故」,我們亦必須因應急促的社會變遷和科技 發展而適時調整規管策略,與時並進。

#### 優質服務 為民創造價值

在不影響我們服務質素的前提下,營運基金繼續保持低收入回報率,讓客戶能夠騰出資金,投放在服務市民的工作上。2014年客戶意見調查顯示,營運基金的客戶滿意指數,以8分為滿分計,創出6.22分的新高。這與營運服務現行「透過與客戶的伙伴關係,創造公眾價值利惠市民」的五年計劃方向一致。

#### **PUTTING SAFETY FIRST FOR PEACE OF MIND**

As the regulator of E&M safety, our prime objective is to bring peace of mind to the public. Last year saw a number of saddening safety incidents which had aroused public concern. Our regulatory team swiftly responded by offering assistance to the affected citizens, and proactively released information through the media to get the facts straight and allay the public's concern. We will continue to adhere to the principle of openness and transparency in the dissemination of public information. We will also continue to keep watch for and draw lessons from incidents outside Hong Kong to prevent similar incidents from happening in Hong Kong.

Last year, we for the first time promulgated for public reference the maintenance cost of lifts. In the meantime, we explored with the trade about such issues as the manpower needs and working environment, with the objective of nipping potential lift risks in the bud through concerted efforts with the trade and the public. On the other hand, to tie in with the development of Hong Kong's railway network, more resources were allocated to the Railways Branch for handling the vetting and approval work of a number of new routes so as to ensure their safe and stable operation. The goal of our regulatory work is more than achieving an incident-free city; indeed, we must also adjust the regulatory strategies in a timely manner in response to the fast-moving social changes and technological advancement, and keep pace with the times.

#### **QUALITY SERVICES FOR CREATING PUBLIC VALUE**

Without compromising the service quality, the Electrical and Mechanical Services Trading Fund (EMSTF) continued to maintain a low ROR in 2014/15 so that clients may release more funding to serve the community. EMSTF scored a record high Customer Satisfaction Index of 6.22 out of 8 in the 2014 Customer Opinion Survey. All these are in line with the current direction of the Trading Services' five-year plan to "create public value for community betterment through partnership with our clients".

#### 署長及總經理的話

Message from the Director and General Manager

營運基金以提供優質服務為信念,而持續改善正是當中的一個重要元素。年內,我們為部分客戶的機電設施取得ISO 55001資產管理認證,並致力推廣同類認證。我們亦積極引入新科技,如綜合樓宇管理系統、建築資訊模型技術等,以進一步提升服務水平,並配合香港發展成為「智慧城市」。

本地技術人才短缺和營運成本上升,以及客戶部門在未來數年將節約開支,均對基金的營運造成壓力。為此,我們將實行一系列提高生產力的措施,包括引入更多先進科技和加強知識管理工作,並繼續以微利營運,務求與客戶應對挑戰。

EMSTF is committed to delivering quality services, with continuous improvement as one of the key elements. During the year, we obtained ISO 55001 asset management certification for some of our clients' E&M facilities and put more efforts to promote similar certification. We also proactively introduced advanced technologies, such as integrated Building Management System, Building Information Modelling, etc., to further enhance our service quality and facilitate the development of Hong Kong as a "smart city".

EMSTF is facing pressure from a shortage of local skilled labour, rising operating cost and client departments' saving plans in the coming years. As such, we will implement a series of measures to enhance productivity, such as wider adoption of advanced technologies and strengthening of our knowledge management, and will also maintain the slim-profit model so as to rise to the challenges with our clients.

#### 綠色理念 社會持續發展

在推廣能源效益及節能工作方面,去年是成果豐碩的一年。立法會通過《區域供冷服務條例》,訂明啟德區域供冷系統的服務收費機制,而有關系統正分階段投入服務,為區域供冷服務的發展及應用奠下重要基石。我們亦優化了強制性能源效益標籤計劃的能效評級標準,提升了對冷氣機、雪櫃和洗衣機的能源效益要求,預計每年可節省約三億度電,減少約21萬公噸二氧化碳的排放。

## GREEN CONCEPT FOR SUSTAINABLE DEVELOPMENT OF SOCIETY

The work on promoting energy efficiency and conservation was fruitful last year. The Legislative Council enacted the District Cooling Services Ordinance which sets out the service charging mechanism of the District Cooling System (DCS) at Kai Tak Development. The system is now being put into service in phases, laying an important cornerstone for the development and application of district cooling services. We also upgraded the energy efficiency grading standards for energy labels under the Mandatory Energy Efficiency Labelling Scheme (MEELS) by raising the MEELS grading standards of air-conditioners, refrigerators and washing machines. It is expected that there will be a saving of about 300 million kWh of electricity every year and an annual reduction of around 210 000 tonnes of carbon dioxide emissions.

政府剛於2015年公布香港首份都市節能藍圖,定下在2025年將能源強度減少四成的新目標。 為配合推廣藍圖,我們與環境局合作推出「全民節能」運動,以年青人為主要對象,冀能培養他們成為節能的領跑者。

當然,我們也緊記以身作則的重要性。2014/15年度,機電署總部大樓榮獲香港綠色建築議會發出的「綠建環評」之「既有建築」暫定鉑金級認證。與此同時,我們已開展協助其他政府大樓籌備參加「綠建環評」認證的工作,推動香港成為低碳宜居的綠色社會。

#### 培育人才 推動業界發展

為促進機電業界交流,我們早前牽頭成立了由 19家機電機構組成的「香港機電業推廣工作小 組」。去年,我們繼續在小組中擔當協調角色, 推動探討業界關注的議題,並組織多項活動以提 升機電業的形象。

我們也透過公眾教育,向市民推廣機電業。去年的重點工作之一,是把機電業的元素加入「機電青少年大使」計劃。透過計劃,我們希望年青人在推廣機電安全、能源效益之餘,加深對機電業的認識,並產生投身機電業的興趣。

The Government just announced Hong Kong's first energy-saving blueprint in 2015, setting out the new target of reducing energy intensity by 40% by 2025. To tie in with promoting the blueprint, we collaborated with the Environment Bureau to launch the "Energy Saving for All" campaign targeting mainly young people, with the aim of nurturing them to become forerunners of energy saving movement.

Surely, we are also mindful of the importance of leading by example. In 2014/15, EMSD Headquarters received provisional BEAM Plus Platinum Rating for Existing Building certification from the Hong Kong Green Building Council. In the meantime, we are already helping other government buildings prepare for BEAM Plus certification to promote Hong Kong as a low-carbon and green city suitable for quality living.

## NURTURING TALENTS FOR PROMOTING TRADE DEVELOPMENT

To foster the exchange of views among members of the E&M industry, we earlier took the lead to set up the Hong Kong E&M Trade Promotion Working Group comprising 19 related E&M organisations. Last year, we continued to play the coordination role in the Group by facilitating the discussion on issues which are of concern to the trade and running activities to enhance the trade's image.

We also promoted the trade to the community through public education. Incorporating the element of E&M trade into the E&M Young Ambassador (EMYA) Scheme was one of EMSD's priorities last year. It is hoped that through the EMYA Scheme, youngsters can gain an in-depth understanding of the E&M trade and take an interest in joining the trade while helping promote E&M safety and energy efficiency.

#### 署長及總經理的話

Message from the Director and General Manager

2015年是部門技術人才培訓計劃60周年。自1955年以來,我們一直致力培訓機電人才,透過培訓計劃,為有志投身業界的人士提供學習實踐、發展事業及追尋夢想的機遇。年內,我們亦優化技術員訓練計劃的內容,注入更多技能元素,提高學員適應行業發展的能力。我們將繼續密切留意業界的需求,以制訂合宜的培訓策略,促進機電業發展。

The year 2015 marked the 60th anniversary of our departmental technician training programme. Ever since 1955, we have been committed to training E&M talents for Hong Kong via the training programme that provides an opportunity for people interested in the E&M trade to learn and practise the requisite skills, develop their careers and pursue their dreams. During the year, we enhanced the content of the Technician Training Scheme to make it more skill-based, aiming to strengthen the trainees' adaptability to the trade development. We will continue to keep track of the needs of the trade so as to formulate appropriate training strategies to promote its development.

#### 以人為本 力求精益求精

2015年是特別的一年。年初我們見證了九龍灣機電署總部啟用十周年,逾千名同事及其親友在總部廣場聚首一堂,以享用盆菜的方式慶祝盛事。我們亦騰出部門總部大樓地下大堂的空間,讓社企「另一咖啡店」落戶開業,不但為殘疾人士提供就業機會,也體現了我們以人為本的關懷文化。

## PUTTING PEOPLE FIRST AND STRIVING FOR THE BEST

The year 2015 was a special one. The beginning of the year marked the 10th anniversary of our moving into the EMSD Headquarters at Kowloon Bay. We held a "poon choi" (basin meal) banquet for over 1 000 staff members, their families and friends at the headquarters piazza to celebrate the occasion. We also released an area at the ground floor foyer of our headquarters for the opening of "&other Cafe", a social enterprise, which not only creates employment opportunities for people with disabilities, but also reflects our people-oriented caring culture.

我們十分重視員工的發展,各級管理人員都克盡 己任,致力引導員工盡展所長。在最新的員工滿 意度調查中,員工提出了很多有建設性的建議, 可讓管理人員參考,研究如何把領導和溝通工作 做得更好。

年內,我們繼續深化「服務信念」,鼓勵每位同事清楚界定他們為公眾創造的價值和效益。我們也把提升「公眾價值」的觀念融入工作文化,藉以推動全體同事精益求精,為市民和客戶帶來更大裨益。

We attach great importance to the development of our staff. Supervisors at different levels have been playing their part to guide their staff members to fulfil their full potential. The latest Staff Satisfaction Survey presented many constructive suggestions to which supervisors can make reference when exploring ways to polish leadership and communication skills.

During the year, we continued to reinforce the concept of "service value" to encourage each individual staff member to define clearly the values and benefits they created for the public. We also incorporated the concept of raising "public value" into our work culture, thereby motivating all of our staff to strive for excellence and bring more benefits to citizens and clients.

#### 致謝

最後,我謹此就市民、客戶、業界、員工和其他 持份者的支持和合作,致以衷心謝意。我也十 分感謝各政策局及政府部門給我們的支持。此 外,傳媒、立法會議員及公眾人士對我們的持續 監察,也是我們不斷改進的動力之一,謹致謝 忱。深信機電署憑藉目前的穩固基礎,定必更上 層樓。

#### **VOTE OF THANKS**

This message would not be complete without a big thank you to the public, clients, the trade, our staff and other stakeholders for their support and cooperation. Our appreciation also goes to various policy bureaux and other departments for supporting our work. We must also thank the media, the lawmakers and the public for their ongoing scrutiny, which is a driving force for improvement for us. We are confident that from this solid foundation, further progress is in sight.

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機電工程署署長機電工程營運基金總經理

Dund.

Chan Fan, Frank

Director of Electrical and Mechanical Services
General Manager, Electrical and Mechanical Services Trading Fund



# 規管服務業務概覽 REGULATORY SERVICES ACHIEVEMENTS OVERVIEW

#### 抱負 Vision

我們的抱負,是要成為促使香港在機電安全及善用能源方面,都達 到世界首要都會水平的政府機構。

Our vision is to be the government agency that makes Hong Kong a top-ranking city in E&M safety and in the utilisation of energy.

#### 使命 Mission

我們的使命,是確保機電及能源科技均以安全、可靠、經濟及環保的方式得以善用,並藉此促進社會的安全及提升生活質素。

Our mission is to enhance the safety and the quality of life of our community by ensuring that E&M and energy technologies are harnessed in a safe, reliable, economical and environment-friendly manner.

#### 信念 Values

- 專業才能 Expertise
- 誠信 Integrity
- 可靠 Reliability
- 承擔 Commitment

#### 高層管理人員

#### SENIOR MANAGEMENT



Mr Chan Fan, Frank, JP

機電工程署署長 Director of Electrical and Mechanical Services

2 薛永恒太平紳士 Mr Sit Wing-hang, Alfred, JP

機電工程署副署長/規管服務 Deputy Director/Regulatory Services, EMSD

3 賴漢忠太平紳士 Mr Lai Hon-chung, Harry, JP

助理署長/電力及能源效益 Assistant Director/Electricity and Energy Efficiency

4 彭耀雄先生 Mr Pang Yiu-hung, Eric

助理署長/氣體及一般法例 Assistant Director/Gas and General Legislation 5 梁建民博士、太平紳士 Dr Leung Kin-man, JP

> 助理署長/鐵路 Assistant Director/Railways

6 嚴國豪先生 Mr Yim Kwok-ho

> 部門會計師 Departmental Accountant

7 羅肇嫻女士 Ms Lo Siu-han, Cynthia

機電工程署主任秘書 Departmental Secretary, EMSD \* 胡建明太平紳士出任機電工程署 副署長/規管服務至2014年10月 2日

Mr Woo Kin-ming, JP was Deputy Director/Regulatory Services, EMSD up to 2 October 2014

張國輝太平紳士出任機電工程署 助理署長/氣體及一般法例至2014 年10月5日

Mr Cheung Kwok-fai, JP was Assistant Director/Gas and General Legislation, EMSD up to 5 October 2014

周楚添先生出任機電工程署主任 秘書至2014年7月13日

Mr Chow Chor-tim was Departmental Secretary, EMSD up to 13 July 2014

#### **OPERATIONS REVIEW**



管服務在2014/15年度在不少工作範疇都達至新的里程碑。我們的目標,是使全港市民安全安心。為此,我們一如以往,繼續與業界、社會大眾和其他持份者保持緊密聯繫,在鞏固核心工作的同時,也積極拓展新的服務領域。

Regulatory Services reached many new milestones. With the goal of ensuring "safety and peace of mind" for all in Hong Kong, we have continued to engage with the trades, the community and other stakeholders to enhance our core work and explore new frontiers in our services.

#### **薛永恒太平紳士** Mr Sit Wing-hang, Alfred, JP 機電工程署副署長/規管服務 Deputy Director/Regulatory Services, EMSD

#### 能源效益里程碑

《區域供冷服務條例》(第624章)於2015年3月在立法會順利通過,是我們能源效益工作的重要里程碑。這條例為區域供冷系統的用戶,訂定了詳細的收費機制。啟德區域供冷系統是全港首個同類的區域供冷系統,新條例的順利通過標誌了系統正式展開其實際經濟運作,長遠可達至收回成本的目標。條例亦為香港未來的區域供冷系統奠定收費準則。

另一里程碑是我們為「強制性能源效益標籤計劃」的其中三個產品類別,即冷氣機、雪櫃和洗衣機,收緊了能源效益評級標準,新評級標準已於2014年10月起開始,預計每年可為全港節省約三億度電。這是「強制性能源效益標籤計劃」自2009年全面實施以來,首次提升能源效益評級標準。

#### **ENERGY EFFICIENCY MILESTONES**

The smooth enactment of the new District Cooling Services Ordinance (Cap 624) by the Legislative Council in March 2015 was a major milestone in our work for promoting energy efficiency. The Ordinance sets out a detailed tariff mechanism for users of the District Cooling System (DCS). The DCS at Kai Tak Development is the first system of its kind in Hong Kong, and the enactment of DCS Ordinance marks the beginning of its economic operation, with an aim of complete cost recovery in a long-term operation. The Ordinance also forms the base for the tariff systems of other new DCS in Hong Kong, and paves the way for their development.

Another milestone was the tightening of energy efficiency grading standards for air-conditioners, refrigerators and washing machines under the Mandatory Energy Efficiency Labelling Scheme (MEELS). The new grading standards commenced in October 2014 and are expected to save about 300 million kWh of electricity every year. The upgrade was the first since the MEELS was fully implemented in 2009.

#### **Operations Review**

至於在建築物能源效益方面的工作也有很大進展。自《建築物能源效益條例》(第610章)全面實施以來,於2014/15年度,已有超過700幢商業大廈按法律要求,完成能源審核。為了進一步收緊相關的能源效益要求,我們已於2014年9月開始為《建築物能源效益守則》及《能源審核守則》作出全面檢討,並預計於2015年底完成。

Promoting building energy efficiency also had fruitful result. Following the full implementation of the Buildings Energy Efficiency Ordinance (Cap 610), the energy audits for over 700 commercial buildings were completed in 2014/15. To further tighten the energy efficiency requirements, a comprehensive review of its Building Energy Code (BEC) and Energy Audit Code was commenced in September 2014 for completion in end 2015.

#### 機電安全佳績

在機電安全規管工作方面,同樣重要的里程碑是 2014年12月港鐵西港島綫啟用,這新鐵路延綫大大改善了西區市民的生活質素。由於位置原因,沿綫的香港大學站和西營盤站是全港首兩個地鐵站,使用站內升降機於火警及緊急事故時安全疏散乘客。故此升降機及其相關機電設施的可靠性,至為重要。我們的同事於緊逼的時限內,在新延綫啟用前的測試和驗收中加倍努力地工作,確保一切機電系統(包括升降機)均安全正常。

#### 「創造公眾價值」已成部門文化

為使「歐陸嘉年華」和毗鄰的中環海濱摩天輪能及時在2014年12月順利開幕,我們規管服務的同事在極度緊逼的時間內,進行了非常徹底的審批工作,讓市民大眾趕及在節慶期間安全享用這些設施。我們事事以創造公眾價值為目標,這又是一例。

部門經過近年不斷鼓勵員工「創造公眾價值」,我們很高興見到同事在日常工作中都會多走一步,讓市民安心。舉個例,如一旦發生機電事故,我們的專業工程團隊都會馬上親自到現場了解情況,掌握第一手資料,好讓公眾全面了解情況。

#### **E&M SAFETY ACHIEVEMENTS**

Equally significant in our E&M safety regulatory work was the opening of the MTR West Island Line in December 2014, which made a major contribution to the quality of life for all in Western District. Because of the station locations, its HKU and Sai Ying Pun Stations are the first in Hong Kong where lifts are used for fire and emergency evacuation of passengers. Therefore, the reliability of the lifts and their associated E&M facilities are particularly important in ensure passenger safety. This called for extra effort from our colleagues during pre-opening testing and commissioning against a tight deadline to make doubly sure that all E&M systems, including the lifts, were safe and sound.

## "CREATING PUBLIC VALUE" BECOMING OUR CULTURE

In order to facilitate the timely opening of the Great European Carnival and the nearby Hong Kong Observation Wheel in December 2014, our Regulatory Services colleagues conducted thorough vetting and approval work under great time pressure. The public was thus able to safely enjoy these facilities during the festive season – another example of how we aim to create public value in everything we do.

With our focus on "creating public value" in recent years, we are delighted to see that our colleagues have been going that extra mile in their daily work so that the public may enjoy peace of mind. For example, whenever E&M incident occurs, our professional staff will immediately conduct thorough on-site investigations in order to obtain first hand information of the situation, so that the public can be well informed of what has happened.

我們在有需要的時候,也會與公眾分享市場資訊,以提升行業的安全水平,比如年內我們就在部門網頁上,公布了私人樓宇升降機的平均保養合約價格,供公眾參考。有了這些數據作參考,升降機擁有人和負責人在選擇優質承辦商時,就更有把握。這些工作雖非傳統規管者的工作範圍,但我們仍樂意為之,就是因為這些額外的心思既能使設施更安全,也令市民更安心。

Where necessary, we are committed to sharing market information with the public so as to help step up E&M safety. For example, we publish on our website the average lift maintenance contract prices of private buildings for the public's reference. With this information, lift owners and other Responsible Persons should be better equipped to choose contractors of higher quality. While such extra work is beyond the scope of a traditional regulator, we are happy to take it on as it not only ensures safety but also brings peace of mind to the public.

#### 讓市民安心

「讓市民安心」就是我們想創造的最終價值。我們會持續鼓勵同事,以此作為準則,去調配資源在最重要的環節上,以達到安全和讓公眾完得安全安心。近年很多例子顯示,這原則已完全滲入規管服務人員的工作態度,我們就2014年台灣高雄氣體爆炸事故的反應就是一例。爆炸一發生,公眾已開始關注香港會否發生類似。而2015年香港境外發生一連串升降機事故,我們也以同樣主動的手法去化解市民的疑慮。香港社也以同樣主動的手法去化解市民的疑慮。香港社也對安全問題的觸覺日益敏銳,因此我們必須加把勁,讓市民對本港的機電設施和規管制度有信心。

不過,即使做到零事故,也不保證未來不再發生事故,因為我們可能會忽略某些風險。因此,我們近年正為我們規管的每個行業找出「先導指標」,因為我們相信某些狀況,比如工人年齡數據、維修保養價格水平、或是機電裝置的增幅等,都可以預警發生事故的風險水平正在改變,有助我們採取針對性的預防措施。

與此同時,我們在預防危機和事故方面的工作也沒有鬆懈,包括定期更新部門的「危機預防、應變及管理計劃」、進行危機處理演習、及與持份者保持溝通,務求盡早把握各種問題的脈搏動向。

#### **PEACE OF MIND**

"Peace of mind for the public" is the ultimate value we want to create. We shall continue to help our colleagues apply this principle as a yardstick to deploy our resources in the areas most critical to achieving safety and bringing peace of mind to the public. Many examples illustrate how deeply our Regulatory Services staff have internalised this principle in their work. Our response to the gas explosion in Kaohsiung, Taiwan in 2014 is a case in point. As soon as it occurred, we acted proactively to allay the public's concerns about the possibility of a similar incident in Hong Kong. We took the same proactive approach to allay the public's concerns over a number of lift incidents outside Hong Kong in 2015. As our community is increasingly alert to safety issues, we must work harder to reassure them that the city's E&M facilities and the regulatory system are up to the job.

However, it is true that a zero-incident record is no guarantee of an incident-free future, since it is always possible that we have overlooked certain risks. For this reason, we have been identifying "precursors" in each of the trades we regulate. We believe that certain conditions, such as worker age profiles, maintenance pricing levels or rates of increase in the number of E&M installations, could signal possible changes in risk level of incident occurrence and help us come up with targeted preventive measures.

At the same time, we have not lost sight of other crisis and incident prevention measures. These include regular updating of our departmental Crisis Prevention, Response and Management Plan, the holding of crisis management drills and ongoing communication with stakeholders to keep a finger on the pulse of various issues.

#### 2015/16年度展望

政府積極推行《香港都市節能藍圖2015~2025+》,因此能源效益工作將是2015/16年度的重點。除了致力推動相關能源效益法例的實施和節能基建的發展,我們也會推行一連串支援活動,如為各政策局和部門就如何減少能源強度提供意見,及落實各種青年推廣活動,例如提倡能源效益和可再生能源的比賽等。

談到青年比賽,我們的同事為比賽之一的「慳電熄一熄青年獎」設計了極創新的獎勵方法,就是不直接獎勵得獎隊伍,而是把獎金轉發給一個由每隊得獎隊伍選擇的非政府機構,用以資助年青人所需的社會服務。節能行善的配對工作,雖非我們的規管範圍,但既然這能惠澤社會所需,我們也樂於略盡綿力。

與此同時,我們也正籌備擴展「強制性能源效益標籤計劃」,推出計劃的第三期,將會涵蓋新的產品類別。至於《建築物能源效益條例》,重點是繼續嚴謹及有效地執法,並每三年定期檢討《建築物能源效益守則》,收緊各種能源效益設計標準。我們也正研究在本港其他新發展區實施區域供冷系統的可能性,尤其有大規模商業區的新發展地域,它們對空調的需求將十分龐大。

機電設施老化會影響公眾安全,因此來年另一重點工作,是鼓勵業界實行有效的資產管理。香港鐵路有限公司在這方面也有所發展,它將斥資60億港元購買全新的93列八卡列車,取代目前於四條現有鐵路綫行走的第一代列車;另又斥資33億港元,更換共七條現有鐵路綫的信號系統,新系統將採用最新的「通訊為本列車控制技術」。新資產預計會提升鐵路安全和可靠度。

鑑於本港鐵路網快速擴展和我們日增的工作量, 我們會於2015/16年度為鐵路科增添11個新職位,包括兩個總工程師職位。新添的人手,會有助加強本港的鐵路規管機制。

#### **DEVELOPMENTS IN 2015/16**

Looking at 2015/16, energy efficiency will be a key area as the Government implements its Energy Saving Plan for Hong Kong's Built Environment 2015~2025+. Apart from implementing the energy efficiency legislation and promoting the energy efficiency facility in Hong Kong, we also assist in bringing forward a number of supporting initiatives, such as advising government bureaux and departments on how to reduce their energy intensity and engaging with youth through programmes such as competitions to promote energy efficiency and renewable energy.

In this regard, I am delighted that our colleagues have created an innovative prize for one of the youth competitions. Instead of rewarding winners directly, the Youth Energy Saving Awards will give a substantial cash donation to each winning team's nominated NGO to fund social services for young people. Linking energy efficiency and charitable work is beyond our regulatory portfolio, but is something that society needs and can benefit from.

At the same time, we are also working to expand the MEELS to include new product types in Phase 3 of the scheme. As to the Buildings Energy Efficiency Ordinance, the focus will continue to be on enforcement and on upgrading all design standards under the BEC every three years. We are also exploring the possibility of implementing DCSs at new districts in Hong Kong, especially those with sizeable commercial developments with large demand for air-conditioning.

Another priority will be to urge the trades to conduct effective asset management, as aging electrical and mechanical facilities will have impact to public safety. The MTR Corporation Limited is making progress in this respect. It is investing HK\$6 billion in 93 new eight-car trains to replace first-generation trains running on four existing railway lines, and a further HK\$3.3 billion to replace the signalling systems for seven existing lines with new ones using the latest communications-based train control technology. The new assets are expected to boost railway safety and reliability.

In view of the fast-expanding railway network and our increasing workload, we will create 11 new posts, including two Chief Engineer posts, in our Railways Branch from 2015/16. The added capacity will strengthen our railway regulatory regime.

我們也會有新舉措,去提高車輛維修業的專業地位和質素。車輛維修技術諮詢委員會為表示對最終成立強制性車輛維修工場及維修技工註冊計劃的支持,年內已提出建議,要於2015年推出「車輛維修工場自願註冊計劃」。

There will also be further efforts to enhance the professional status and quality of the vehicle maintenance trade. To demonstrate the trade's support for a mandatory registration scheme for vehicle maintenance workshops and vehicle mechanics, the Vehicle Maintenance Technical Advisory Committee has proposed during the year to launch a Voluntary Registration Scheme for Vehicle Maintenance Workshops in 2015.

#### 鳴謝員工與持份者

回顧2014/15年度規管服務工作成果的時候,最大的感受,是全體同事在工作中顯現的以人為本精神和承擔感。我們的團隊近年可說是奮發鋭進,變得更靈活主動,更樂於與持份者、傳媒和社會人士接觸溝通。這是很大的成就,我衷心為同事感到高興,也多謝他們的出色表現。

我也必須感謝業界,還有專業學會、學術界、商會、工會和培訓機構等持份者對我們的支持,並向積極支援部門工作的各個諮詢及技術委員會成員致謝。傳媒和市民大眾也提供了不少寶貴意見,鞭策我們不斷改善。有大家的鼎力支持,我們有信心,規管服務必會精益求精,做得更好。

## GRATITUDE TO STAFF AND OTHER STAKEHOLDERS

As we review the accomplishments in 2014/15, I am most impressed by the commitment of our Regulatory Services staff and the people-oriented spirit they demonstrate in their work. The team has been transforming itself in recent years to become more dynamic and proactive in reaching out to stakeholders, the media and the community. I congratulate our staff on this major achievement and thank them for their good work.

I would like to also express our gratitude to the trades and other stakeholders such as learned societies, academics, trade associations, workers' unions and training institutions for their support, as well as those who serve on various advisory and technical committees supporting our work. The media and the general public have also provided us with valuable feedback on how to improve our performance. With your continued support, we are confident that Regulatory Services will go from strength to strength.

薛永恒

機電工程署副署長/規管服務

**Alfred W H Sit** 

Deputy Director/Regulatory Services, EMSD



機電工程署事事以人為本,我們關顧的社羣也很廣泛,包括受規管的行業、部門的出色團隊以及全港市民。

作為本港規管和推動機電安全與能源效益的機構,我們致力執行有關的法規,並提高社會對良好習慣及正確作業方法的認知。我們的宗旨是為全港提升生活質素,並時刻銘記,部門一切努力的最終目標,都是讓市民享有安全永續的生活環境,人人安心。

People are our top priority. For us at the Electrical and Mechanical Services Department, our community encompasses those in the regulated trades and our highly competent staff team, and extends beyond them to everyone who lives in Hong Kong.

As Hong Kong's regulator and promoter of E&M safety and energy efficiency, we strive to enforce the relevant laws and raise awareness of good habits and practices. Our aim is to improve the quality of life for all in Hong Kong. We never forget that the ultimate reason for everything we do is to give people the peace of mind that they live in a safe and sustainable environment.

# 推己及人 安全節能

## HELPING THE COMMUNITY STRENGTHEN SAFETY AND ENERGY EFFICIENCY



了更生動地向讀者介紹我們2014/15年度的工作,我們情商了一個家庭當導賞員,帶大家看看部門年內規管工作的重點。這是爸爸馬克,是位辦公室經理;媽媽愛蓮,全職家庭主婦;兒子馬田今年讀中三,女兒愛瑪讀小五;爺爺馬泰已經退休,周末就來探他們。當然,馬田和愛瑪早已登記參加了機電工程署為維繫全港青少年而設的「機電青少年大使」計劃。

Let us meet the family who will be your guide to some of the highlights of our Regulatory Services work during the 2014/15 year. **Mark** the father is an office manager, and **Elaine** the mother a homemaker. **Martin** the son is in Form 3 and younger daughter **Emma** in Primary 5. Retired grandpa **Matthew** visits them on weekends. Needless to say, both Martin and Emma have enrolled as E&M Young Ambassadors, a youth engagement scheme run by EMSD.



馬克是個機器迷,愛讀任何有關電力系統和電器的資訊。 Mark loves all sorts of gadgets and enjoys reading about electrical systems and electric products.



馬田喜歡火車和鐵路,每天都乘幾次列車。 Martin loves trains and railways. He takes the train several times a day. 愛瑪一有機會就要乘升降機和扶手梯,而像所有小孩, 她也喜歡刺激的機動遊戲。

Emma looks forward to taking lifts and escalators whenever she can. Like most children, she also loves the excitement of amusement rides.



愛蓮操持家務,對如何安全使用氣體很有心得。她也是社區中心的積極義工。 Elaine makes safe use of gas in her housework. She is also an active



爺爺馬泰十分關注環保,從不浪費任何天然資源,包括能源。 Grandpa Matthew has a passion for environmental protection and never wastes any natural resources, including energy.

既然他們每人都有一種與機電工程署規管服務有關的興趣,我們就看看他們眼中我們的工作吧!

As each family member has strong interests that are relevant to what we do at EMSD Regulatory Services, let us look at our work through their eyes!





# 保障公眾安全 PROTECTING PUBLIC SAFETY





#### 電力安全 ELECTRICAL SAFETY

馬克喜歡一切與電力有關的東西,也很關注電業界的發展。

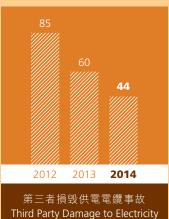
Mark has a passion for anything electrical and closely follows developments in the electrical trade.

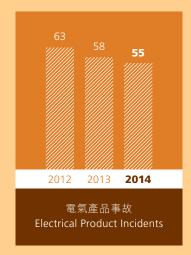
大家好,我叫害克,讓我們齊來看看本港電力安全的近期發展。

Hi, I am Mark and I am going to show you some recent highlights of Hong Kong's electrical safety environment.



#### 電力事故數目 **Electrical Incidents Figures**







Supply Line Incidents

#### 事故數字下降

我很高興見到,香港2014年兩類主要電力事故 持續錄得低數字:第三者損毀供電電纜事故,由 2013年的60宗降至2014年的44宗,而電氣產 品事故也由2013年的58宗降至2014年的55宗。

這不單對市民是好消息,也證明即使本港基建正 快速增加,電業界也有效加強了安全工作的文 化。機電工程署一直都透過多種教育和溝通活 動,鼓勵業界採取安全作業方法,多年來的努力 也見成效。

#### 註冊電業工程人員完成首個進修周期

一般市民未必知道,為確保電氣從業員的專業水 平,業界人士現必須定期接受有系統的培訓。機 電工程署為全港註冊電業工程人員推出的「註冊 電業工程人員持續進修計劃」,已於2014年底完 成首個三年的培訓周期,即是説全港約74 000 名註冊電業工程人員,已完成了計劃要求的兩個 培訓單元,並成功續期註冊。在未來的新一輪進 修周期,部門會推出更多的進修方法,並提供範 圍更廣的課程供學員選讀,讓進修計劃更全面和 靈活,繼續為註冊電業工程人員和市民的安全把 關。

#### **FALLING INCIDENT RATES**

I am pleased to say that we again recorded low numbers in two types of major electrical incidents in 2014: third-party damage incidents to electricity supply lines dropped from 60 in 2013 to 44 in 2014, and electrical product incidents dropped from 58 in 2013 to 55 in 2014.

This is good news for the public and shows that our electrical trade has continued to improve its safety culture despite the rapid growth of infrastructure works in Hong Kong. EMSD has encouraged the trade to adopt good safety practices via multiple education and communication initiatives, and its efforts are paying off.

#### REWS COMPLETE FIRST PROFESSIONAL **DEVELOPMENT CYCLE**

The general public may not be aware that Hong Kong's electrical trade now undergoes regular systematic training as a way to help safeguard the quality of the profession. EMSD's Continuing Professional Development (CPD) Scheme for all Registered Electrical Workers (REWs) completed its first three-year cycle at the end of 2014. By then about 74 000 REWs had fulfilled the two-module training requirements and successfully renewed their REW registration. In the coming CPD cycle, additional means of fulfilling the CPD training requirements will be introduced, and a wider range of courses will be offered. This will make the programme more flexible and comprehensive so that it continues to promote safety for REWs and the public.

#### 保障公眾安全 **Protecting Public Safety**



Thermal imagers are examples of how we apply technology to make inspection work more efficient. The device can identify potential faults on



#### 運用科技精明工作

機電工程署人員外勤工作時,會運用科技促進電 力安全,例如電氣督察在外巡查時,會採用接 駁到平板電腦的熱能紅外線影像器,以實時探測 電力裝置上過熱的部位,找出可能發生故障的位 置。現時電氣產品的巡查工作,也已用上平板電 腦,好處是可以馬上從機電工程署的資料庫,攫 取有關的產品證書資料,即時核實。這些都是部 門在工作上精明運用科技的例子,對公眾大有裨 益。

#### 新工作守則及監察網上活動

機電工程署在2014/15年度與電業界成立了工作 小組,檢討及更新了《電力線路(規例)工作守 則》,目的是進一步提高安全要求。現時很多新落 成的摩天大樓都設有本身的高壓電力裝置,因此 更新守則就更形重要。新守則將於2015年出版。

網上購物是我的嗜好,但跟其他消費者一樣,我 也擔心網店會賣不合規格的電氣產品。機電工程 署的同事已不斷監察主要的電子商貿平台,一旦 發現不符合安全規格的電氣產品,就會通知網商 收回產品廣告。我們都知道,要規管網上世界並 不容易,但部門在這方面的工作,對保護像我這 樣的本地消費者,會有一定作用。

#### **WORKING SMART WITH TECHNOLOGY**

EMSD also uses technology to step up electrical safety in the field. EMSD inspectors have begun using infrared thermal imagers connected to tablet computers to identify hotspots, or potential faults, on electrical installations in real time. Tablet computers are now also used during inspections of electrical products, providing a way to instantly check product certificates against EMSD's main database. Again, this is working smart and good news for the public.

#### **NEW COP AND CYBERSPACE MONITORING**

During 2014/15, EMSD set up a working group with the electrical trade to review and update the Code of Practice (CoP) for the Electricity (Wiring) Regulations. The aim is to step up safety requirements, especially as more new high-rise buildings are now equipped with their own high-voltage electrical installations. The new CoP will be published in 2015.

Online shopping is one of my favourite pastimes, but like all consumers I am wary about getting sub-standard electrical products from Internet merchants. EMSD officers monitor major e-trading platforms and issue reminders that urge merchants to withdraw the advertisements of noncompliant electrical products. Cyberspace is difficult to police, but this ongoing effort by EMSD will go some way towards protecting consumers like me in Hong Kong.

#### 註冊電業工程人員歡迎第二輪進修計劃

#### **REWS EMBRACE CPD AS SECOND CYCLE BEGINS**

機電工程署於2012年1月推出「註冊電業工程人員持續進修計劃」,要求所有註冊電業工程人員在註冊續期前,完成兩個培訓單元。由於註冊續期是每三年一次,因此全港約74000名註冊電業工程人員,現都已完成第一輪持續進修,接受過「法例及安全規定」及「技術知識」兩方面的培訓。

港九電器工程電業器材職工會副理事長陳幟憲先 生認為,進修計劃不單有助註冊電業工程人員在 工作時更安全,對用家也加強了安全保障。

「培訓課程讓我們了解法例的最新要求,這固然重要,而學員之間互相分享經驗,也十分寶貴。有時別人做過的工作,自己未必經歷過,所以每個學員都有貢獻。」一也説。「進修計劃的最大優點是有很多不同的培訓機構,遍佈全港各區,學員可自由選擇上課時間和地點,非常靈活。」業界人士如因事未能參加培訓,機電工程署在網上也提供了持續進修課程,幫助他們滿足註冊續期需要。

第二輪持續進修周期開始在即,陳先生認為過去 三年的經驗相當正面,同業現已普遍接受持續進 修是行業的一部分。[計劃推行得不算急進,是 逐步來,這點很重要。我們很高興見到大部分同 業都覺得進修計劃有用。」 EMSD launched the Continuing Professional Development (CPD) Scheme in January 2012, requesting Registered Electrical Workers (REWs) to complete two training modules before registration renewal. Since registration is on a three-year cycle, about 74 000 REWs in Hong Kong have now completed the first round of CPD, receiving training on "legislative and safety requirements" and "technical knowledge".

Mr Chan Chi-hin, Vice President of the Hong Kong & Kowloon Electrical Engineering and Appliances Trade Workers Union, believes that CPD has been useful in improving the safety of REWs and those who use their services.

"It is certainly important that we receive updates on any changes to legislative requirements, but the experience-sharing in the technical knowledge module is also very valuable. Every REW has something to contribute that others may not have come across before," said Mr Chan. "The best part is that a variety of training institutes offer the CPD courses at different venues all over Hong Kong, so there is great flexibility for REWs to choose when and where to take the courses." To cater for REWs who cannot attend training in person for whatever reason, EMSD also provides online CPD courses to assist them in registration renewal.

With the second CPD cycle about to commence, Mr Chan notes that the positive experience of the past three years has helped REWs accept CPD as part of the trade. "It was important that CPD was introduced in a modest manner, without being too aggressive. I am happy to say that most REWs now find CPD useful," he said.



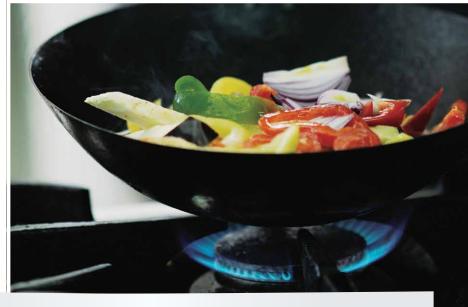
#### 氣體安全

#### **GAS SAFETY**

愛蓮既是家庭主婦,也是社區中心的義工,她從 日常生活累積了不少氣體安全知識,且聽她描述 去年本港氣體安全的發展。

As a homemaker and a volunteer worker at a community centre, Elaine has practical knowledge of gas safety. Here is her account of the past year's gas safety developments.





大家好,我是愛蓮,害克的太太,有兩個孩子。氣體安全是我日常生 给重害的一環,一方面是因為家務所需,同時因為我在社區中心當義工,工作之一是教導長者如何確保家居氣體安全。我們不單何長者講解家用氣體安全貼士,也提醒他們應為家中氣體裝置至力每(8個月,安那發冊氣體激辨商檢查一次。我們也時常何長者提及,機電工程署一直效力維持社區的氣體安全,此如去年就做了以下的工作。

Hello, I am Elaine, Mark's wife and a mother of two. Gas safety is an important part of my daily routine, not only in my household but also in my volunteer work. I help at a community centre and one of my duties is to teach our senior citizens about gas safety at home. We provide safe-usage tips and remind them to get their gas installations checked at least once every 18 months by a registered gas contractor. We also assure them that EMSD is constantly working to boost gas safety in the community. Here are just some of EMSD's efforts for us from the past year.

#### 氣體事故數字下降

我們很高興見到氣體事故在2014年持續下降至217宗,較2013年的218宗及2012年的226宗有輕微減少。這對市民來說肯定是好消息,顯示機電工程署各種預防氣體事故的工作,例如業界安全講座及社區教育活動等,都見成效。

#### **GAS INCIDENT NUMBERS DOWN**

It is good to know that gas incidents continued to decrease in 2014 when 217 were recorded, down slightly from 218 in 2013 and 226 in 2012. This is reassuring for consumers like me and shows that EMSD's efforts to prevent gas incidents, such as safety talks for the trade and community education programmes, have paid off.





#### 供氣分喉與煤氣安全

很多人都不知道,上給供氣分喉鏽蝕是氣體事故的主要成因之一,因此我們應多留意家中上給供氣分喉的狀況,以防事故發生。煤氣公司為提高上給供氣分喉檢查工作之效率,已全面採用新的「立管檢查飛行器」,定期監察高層住宅樓宇上給供氣分喉。這儀器於2014年開始逐步使用,證明可無須搭棚或入屋而有效檢視上給供氣分喉的狀態,同時亦能探測有否氣體洩漏。

煤氣公司馬頭角廠房完成優化工程後,已增加使 用天然氣作煤氣生產,機電工程署也提供了技術 支援和進行了必需的審核,確保廠房安全使用天 然氣。上述優化工程也減少了廠房需儲備的石腦 油量,變得更安全。

#### 就用地規劃充當氣體風險顧問

去年署方在幕後做了很多工作,在宏觀層面確保本港氣體安全,例如繼續作為政府的氣體風險顧問,就氣體裝置附近的用地規劃及發展提供意見。由於政府近年積極賣地以增加房屋供應,機電工程署在這方面的工作也有增無已。

#### 保障石油氣車輛安全

機電工程署在規管石油氣車輛的氣體安全也扮演重要角色。就石油氣儲存而言,若儲存器的總標稱容水量超過130升,即列作「應具報氣體裝置」,其建造和使用必須獲得機電署批准。全港現時獲機電工程署批准的「應具報氣體裝置」之中,有29個設於車輛維修工場內,有五個則設於石油氣燃料缸工場內。而任何有關石油氣車輛燃料系統或相關配件的維修保養或更換工作,以及更換石油氣燃料缸的工作,都必須由機電工程署批准的第六類勝任人士、或在其監督下進行。

#### **RISER AND TOWN GAS SAFETY**

People may not know that riser corrosion is a major cause of gas incidents, but we can all help keep an eye on riser conditions at home. To step up the effectiveness of riser inspection, Towngas is now fully utilising its new Riser Inspection Quadcopter to regularly inspect risers at high-rise buildings. This device, which has been gradually applied since 2014, monitors riser condition and detects gas leakage without scaffoldings or the need to enter flats.

Towngas has increased the use of natural gas for town gas production after completing the upgrading works at its Ma Tau Kok Plant. EMSD has provided technical support and necessary vetting to ensure the safe use of natural gas at the Plant. As a result of the above upgrading works, naphtha storage at the Plant has been reduced, making it safer.

#### **GAS RISK ADVISER FOR LAND USE PLANNING**

A great deal of work also took place behind the scenes last year to ensure gas safety in the community on a larger scale. For example, EMSD has continued as the gas risk adviser to the Government in land use planning and development in the vicinity of gas installations. It has been busy in this role as the Government continued its pro-active land sales programme to boost housing supply.

#### **KEEPING LPG VEHICLES SAFE**

EMSD also plays a key role in regulating gas safety of the LPG vehicle trade. In respect of LPG storage, any containers with the aggregated nominal water capacity of more than 130 litres is classified as "notifiable gas installation (NGI)". The construction and use of NGIs require the approval of EMSD. Among the NGIs approved by EMSD, 29 are inside vehicle maintenance workshops and five inside LPG fuel tank workshops. Work involving the maintenance, repair or replacement of LPG vehicle fuel systems or associated components, as well as the replacement of LPG fuel tanks, are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6) approved by EMSD.

#### 保障公眾安全

#### **Protecting Public Safety**

工作人員正於加氣站抽取車用石油氣樣本,供機電工程署進行每月的車用石油氣品質檢定測試。該檢測制度高度透明,深得業界和公眾信賴。Auto-LPG samples being taken from a filling station for EMSD's monthly auto-LPG quality monitoring and testing. The system is highly transparent and well trusted by the trade and the public

5

大家或會記得,2015年初,石油氣的士引擎死火問題曾引起業界關注。機電工程署每月均進行車用石油氣樣本化驗,以監察車用石油氣質素,當時的化驗結果未見異樣。為了解情況,署方除了定期的檢測,額外抽取了石油氣樣本進行化驗和增加巡查市面的車輛維修工場,並直接和石油氣的士業界聯絡。一如機電工程署近年行之有效的石油氣品質監察制度,當時整個調查過程都高度透明,贏得業界信賴,有助消除公眾的疑慮。該事件很可能由於車輛疏於保養和引擎在寒冷天氣下調較不當所致。其實我們一家人有時也會乘的士,所以也樂見石油氣的士引掣死火事件已迅速解決。

You may recall there were concerns among the taxi trade in early 2015 about engine stalling. Monthly auto-LPG quality monitoring and testing by EMSD did not produce any unusual results. Additional LPG sample tests and extra garage visits were made on top of routine checks, as well as direct liaison with the trade to look into the situation. This investigation, like the well-established LPG quality monitoring system itself, was highly transparent and well trusted by the trade, which helped allay concerns. The problem was likely to have been caused by lack of regular vehicle maintenance and improper engine adjustment under cold weather conditions. As our family takes taxi rides from time to time, I'm pleased to note that incidents of engine stalling soon subsided.

#### 覆檢石油氣燃料缸

的士業和全港石油氣車輛都關注的事,是按《氣體安全(氣體供應)規例》規定,石油氣燃料缸必須每五年最少檢測一次。由於2015及2016年將是燃料缸的覆檢高峰期,為確保全港21000多部石油氣車輛能順利進行覆檢,機電工程署會鼓勵業界開設更多新的石油氣燃料缸工場,及採用石油氣液體交換系統以排走燃料缸內的石油氣,這樣對周圍環境會做成較少污染。

#### 事故調查及其他工作

相信不少市民都記得,2015年4月黃大仙一個車輛維修工場發生爆炸,造成三死九傷。機電工程署現正對事故進行深入調查,同時也加強了對全港車輛維修工場的巡查,並採取了一切必需的短、中、長期措施,防止類似意外再發生。

上述氣體安全工作明年仍會繼續,其他活動,包括經常性的安全推廣工作,如向提供石油氣車輛燃料系統維修服務的工場加強宣傳等,也會加緊進行。我們作為普通市民,這些工作雖未必幫得上忙,但我們可以做的,就是在家居安全地使用氣體,小心監察家居的氣體爐具,這樣就人人都可以出一分力啦!

#### LPG CYLINDER REVALIDATION

Another issue of interest to the taxi trade and the entire LPG fleet in Hong Kong is the revalidation of fuel tanks of LPG vehicles in accordance with the Gas Safety (Gas Supply) Regulations, which require LPG cylinders to be tested and examined at least once every five years. To ensure the smooth processing of the 21 000 LPG vehicles in Hong Kong during the cyclical peak in 2015 and 2016, EMSD would encourage the trade to establish new LPG fuel tank workshops. It will also encourage the use of LPG liquid transfer system to purge LPG fuel tanks, which is more environment-friendly for the community.

#### **INCIDENT INVESTIGATION AND FURTHER WORK**

Many of us also recall the unfortunate incident in April 2015 in which three were killed and nine were injured in an explosion at a vehicle repair workshop in Wong Tai Sin. EMSD is conducting a detailed investigation of the incident. A the same time, it has increased workshop inspections and taken all necessary short-, medium- and long-term mitigating measures to help prevent such a tragedy recurring.

These and other gas safety efforts will continue well into the coming year. Ongoing efforts include further work to step up safety education at workshops providing service for LPG vehicle fuel systems. We in the community may not always be able to help with these schemes, but we can all use gas more safely at home and keep an eye on our gas appliance safety. We can all chip in!



#### 新型石油氣的士及雙燃料的士獲批 NEW LPG AND BI-FUEL TAXIS APPROVED



香港在1997年引進石油氣的士,最近運輸署更批准新類型的石油氣的士及雙燃料的士在港推出,加強了石油氣的士的陣容。

新型的士由2015年初已在香港推出。跟一般四座位石油氣的士不同,它們的石油氣缸內都沒有燃料泵,完全撇除了因維修保養燃料泵,而到石油氣燃料缸工場排走燃料缸內的石油氣再進行維修的需要。

機電工程署在運輸署發出有關的車輛類型批准之前,向運輸署提供了氣體安全方面的意見,尤其 是有關雙燃料的士和新型石油氣的士的燃料缸的 意見。兼用石油氣和汽油的雙燃料的士,在本港 雖是新事物,在歐洲卻很普遍。

新引入香港的雙燃料的士,車尾有個可伸縮的斜台,方便坐輪椅的乘客進出,而新型的石油氣的士型號,則可容納相當多行李。這批新類型車輛將加強本地的士車隊,給公眾更多選擇。

LPG taxis have been operating in Hong Kong since 1997. The LPG fleet was recently extended with Transport Department's type approval for a new LPG and new bi-fuel taxi category.

The new taxi models have been available in Hong Kong since early 2015. Unlike conventional four-seater LPG taxis, these models do not have fuel pump inside the LPG tank, eliminating the need for purging of LPG fuel tanks at LPG fuel tank workshops for maintenance and repair of the fuel pump.

EMSD provided gas safety advice to the Transport Department prior to the approval, specifically with regard to the LPG vehicle fuel tank of the new bi-fuel and LPG taxis. While the bi-fuel taxi running on LPG and petrol is only now being introduced in Hong Kong, it is common in Europe.

The new bi-fuel model features a retractable ramp at the back, allowing easy entry for passengers on wheelchairs, while the new LPG taxi model can accommodate a considerable quantity of luggage. The new vehicle type is expected to strengthen the local taxi fleet and give the public more choices.

#### 車輛維修業註冊進展

#### PROGRESS IN REGISTRATION FOR VEHICLE MAINTENANCE TRADE

為了提升車輛維修業水平,機電工程署早於2007年已推出了「車輛維修技工自願註冊計劃」,至2015年4月為止,約有6400名車輛維修技工已經註冊,佔全港車輛維修技工約七成。部門也於2013年推出「車輛維修工場約章」,而不久將來更會推出一個「車輛維修工場自願註冊計劃」。

此外,為進一步提高業界水平,機電工程署將進行深入的可行性研究,以近年推行上述兩個自願計劃的經驗為基礎,探討是否可為本港車輛維修技工及維修工場,分別推行強制性的註冊制度。

To enhance standards of the vehicle maintenance trade, EMSD launched the Voluntary Registration Scheme for Vehicle Mechanics in 2007. About 6 400 mechanics had registered as of April 2015, which is about 70% of vehicle mechanics in Hong Kong. The Department also launched the Vehicle Maintenance Workshops Charter Scheme in 2013, and will soon roll out a Voluntary Registration Scheme for Vehicle Maintenance Workshops.

To further enhance the trade's standards, EMSD will start conducting an in-depth study on the feasibility of putting in place a mandatory registration system for the vehicle maintenance trade, covering both mechanics and workshops, having regard to the experiences gained from the two voluntary registration schemes in the past few years.

#### 機械安全

#### **MECHANICAL SAFETY**

愛瑪雖只是小學五年級,但對升降機、自動梯和機動遊戲機的最新發展,卻瞭如指掌。她豐富的知識,一方面是由於參加了機電工程署的機電青少年大使計劃,另一方面是由於她對一切關於垂直運輸和刺激的機動遊戲機資料,都極有興趣,不會放過。

Though Emma is only in Primary 5, she is totally up to date on all that is new in lifts and escalators and amusement rides. Most of her knowledge comes from being an EMSD E&M Young Ambassador, and from avid reading of anything related to vertical transport and thrilling carnival rides.





#### 審批嘉年華機動遊戲機和纜車系統

去年冬天最開心的,是去了2014年12月至2015年2月在中環舉行的「歐陸嘉年華」。全因機電工程署就場內各種機動遊戲機的適時審批工作,我們一家人和朋友才可以享受這盛事,當然,我們也順道去了旁邊的中環海濱摩天輪。同是於2014年12月開幕的摩天輪,也由機電工程署審批,讓我們可從高空欣賞維港的不凡美景。

我們家有時也會去乘坐昂坪360 纜車。由於機電工程署的努力,這纜車系統已加強了「狀態為本監察」和「風險為本監測」的工作,使系統更可靠。昂坪360 系統的可靠度,再由2013年的99.82%升至2014年的99.83%,即是纜車平均運作每八小時,才只有不足一分鐘的停頓。這有助操作人員增加預防性保養的次數,進一步減少因機件故障做成的系統停用時間。

說 到 機 動 遊 戲 機, 怎 能 不 提「荔 園 Super Summer 2015」? 重現荔園遊樂場對爸爸媽媽固然是懷舊之旅,哥哥和我也覺得很好玩。場內有六款機動遊戲機,多是模仿當年荔園的機動遊戲機。機電工程署在極短的時限內,完成了那批機動遊戲機的審批工作,讓市民趕得及在夏天享受這活動。

現在轉去談談我的另一嗜好,就是升降機和自動梯。正如有些同學是巴士迷,我就是升降機和自動梯迷!我知道機電工程署去年做了很多工作,以加強升降機和自動梯安全,下面是一些例子。

## **VETTING CARNIVAL RIDES AND CABLE CAR SYSTEM**

One of the best experiences for me last winter was the Great European Carnival, which was on in Central from December 2014 to February 2015. Thanks to EMSD's timely vetting and approval of the rides, my family and friends were able to enjoy great fun there with me. It goes without saying that we also took a ride on the nearby Hong Kong Observation Wheel. Also vetted and approved by EMSD, it opened in December 2014 to give us breathtaking harbour views.

Our family also enjoys a ride on Ngong Ping 360 (NP360) from time to time. The cable car is now even more reliable thanks to EMSD's work in stepping up condition-based monitoring and risk-based surveillance. Reliability improved from 99.82% in 2013 to 99.83% in 2014, meaning there was less than one-minute's stoppage for every eight hours of cable car operation. This allowed the operator to schedule more frequent preventive maintenance, thus reducing downtime due to equipment failure.

While on the subject of rides, how can I not mention the Lai Yuen Super Summer 2015? It was a nostalgic trip for my parents, and great fun for my brother and me. The funfair had six amusement rides, mostly replicas of the original Lai Yuen. The rides were vetted and approved by EMSD, against a tight timeframe, which allowed the event to open to the public in time for the summer.

Now to my other hobby: just as some of my classmates love spotting buses, I am fascinated by lifts and escalators. I know that as the regulator of lifts and escalators, EMSD has done a lot in the past year to enhance lift and escalator safety. Here are some examples.

#### 升降機合約價格更透明

我們都知道,過低的升降機保養價格,可能會引致服務質素欠佳,因為承辦商或會先大幅壓價以取得合約,然後因貨就價,不做足服務。因此,相關的負責人,例如升降機擁有人和物業管理公司等,都有需要知道市場合約的價格,以資比較。就此,機電工程署已於2014年11月首次公開了升降機的保養價格數據。

署方提供了本港私人住宅和商業樓宇升降機的平均每月保養合約價格數據,並根據升降機的「額定速度」與「運行樓層」兩個準則細列價格,數據每隔半年在部門網頁更新一次。新措施的目的,是提高市場的透明度,讓負責人在選擇升降機承辦商時作為參考,並根據承辦商提供的服務內容,考慮其報價是否合理。

#### LIFT CONTRACT PRICES MORE TRANSPARENT

We all know that unreasonably low contract prices may contribute to poor lift maintenance because contractors that set such prices to secure business may then cut corners to save cost. Responsible Persons (RPs) such as lift owners and property management companies therefore need a good understanding of current market prices. To help, EMSD released the Maintenance Contract Price Figures for Lifts for the first time in November 2014.

The figures provide average monthly maintenance prices for private residential and commercial buildings, itemised according to the lift's rated speed and the number of floors served. Prices are taken from an ongoing survey by an independent consultant. The figures are updated every six months and published on the EMSD website for the public's reference. The new measure aims to make the market more transparent, and is a reference for RPs considering whether the price quoted by their contractor is reasonable and appropriate for the services specified.



#### 新「升降機及自動梯保養工作事宜 移交核對表」

另一新猷是2015年5月推出的「升降機及自動梯保養工作事宜移交核對表」,方便負責人在轉換承辦商時,確保新舊承辦商之間能有效地交接保養工作及有關的記錄。核對表也有助負責人及新舊承辦商三方,充分了解在交接過程中各自的法律責任,讓各方都更符合法例要求。

至於加強版的「註冊升降機及自動梯承辦商表現評級制」,增添了綠色「安全之星」及藍色「質素之星」,已於2014年1月正式推出,實施以來也廣受升降機和自動梯負責人與公眾歡迎,而新制度對選擇合適的承辦商以提供良好的維修保養服務,實大有幫助。除了加入星星評級外,新制度更加入個別承辦商的資料註明。任何註冊承辦商如涉及意外、或有關安全的官司、或曾收過機電工程署的警告信,在部門網頁上都會註明詳細資資料,並保留一年,供負責人及公眾參考,使制度更透明。

#### 意外、投訴與查詢

2014年因機件故障而發生的升降機意外只有四宗,而因機件故障而發生的自動梯意外更是零。不過,全年升降機意外數字,卻由2013年的330宗增至2014年的446宗,而全年自動梯意外數字,也由2013年的1416宗增至2014年的1639宗。多數意外的主要原因,是乘客不小心使用的行為;至於自動梯意外,另一主要原因是「外來因素」,即有外物揳於梯級與自動梯梳齒板之間,觸發安全掣而急停自動梯運作,引致乘客受傷。

所以,我們作為機電工程署的機電青少年大使, 更應該時常提醒親友,切記注意安全使用升降機 和自動梯。

署方去年也重新編排了監察升降機和自動梯安全工作的內部分工,採用分區制,每區都由固定的專人跟進,優點是負責同事對區內情況會較熟悉,能加強風險管理,採用更聚焦的方法加強安全。推行分區制後,有關升降機和自動梯的公眾投訴和查詢明顯減少,由2013/14財政年度的1700宗降至2014/15財政年度的1406宗,對各方都有利。

## NEW CHECKLIST FOR LIFT AND ESCALATOR MAINTENANCE HANDOVER

Another new measure was the introduction of the Checklist for Handover/Takeover of Lift and Escalator Maintenance in May 2015. This gives RPs a handy tool to manage the transfer of lift and escalator maintenance duties and documents from one contractor to another. The checklist also helps RPs and contractors better understand their respective legal obligations and duties during the handover, which should lead to better compliance with the law.

The completely revamped Contractors' Performance Rating (CPR) system, with the new green Safety Star and blue Quality Stars, was officially launched in January 2014. It has proved popular with RPs and the public, as it helps them choose appropriate contractors for maintenance and repair services. In addition to the star ratings, the new CPR also includes detailed notes on individual contractors that have been involved in incidents or court cases over safety or that have been served with warning letters by EMSD. The notes are kept on EMSD's website for a year for reference by RPs and the public, making the system more transparent.

#### **INCIDENTS, COMPLAINTS AND ENQUIRIES**

In 2014, only four lift incidents and zero escalator incident were caused by equipment fault. However, the total number of lift incidents increased from 330 in 2013 to 446 in 2014 and escalator incidents rose from 1 416 in 2013 to 1 639 in 2014. A key reason was unsafe passenger behaviour. In the case of escalators, "external factors" were also to blame, such as when a foreign object becomes wedged between the step and combplate, triggering sudden stoppage and resulting in injuries.

This is all the more reason why we E&M Safety Ambassadors must remind our family and friends to use lifts and escalators safely.

EMSD has also reorganised to adopt a regional approach to overseeing lift and escalator safety, thus gaining more in-depth understanding of each region and takes risk-based, focused measures. As a result, the number of public complaints and enquiries about lifts and escalators has come down significantly: reducing from 1 700 in FY2013/14 to 1 406 in FY2014/15, to the benefit of all concerned.

#### 保障公眾安全 Protecting Public Safety



經機電工程署的努力・昂坪360 續車系統加強了「狀態為本」 和「風險為本監測」的工作・變得更可靠。 Ngong Ping 360 is now even more reliable as a result

Ngong Ping 360 is now even more reliable as a result of EMSD stepping up condition-based monitoring and risk-based surveillance of the cable car system.



感應器設計,以減少出錯。 EMSD has been working with Ngong Ping 360 to enhance the design of cabin door locking sensor to minimise false tripping.

#### 業界調查與新措施

署方還有其他新猷,比如2014年就進行了一項業界調查,探討升降機及自動梯行業的人力資源需求和工作環境問題,又於2014年12月成立了一個新的升降機及自動梯保養事宜工作小組,成員包括商會、工會和培訓機構代表,專責跟進該調查發現的有關升降機和自動梯保養的問題。

機電工程署明年更會推出一個促進優化現有升降機的獎項計劃,又會為升降機及自動梯負責人推出一份通訊,此外,署方也正與昂坪360商討,改善吊車車廂門鎖的感應器設計,以減少出錯。這些新措施不單會使升降機、自動梯和纜車系統更安全,機動遊戲機也會更刺激好玩,我很期待!

#### TRADE SURVEY AND NEW INITIATIVES

But this was not all. EMSD also conducted a trade survey in 2014 to explore the manpower needs and working environment of the lift and escalator trade. In December 2014 it formed a new Working Group on Matters related to Maintenance of Lifts and Escalators to follow up on issues identified in the survey. The new Working Group comprises representatives from trade associations, unions and training institutions.

For next year, EMSD is also planning to roll out an award scheme to promote lift modernisation, and to launch a newsletter for RPs. It is also working with NP360 to enhance the design of cabin door locking sensors to minimise false tripping. I am excited about all these developments, as they shall make our lifts and escalators ever safer and the rides more fun!





伍偉良先生與「2015年申訴專員嘉許獎 — 獎項表揚他處理公眾查詢和投訴的專業表現

in recognition of his professional handling of public

### 申訴專員獎嘉許同事主動為民解難

#### OMBUDSMAN'S AWARD FOR PRO-ACTIVE PROBLEM-SOLVER

一般法例部高級機械督察伍偉良先生,最近榮獲 「2015年申訴專員嘉許獎 — 公職人員獎」,表揚 他在處理公眾查詢和投訴方面,表現專業、有耐 心且態度積極。伍督察的工作,是幫助社區人士 解決有關升降機和自動梯的問題,也是承辦商和 業主之間的溝通橋樑。

他加入機電工程署工作近30年,多年來在巡查 升降機和自動梯、意外調查及有關《升降機及自 動梯條例》方面的執法工作,都累積了豐富經驗。

伍督察成功處理過很多住宅樓宇升降機因長期失 修而反覆停用的個案,這些情況對業主和住客, 特別是長者,都帶來極大不便;而單幢舊樓的管業 公司或業主管理委員會,往往缺乏相關的技術知 識,因此更容易發生這種情況。一旦收到投訴, 伍督察和同事便會親自往現場了解情況,跟居民 和升降機承辦商見面商討,嘗試找出問題成因。

他説:「在大部分個案中,住客其實只是想知道 工程進度,和幾時可以恢復升降機服務,但承辦 商有時就沒有回應,不跟業主溝通。我們就發揮 橋樑的角色,為雙方清楚解釋問題所在,加速解 決,以盡快恢復升降機服務。」他排難解紛的工 作,有時也包括敦促承辦商加快修理故障,補交 未齊的文件,或改善保養程序等。

「我們最大的滿足感,就是見到居民,尤其是老 人家,高高興興地重新享用到正常的升降機服 務,這就是我們工作的價值。所以我常提醒同 事,要設身處地為市民著想,嘗試真正去了解他 們的需要和感受。」他說。

Mr Ng Wai-leung, senior mechanical inspector of the General Legislation Division, was recently honoured in the 2015 Ombudsman's Awards for Officers of Public Organisations. He was recognised for his professionalism, patience and pro-active attitude in handling public enquiries and complaints. Mr Ng assists the community by helping to resolve lift and escalator problems. He acts as a bridge for communication between lift contractors and property owners.

Since joining EMSD almost 30 years ago, Mr Ng has gained extensive experience in lift and escalator inspection and incident investigation, as well as enforcement of the Lifts and Escalators Ordinance.

Mr Ng has successfully handled many cases where frequent lift breakdowns have caused great inconvenience to owners and occupants, particularly the elderly. Such complaints typically occur in aging residential buildings, often stand-alone ones where the management company or owner's management committee has limited technical knowledge. Upon receiving a complaint, Mr Ng and his team visit the site and talk to residents and the lift contractor to identify the root cause of the problem.

"In most cases, what all the residents want to know is how works are progressing and when lift service will resume. But lift contractors are sometimes not responsive and fail to communicate with flat owners. Our role is to act as a bridge. We clarify the issues for both parties and expedite the problem-solving process so that lift service can resume guickly," said Mr Ng. This might include urging the contractor to expedite fault rectification, submit missing paperwork, or improve maintenance procedures.

"We get a lot of satisfaction from seeing happy residents, especially the elderly, get back their normal lift service. This is the value of our work and the reason why I always remind colleagues to put themselves into the shoes of the public and try to truly understand their needs and feelings."

# 鐵路安全 RAILWAY SAFETY

馬田是個鐵路迷和火車迷,不單認得出香港所有的列車型號,還熟知一切 有關本港鐵路網的新聞。跟妹妹愛瑪一樣,他也參加了機電青少年大使計 劃。

Martin loves railways and trains. He can identify all the train models you can see in Hong Kong, and he closely follows all news about the city's railway network. Like his sister Emma, Martin is an E&M Young Ambassador.



機電工程署人員正巡查港鐵架空電纜系統。港鐵公司在本署監察下・已全面 檢視所有架空電纜系統及實施相關改善措施。

EMSD staff inspecting the MTR overhead line systems. Under the monitoring of EMSD, MTRCL has conducted a thorough review and <u>implemented imp</u>rovement measures for all overhead line systems.





MSD worked closely with MTRCL and other relevant government lepartments to carry out numerous safety inspections and on-site tests prior to the opening of the West Island Line.



#### 西港島綫2014年12月啟用

2014年12月西港島綫的啟用,是本港鐵路發展的里程碑,為港島西區居民和所有往返西區的市民帶來方便,也為該區揭開新的一頁。機電工程署與香港鐵路有限公司(港鐵公司)及相關的政府部門緊密合作,為西港島綫啟用前進行了大量安全檢查及現場測試,並監察各種緊急事故演習,確保新綫對乘客安全。

經過各方合作和努力,西港島綫的香港大學站和堅尼地城站都能於2014年12月如期啟用,而西營盤站也已於2015年3月啟用。機電工程署於多年前便開始投入工作,負責確保由最初的設計階段直至最後的測試和驗收階段,新綫都符合適當的安全做法。新綫啟用當天我當然有去,有機會乘坐由新站開出的第一班列車,見證香港鐵路發展的歷史性一刻,真令人興奮!

#### 檢討架空電纜系統的管理

大家或會記得,2014年初東鐵綫發生了一連串事故,影響列車服務。機電工程署的調查發現,事故成因是由於架空電纜絕緣體損壞,涉及一批品質有問題的絕緣體。

作為鐵路安全規管機構,機電工程署要求港鐵公司立即更換該批絕緣體,作為即時措施。港鐵公司也聘請了獨立專家,徹底檢討架空電纜系統的管理,而機電工程署也密切監察整個檢討過程及審視檢討結果。除了聽取專家的意見外,機電工程署也提出了一系列長遠的改善建議。港鐵公司已採納有關建議,從而提升鐵路系統表現。(詳情另見40頁特寫故事。)

#### **WEST ISLAND LINE OPENED IN DECEMBER 2014**

A major milestone last year was the opening of the West Island Line in December 2014, an exciting new page for the local community and everyone who commutes to the Western District. EMSD worked closely with the MTR Corporation Limited (MTRCL) and other relevant government departments to carry out numerous safety inspections and on-site tests and to monitor emergency drills and exercises to make sure that the new line would be safe for passengers.

Thanks to the concerted effort of all concerned, HKU Station and Kennedy Town Station were opened in late December 2014 as scheduled, with Sai Ying Pun Station opening in March 2015. EMSD's work on this extension line goes back many years, as it was responsible for ensuring that appropriate safety practices were in place from the earliest design stage through to final testing and commissioning stage. The opening days were fun: I really enjoyed being part of Hong Kong's rail history on the first train from a new station!

# REVIEW OF OVERHEAD LINE SYSTEM MANAGEMENT

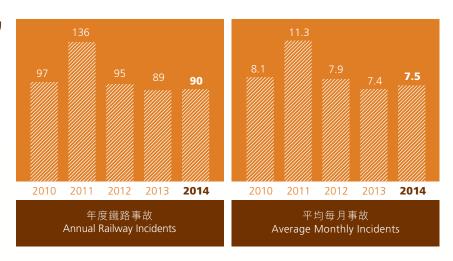
You may remember a series of incidents that caused delays on the East Rail Line in early 2014. EMSD's investigations found that the incidents were caused by overhead line (OHL) insulator failure related to the quality of one batch of defective OHL insulators.

EMSD as the safety regulator required MTRCL to immediately replace that batch of insulators as an immediate measure. MTRCL also engaged an independent expert to conduct a thorough review of the management of the OHL systems, while EMSD closely monitored the review process and assessed the review results. On top of the expert's advice, EMSD offered a series of long-term improvement recommendations which MTRCL has already adopted to enhance railway system performance. (See story on p.40 for more details.)

#### **Protecting Public Safety**

由設備故障及員工行為引起的 鐵路事故

Railway Incidents Caused by Equipment Failure and Staff Behaviour



#### 更換列車及信號系統

對乘客和所有火車迷來說,港鐵公司決定購買 93列八卡列車,以替代所有在觀塘綫、荃灣綫、 港島綫及將軍澳綫行走的第一代列車,都是令人 高興的好消息,港鐵公司並已於2015年7月批 出更換列車的合約,造價約為60億港元,新列 車將於2018至2023年間運抵本港。機電工程署 會確保新列車符合所有相關的鐵路安全標準,並 通過所有必要的廠房測試,以及通過在鐵路現場 的安全及表現測試。

港鐵公司已開始更換現有七條鐵路綫的信號系統,即荃灣綫、港島綫、觀塘綫、將軍澳綫、東涌綫、機場快綫和迪士尼綫。現時使用的固定區段信號系統,將被先進的「通訊為本列車控制系統」取代,即是採用以無綫通訊為基礎的流動區段列車控制技術。荃灣綫信號系統的更換工作現已經展開,並將於2018年率先完成。至於整個更換項目預計於2026年完成。

港鐵公司已於2015年3月批出更換信號系統的合約,造價約為33億港元,涵蓋上述七條鐵路綫的信號系統,包括在路軌、車站、車廠及車務控制中心、以及在載客列車與機車內的相關信號設備。機電工程署會仔細審視有關系統的設計、安裝、以及整體更換計劃,並會參與相關的測試,在確保新系統的安全表現後,才會批准新系統投入服務。

更換列車和信號系統這兩個項目,都是港鐵公司 資產優化計劃的重要里程碑。我很期望見到新的 列車和信號系統投入運作。

# REPLACEMENT OF TRAINS AND SIGNALLING SYSTEMS

In exciting news for passengers and all of us who love trains, the MTRCL has confirmed the purchase of 93 new eight-car trains to replace all of the first-generation trains operating on the Kwun Tong Line, Tsuen Wan Line, Island Line and Tseung Kwan O Line. MTRCL awarded the train replacement contract in July 2015. The new trains will cost about HK\$6 billion and will be delivered to Hong Kong between 2018 and 2023. EMSD will see to it that they comply with all relevant railway safety standards and pass all required factory tests and on-site safety and performance tests.

MTRCL has commenced to replace the signalling systems on seven existing MTR railway lines: Tsuen Wan Line, Island Line, Kwun Tong Line, Tseung Kwan O Line, Tung Chung Line, Airport Express and Disneyland Resort Line. The current fixed-block signalling systems will be replaced by cutting-edge communications-based train control systems, which use radio-based moving-block train control technology. Works for the Tsuen Wan Line will be due for completion in 2018. The whole project is anticipated to be completed in 2026.

MTRCL awarded the signalling system replacement contract in March 2015 at about HK\$3.3 billion. It covers the replacement of the signalling systems for the seven railway lines, including the relevant signalling equipment at tracks, stations, depots and operation control centres and on passenger trains and locomotives. Again, EMSD will carefully review the system design, installation and the migration plan. EMSD will also take part in relevant testing to ensure the safety performance of the new systems before approving them for service.

Both the train and signalling system replacement projects are milestones in MTRCL's asset enhancement programme, and I look forward to seeing the new trains and signalling system at work.



#### 測試和驗收新鐵路綫

眾所周知,目前有四條新鐵路綫在興建中,分別 為南港島綫(東段)、沙中綫、觀塘延綫和廣深 港高速鐵路(香港段),全部都計劃在未來幾年 啟用。

為了確保這批鐵路新綫和延綫能安全運作,並符合國際標準,機電工程署一直都與港鐵公司及相關的政府部門合作,審核、檢查和測試所有關乎安全的系統,並監察緊急事故演習及審視各種緊急事故應變計劃。這些已成為機電工程署近年的恆常工作,而離各條新綫和延綫驗收的日子越近,他們的工作就越見繁重。

#### 增添人手提高鐵路安全

香港的鐵路網正快速擴展,機電工程署在規管鐵路 安全方面的工作量也越來越大。有見及此,政府 由2015/16年度起,會為機電工程署鐵路科增添11 個新職位,包括兩個總工程師職位。新添的人手, 將有助署方加強對現有鐵路綫和新鐵路項目的安全 監察工作,也將整體地加強本港的鐵路安全規管機 制。鐵路科的新增人手,更可讓署方持續提升對有 關港鐵公司鐵路運作和新鐵路項目的監察。

#### 安全工作的「點綫面」

上述的新職位落實之後,機電工程署將於「點、綫、面」三個層次加強其日常規管工作。「點」的層次,是指署方會加強安全巡查的次數和深入程度;「綫」的層次是指主動檢視港鐵公司的維修保養工作流程,以提高維修保養質素;「面」的層次則是指署方會從宏觀的策略角度,去檢討及調校目前用於港鐵公司的安全規管機制,包括對其安全管理系統與資產管理系統,進行全面詳細的審核。

由此可見,香港的鐵路工作,的確進行得如火如茶!希望明年可以為大家報導更多新發展消息。

# TESTING AND COMMISSIONING OF NEW RAILWAY LINES

We all know that four new railway lines are under construction: the South Island Line (East), the Shatin-to-Central Link, the Kwun Tong Line Extension and the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. All are scheduled to open in the next few years.

To prepare for the safe operation of these new lines/extension and to ensure their compliance with international standards, EMSD has been working with MTRCL and other relevant government departments to vet, inspect and test all safety-related systems, to monitor emergency drills and to scrutinise various emergency contingency plans. The work is ongoing and will get more intense with the approach of the scheduled commissioning dates.

#### **NEW CAPACITY TO BOOST RAILWAY SAFETY**

Hong Kong's fast-expanding railway network comes with an increasing workload for EMSD. The Government will therefore create 11 new posts, including two Chief Engineer posts, in EMSD's Railways Branch from 2015/16. This added capacity will help enhance safety oversight of existing railway lines and new railway projects, and support the overall strengthening of the railway regulatory regime in Hong Kong. It will also ensure that EMSD can continue to enhance its monitoring of MTRCL railway operations and new projects.

# THE "POINT", "LINE" AND "PLANE" OF RAILWAY SAFETY WORK

Once the new posts are created, EMSD will enhance its daily regulatory work at three levels, which it calls "point", "line" and "plane". At the "point" level, EMSD will increase the frequency and depth of safety inspections. At the "line" level, it will proactively look into the maintenance workflow of MTRCL in order to enhance maintenance quality. At the "plane" level, it will review and adjust the current safety regulatory regime applied to MTRCL from a macro and strategic perspective. This will involve a comprehensive and detailed vetting of its safety management system and asset management system.

So a lot is happening in Hong Kong's railways! I look forward to updating you on more new developments next year.



### 改善架空電纜系統背後的故事

### THE STORY BEHIND OVERHEAD **LINE SYSTEM IMPROVEMENT**

2014年的農曆新年,對鐵路科高級工程師樊志 榮先生可説十分難忘,因為他和他的團隊要日以 繼夜,冒著濕冷的天氣,在室外調查在2月份發 生的兩宗東鐵綫事故,當時每宗事故都影響了列 車服務達三至四小時。事故發生後,樊先生和他 的團隊一方面要迅速回應及處理來自傳媒、立法 會和市民的查詢和關注,更要馬上動身,查找事 故的根本成因。他們很快發現,同一批次的架空 電纜絕緣體存在瑕疵,是導致兩宗事故的成因, 而出現瑕疵則與絕緣體的品質控制有關。

他回想說:「這兩宗事故突顯了一個事實,就是 即使是架空電纜絕緣體這類低成本又不起眼的小 部件,如果不好好管理,也可做成重大事故。那 次事故再提醒大家,所有部件的品質控制和保養 工作,都須以審慎和有條不紊的方式處理,包括 最細微的部件也不例外。|

當時,機電工程署立即要求港鐵公司緊急更換肇 事批次的所有絕緣體,繼而再更換購自同一製造 商的同型號其他批次的絕緣體,以防萬一。署方 又要求港鐵公司抽樣測試其他現存的絕緣體,並 在安裝新絕緣體前先進行篩選測試。樊先生的團 隊在整個過程中積極參與,包括審視有關測試的 標準和方法,並參與有關測試的進行過程。

為預防再發生類似事故,港鐵公司也聘用了獨立 專家,就架空電纜系統的管理進行全面檢討。與 此同時,機電工程署也聘請了另一獨立專家,監 察港鐵公司的檢討工作程序。樊先生的團隊與署 方的獨立專家也緊密合作,審視港鐵公司的檢討 方法、結果和建議。所有這些措施,目的都是加 強有關的品質控制和保養程序,確保所有港鐵綫 路的架空電纜絕緣體均有優良品質,從而使港鐵 架空電纜系統更為安全可靠。



Chinese New Year 2014 was unforgettable for Mr Eric Fan, Senior Engineer at the Railways Branch. He and his team spent many days and nights outdoors in wet and cold weather investigating two incidents that happened in February of that year on the East Rail Line. Each led to service disruptions of three to four hours. While promptly dealing with queries and addressing the concerns of the media, Legislative Council and general public, the team guickly mobilised itself to look for the root cause of the incidents. It promptly discovered that defects in the same batch of overhead line insulators had caused the incidents, and were related to quality control of the insulators.

Recalling the experience, Mr Fan said, "These incidents highlight the fact that even low-cost, mundane components like overhead line insulators can cause big problems if not properly cared for. It shows once again the importance of a prudent, systematic approach towards quality control and maintenance of all parts and components, even minor ones."

EMSD immediately asked MTRCL to urgently replace all insulators that came from the concerned batch, and then to also replace all other batches of the same type of insulators supplied by the manufacturer of the defective batch as a prudent measure. EMSD then requested MTRCL to sample test other existing insulators and carry out screening tests on all new insulators prior to installation, with Mr Fan's team heavily involved in assessing the testing standards and methodology and in participating in various tests.

As a preventive measure, MTRCL further engaged an independent expert to conduct a comprehensive review of the management of overhead line systems. Mr Fan's team also worked closely with another expert engaged by EMSD to monitor MTRCL's review process and assess its review methodology, findings and recommendations. All of these initiatives aimed to enhance quality control and maintenance procedures to ensure that the quality of overhead line insulators and hence the safety and reliability of overhead line systems on all MTR railway lines can be improved in the long run.



#### 西港島綫背後的故事

# THE STORY BEHIND WEST ISLAND LINE

如果説西港島綫在2014年12月底啟用之後,香港大學的莘莘學子和西區居民的生活質素馬上得到改善,也不算誇張,因為西港島綫確為該區帶來更暢順的公共交通。鐵路科的工程師施培康先生,就跟我們分享了西港島綫背後的故事。

西港島綫是港鐵港島綫的一條三公里延綫,在西營盤、香港大學和堅尼地城有三個地底車站,其中西營盤站和香港大學站面對非常有挑戰性的地質問題。到了2014年6月,西營盤站的土木工程滯後,很明顯這個車站會無法如期在2014年內驗收啟用。港鐵公司於是制訂了一個後備計劃,假如西營盤站真不能如期啟用,列車則會由港島綫的上環站直接駛往香港大學站,再往堅尼地城總站,直至西營盤站啟用為止。

施先生和他的團隊就是在這種時間緊逼的情況下,為西港島綫進行各種必要工作,以確認西港島綫是「安全正常」。在2014年8月至10月這高峰期,他的團隊常要日以繼夜地工作,更要在在夜及以後的非行車時段工作,才能完成大量檢查和處理數以千頁計的報告與圖則。經過團隊的努力,機電工程署能夠與其他相關政府部門順利協調合作,並趕及於2014年12月初,向港鐵公司,企認西港島綫狀況為「安全正常」並可以啟用,讓港鐵公司有足夠時做好宣傳和各種服務的站說,會團隊的努力讓西港島綫(雖沒有西營盤站)於2014年12月底投入服務,而西營盤站也於2015年3月,一如後備計劃預期般啟用。至此,西港島綫也全面投入服務。

施先生記得,當西港島綫啟用的時候,團隊有很大滿足感,同時如釋重負。他説:「上一次香港有新鐵路延綫啟用已是2009年,所以西港島綫為我們的安全審批工作帶來一個新的模板,對未來審批其他新鐵路綫時極有參考價值。今次的經驗也突顯了在安排各種檢查的時間表和優先次序的時候,我們須採用靈活應變和風險為本的方法,才可以在緊逼的時限內完成工作。」

他補充:「對我們的團隊來說,只要見到西區的 街坊笑逐顏開,有安全的新鐵路綫為他們服務, 就是最大回報。」



It is not an exaggeration to say that the quality of life of many University of Hong Kong (HKU) students and residents of Western District instantly improved when the MTR West Island Line (WIL) opened in late December 2014 to provide much smoother access to public transport. Mr P H Sze, Engineer at the Railways Branch, has a story to tell about the WIL opening.

WIL is a 3-km extension of the MTR Island Line with three underground stations at Sai Ying Pun (SYP), HKU and Kennedy Town. The SYP and HKU Stations presented very challenging geological constraints. It was clear by June 2014 that delays in civil works at SYP Station would prevent this station from being commissioned in 2014 as planned. MTRCL drew up a backup plan under which trains would run from Sheung Wan Station of the Island Line straight to HKU Station and then terminate at Kennedy Town Station, until SYP Station opened.

It was against this background that Mr Sze and his team conducted the work necessary to confirm WIL as "safe and sound". The team often had to work day and night during the peak from August to October 2014, during non-traffic hours at midnight and beyond, to complete the numerous inspections, processing thousands of pages of reports and drawings along the way. As a result, EMSD coordinated with other relevant government departments and confirmed the "safe and sound" condition of WIL to MTRCL in early December 2014 for the opening of WIL, allowing sufficient time for the company to prepare for publicity and various services. The hard work paid off as WIL began service in late December 2014, albeit without SYP Station. Full operation with SYP Station commenced in March 2015 as scheduled in the backup plan.

Mr Sze recalled that the team felt a great sense of satisfaction – and relief too – when the WIL finally opened. "The last time railway extensions were opened in 2009, so the WIL has become a more contemporary template for our safety approval processes that we will be able to draw on for other new railway projects. It particularly underscored the need for us to work smart, adopt a risk-based approach, and be very flexible about scheduling and prioritising the inspections in order to beat tight deadlines," he said.

"For the team, the best reward is seeing a happy community in Western District, well served by a safe new railway line," Mr Sze added.





推廣能源效益及節能
PROMOTING ENERGY
EFFICIENCY
AND CONSERVATION

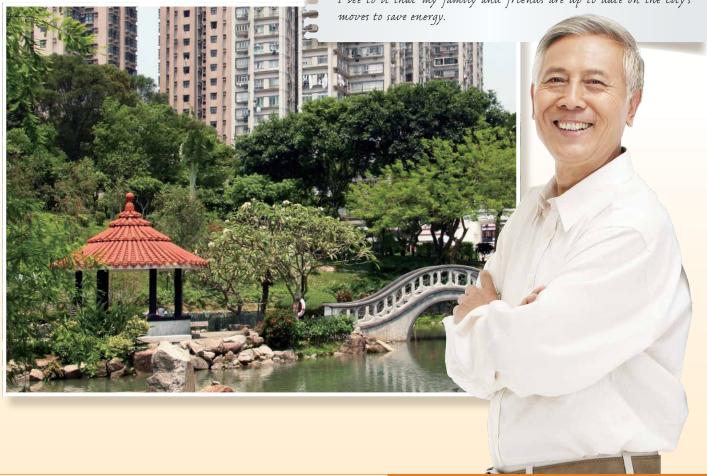


爺爺馬泰雖已退休,但精力充沛,心境年輕。他深信天然資源十分寶貴,不應浪費。每逢周末他都去探馬克一家,又時常向愛瑪和馬田談到香港在推動 能源效益及節能方面做了甚麼工作。

Grandpa Matthew is retired, but energetic and young at heart. He believes all natural resources are precious and nothing should be wasted. He visits Mark's family on weekends and uses every opportunity to tell Emma and Martin what Hong Kong is doing to promote energy efficiency and conservation.

大象好, 我是 馬克 的 爸爸 , 馬田 和 愛 遇 的 爺爺 。 很 久 从 前 我 爸爸 已 經 說 過 , 所 有 天 然 資 源 都 是 寶 。 魂 庇 人 人 都 懂 得 這 樣 說 , 乃 患 穿 帳 變 成 「 環 保 」 和 「 可 持 續 發 展 」 。 我 很 高 興 家 禮 有 這 優 良 傳 舱 , 也 很 留 意 查 港 庇 節 能 方 面 的 動 向 , 還 經 牽 那 親 友 分 真 有 關 資 純 。

Hello, this is Matthew, Mark's father and grandpa to Martin and Emma. My own father taught me many years ago that all natural resources are precious; today it seems everyone is talking about it, but of course we now call it environmental protection and sustainability. I am proud to say this is our family tradition and I see to it that my family and friends are up to date on the city's



# 優化強制性能源效益標<mark>籤計</mark>劃 能效標準

負責規管本港能源效益的機電工程署能源效益 事務處,其「強制性能源效益標籤計劃」於2014 年收緊了能源標籤的評級標準,是年內一大里 程碑。新的《產品能源標籤實務守則2014》已於 2014年10月刊憲,新的評級標準也同時開始生 效。

#### **MEELS ENERGY LABEL STANDARDS UPGRADED**

EMSD's Energy Efficiency Office, the regulatory body for energy efficiency in EMSD, reached a milestone in 2014 with the tightening of energy efficiency grading standards for energy labels under the Mandatory Energy Efficiency Labelling Scheme (MEELS) it operates. The regraded standards commenced when the new Code of Practice on Energy Labelling of Products 2014 was gazetted in October 2014.



新評級制的能源標籤,由2015年11月25日起開始使用。新能源標籤的樣式不變,只在「參考編號」一欄增加了「U1」字頭。The new regraded energy label, used from 25 November 2015 onwards. The label looks the same as before, except for the addition of "U1" in the "Reference Number" her

「強制性能源效益標籤計劃」於2008年隨《能源效益(產品標籤)條例》而推出,並於2009年至面實施。該計劃現時涵蓋五類產品,即冷氣機、雪櫃、慳電膽、洗衣機和抽濕機。為了讓該計劃能與時並進,配合科技發展和市民不斷提升的期望,一個由機電工程署、業界商會和消費者委員會代表組成的工作小組,在充分諮詢業界之後,作出優化「強制性能源效益標籤計劃」能效評級標準的建議。

新的評級標準提升了三類產品的能源效益要求,包括冷氣機、雪櫃和洗衣機,它們合共佔全港家居用電量約50%。收緊後的能源效益標準,預計可為香港每年節省約三億度電,和每年減少約21萬公噸二氧化碳排放量。

# 無縫過渡至新能源標籤

提升能源效益評級標準的影響,是能源效益水平不足的產品型號,在新評級制度下將會降級,而只有根據新評級制度能源效益表現最佳的,才會得到最好的一級評級。新評級標準的能源標籤於2015年11月25日起開始使用。對消費者來說,由於新能源效益標籤的樣式不變,只是在標籤上「參考編號」一欄增加了「U1」字頭,因此可說是無縫過渡。今次優化評級標準的另一意義,是引進提升產品能源效益標準的周期觀念,鼓勵業界不斷優化產品的能源效益。

# 「強制性能源效益標籤計劃」 第三階段涵蓋新產品

「強制性能源效益標籤計劃」也會不斷擴大涵蓋範圍。該計劃的第三階段建議入的新產品,包括電視機、熱泵空調機、七公斤至十公斤洗衣量的洗衣機、儲水式電熱水爐和電煮食器。諮詢文件已經發出,讓業界、相關持份者及公眾於2015年6月30日或之前就有關建議提交意見。

First introduced in 2008 via the Energy Efficiency (Labelling of Products) Ordinance and implemented in 2009, the MEELS now covers five product types: air-conditioners, refrigerators, compact fluorescent lamps, washing machines and dehumidifiers. In response to technological advancements and rising community expectations, a task force comprising representatives from EMSD, trade associations and the Consumer Council recommended the MEELS upgrade after full consultation with the trade.

The new Code of Practice has raised the MEELS grading standards of three product types, namely air-conditioners, refrigerators and washing machines, which together account for some 50% of domestic electricity consumption in Hong Kong. The tightened standards are expected to save about 300 million kWh of electricity every year and an annual reduction of around 210 000 tonnes of carbon dioxide emissions.

#### **SEAMLESS TRANSITION TO NEW ENERGY LABELS**

The impact of regrading is that product models not sufficiently energy efficient under the new standards will get a lower grade, and only those in the new top tier will qualify as Grade 1, which is the most energy efficient. The upgraded energy labels are used from 25 November 2015 onwards. The good news for consumers is that there will be a seamless transition as the energy label will look the same, except for the addition of "U1" in the "Reference Number" box. The regrading has also introduced a cycle to encourage the trade to continuously enhance the energy performance of products.

#### **NEW PRODUCTS FOR MEELS PHASE 3**

The MEELS will continue to expand in scope. New product types have been proposed for consideration to be included in Phase 3 of the scheme, namely televisions, heat pump air-conditioners, washing machines with washing capacity between 7 kg and 10 kg, electric storage water heaters and electric cooking appliances. Members of the trade, relevant stakeholders and the public were invited to share their views on these proposals on or before 30 June 2015 via a public consultation.

# 香港都市 節能藍圖

2015~2025+





環境局與機電工程署聯手推出「全民節能」運動,右圖為啟動典禮盛況。運動的目的,是支援環境局於 2015年5月推出的《香港都市節能藍圖2015~2025+》(左圖)落實工作。

The Environment Bureau and EMSD jointly launched the "Energy for All" Campaign at a ceremony (right). The Campaign supports the implementation of the "Energy Saving Plan for Hong Kong's Built Environment 2015~2025+" launched by the Environment Bureau in May 2015 (left).

# 為《香港都市節能藍圖 2015~ 2025+》提意見

機電工程署去年另一重要工作,是協助環境局草擬香港首份都市節能藍圖《香港都市節能藍圖2015~2025+》。這藍圖為香港定下新目標,要於2015年將能源強度減少四成。藍圖已於2015年5月推出,涵蓋完整的政策及主要行動計劃,涉及與節能相關的經濟、規管、教育及社會等各個範疇的分析和建議。機電工程署在執行能源效益法例、推動自願性節能計劃及宣傳最佳節能做法方面,都有重要角色,因此署方在藍圖草擬過程中,也為環境局提供了不少意見。

# 「全民節能」運動

節能藍圖推出之後,環境局與機電工程署馬上聯 手推出一個名為「全民節能」運動的大型長期宣 傳活動,以配合和支援節能藍圖。這宣傳活動 更推出了「全民節能」網站www.energysaving. gov.hk,公眾從這一站式平台取得所有關於香港 節能和活動的資訊,網站也齊備通往本地所有主 要能源效益機構的連結。此外,機電工程署也十 分重視維繫年青人,因此「全民節能」運動也為 年青人推出了兩個比賽,一是「新能源新世代太 陽能車比賽」,鼓勵年青人把可再生能源有創意 地應用於設計和製造太陽能車。另一比賽是「慳 電熄一熄青年獎」,鼓勵年青人組隊設計及實施 節約能源措施。這慳電比賽的獎項也十分創新: 勝出的隊伍要將獎金捐給一個由他們選擇的非政 府機構,以幫助有需要的社會人士改善生活質 素。環保活動也能惠及弱勢社羣,彰顯香港的關 懷文化。

# **CONTRIBUTING TO ENERGY SAVING PLAN** 2015~2025+

Another milestone for EMSD last year was helping the Environment Bureau (ENB) prepare the Energy Saving Plan for Hong Kong's Built Environment 2015~2025+. The first-ever energy-saving blueprint for Hong Kong, the Plan sets a new target of reducing Hong Kong's energy intensity by 40% by 2025. It was launched in May 2015, complete with a strategy and action plans that touch upon the economic, regulatory, educational and social aspects of energy saving. As EMSD plays a key role in enforcing energy efficiency legislation and promoting voluntary schemes and energy-saving best practices, it gave the Bureau significant input during drafting of the Plan.

#### "ENERGY SAVING FOR ALL" CAMPAIGN

Immediately following the launch of the Energy Saving Plan, the ENB and EMSD jointly introduced an ongoing public education programme to support it. The "Energy Saving for All" campaign features a dedicated website www.energysaving.gov.hk that aims to serve as a one-stop platform for the general public to acquire everything they wish to know about energy saving in Hong Kong, with hyperlinks to all major energy efficiency organisations and activities in the city. As youth engagement is an EMSD priority, the campaign offers two youth competitions: the New Energy New Generation Solar Car Competition to promote the innovative application of renewable energy via the design and construction of solar racing cars, and the Youth Energy Saving Award to encourage young people to form teams to devise and implement creative energysaving measures. The latter also breaks new ground in that the winning teams will receive cash awards that they will allocate to NGOs of their choice to help improve living conditions for the needy. In this way, an environmental cause will help meet the needs of the underprivileged to underscore Hong Kong's caring culture.



隨著上述都市節能藍圖的活動陸續展開,機電工程署將繼續為政府各部門和政策局提供專業支援,幫助各部/局的政府建築物,由2015/16至2019/20年度共節省5%電力的目標(以相若的運作條件及以2013/14年度為基綫計算)。

As the Energy Saving Plan unfolds in 2015/16, EMSD will continue to provide professional support to government departments and bureaux to achieve the target of achieving 5% saving in electricity consumption in government buildings from 2015/16 to 2019/20 (under comparable operating conditions using 2013/14 as baseline).

#### 室內溫度節能約章

「室內溫度節能約章」於2012年首次推出,當時已有百多個商場承諾在6月至9月的夏季月份,將室內溫度維持在攝氏24至26度。各界對約章一直都非常支持,包括發展商、物業管理公司、商鋪、辦公室大樓、住宅樓宇、屋苑與非政府機構。2015年的約章,更有3000多個來自不同界別的單位參加,比2014年多43%。

### 更多較快速電動車充電器

電動車有助本港減少排氣尾管的廢氣排放,改善路邊空氣質素。機電工程署一直協助政府推廣電動車的使用,例如積極在政府停車場安裝充電器,並發出技術指引,協助電動車使用者、發展商和物業管理公司在旗下物業安裝充電器。為了落實行政長官於2014年《施政報告》中有關增加電動車充電設施的承諾,政府已於16個政府停車場,安裝了100個新的中速充電器。公眾人士由2014年8月起已可開始使用。

# **ENERGY SAVING CHARTER ON INDOOR TEMPERATURE**

The first Energy Saving Charter on Indoor Temperature was launched in 2012 when more than 100 shopping malls pledged to maintain an average indoor temperature of between 24 and 26 degrees Celsius in the summer months from June to September. The Charter has continued to be well supported by developers, property management companies, shops, offices, residential buildings, housing estates and non-government organisations. The 2015 Charter had a total of more than 3 000 participants from different sectors, 43% higher than that of 2014.

# FASTER EV CHARGING FACILITIES MORE WIDELY AVAILABLE

Electric vehicles (EVs) have the potential to help Hong Kong reduce tailpipe emissions and improve roadside air quality. EMSD is doing its part to promote the wider use of EVs by installing charging facilities in government car parks and by issuing technical guidelines to aid EV users, encourage developers and property management companies to install charging facilities. In response to the Chief Executive's pledge in his 2014 Policy Address, 100 new medium chargers were made available for public use from 1 August 2014. The new medium chargers were installed at 16 government car parks.



#### 推廣能源效益及節能

#### Promoting Energy Efficiency and Conservation



# 更新《電動車輛充電設施技術指引》

電動車中速充電器比標準充電器可縮短充電時間 達六成,因此現時大部分新電動車型號都已採 用。有鑑於此,機電工程署也於2015年4月發 出了《電動車輛充電設施技術指引》更新版,更 新的內容是關於自該指引於2011年首次出版以 來,高能量充電技術的新發展,以及電動車各種 標準的轉變。

2014/15 年度是忙碌又豐收的一年,至於2015/16 年度,重點是繼續推行已展開的工作,例如推出「強制性能源效益標籤計劃」第三階段,落實兩個關於慳電和可再生能源的青年比賽,同時也會再拓展「室內溫度節能約章」,邀請學校參與2016 年的約章。

#### 《區域供冷服務條例》通過並生效

機電工程署除了在產品及社會層面推動節能外,也參與本港大型的能源效益基建工程。2014/15年度這方面的里程碑,是立法會經過相關的條例草案委員會仔細審核草案後,於2015年3月底通過了《區域供冷服務條例》(第624章)。

《區域供冷服務條例》訂明向使用啟德區域供冷系統用戶的詳細收費機制,而供冷系統也已開始局部運作。啟德區域供冷系統目前有三個客戶,即啟德郵輪碼頭、晴朗商場和工業貿易大樓。然而隨著越來越多發展於啟德發展區落成,用戶數目必會不斷增加。機電工程署是該供冷系統的項目經理,興建、運作、維修及向用戶收費是其職責,因此已增加小量人手,應付相關的工作。

# **UPDATED GUIDELINES FOR EV CHARGING FACILITIES**

Medium chargers can reduce charging time by up to 60% compared with standard chargers and have become the norm for most new EV models. Accordingly, EMSD also published an updated edition of the Technical Guidelines on Charging Facilities for Electric Vehicles in April 2015. The update captures new developments in higher-power charging technologies as well as changes to EV standards that have come in since 2011, when the guidelines were first published.

The 2014/15 year was a busy and fruitful one, and 2015/16 will see the continuation of several initiatives begun then, including work on Phase 3 of MEELS, the implementation of the two youth competitions on energy saving and renewable energy, as well as the further expansion of the Charter on Indoor Temperature, which will invite schools to join from 2016.

# DISTRICT COOLING SERVICES ORDINANCE ENACTED AND EFFECTIVE

As well as promoting energy saving at the product and community-engagement levels, EMSD is also involved in Hong Kong's major energy-efficiency infrastructure. The milestone in this arena in 2014/15 was the enactment by the Legislative Council of the new District Cooling Services Ordinance (Cap 624) in late March 2015 after thorough scrutiny by the Bills Committee.

The Ordinance sets out the detailed tariff charging mechanism for users of the District Cooling System (DCS) at Kai Tak Development, which is already partially operational. There are currently three users of DCS services, namely the Cruise Terminal, Trade and Industry Tower and Ching Long Shopping Centre, with the number increasing as more tenants move into Kai Tak Development. As DCS project manager, EMSD will be responsible for tariff collection and has slightly expanded its team to handle the work.

啟德區域供冷系統預計將於2022年全面投入運作,屆時總製冷量在運作高峰時段可達284兆瓦,是全球最大之一。該系統的另一特色,是服務範圍面積很大,用戶大樓的種類也極多。香港有這樣出色的區域性節能水冷空調基建設施,真讓市民自豪,希望其他新區日後也會發展類似的區域供冷系統!

When the DCS is fully operational, which is scheduled for around 2022, it will have a total cooling capacity of 284 megawatts at operational peak, making it one of the largest in the world. It is also unique in the sheer size of the area served and the large variety of user buildings. I am really proud that Hong Kong has such an outstanding system using energy-efficient water-cooled air-conditioning on a regional scale, and I hope that more DCSs will be built in other new districts!

#### 區域供冷系統北廠獲 LEED 金級認證

另一有關啟德區域供冷系統的好消息,是系統的 北廠已於2014年7月取得LEED金級認證。LEED 是英文「能源和環保設計」的簡寫,是全球首屈一 指的環保建築物認證計劃,由美國綠色建築議會 運作,宗旨是表揚全球各地最優秀的建築策略和 最佳作業方法。啟德區域供冷系統北廠是香港首 幢獲此殊榮的建築物,在數個評分項目都取得高 分,包括選址、室內環保品質、創新、設計過程 和區域優次安排。南廠的LEED認證工作仍在進 行中,而北廠房則也已取得ISO 50001認證。

# 《建築物能源效益條例》執法有效檢控成功

機電工程署近年致力幫助本港建築物節能,包括執行《建築物能源效益條例》。根據該條例的首宗檢控個案已於2014年審訊,有關建築物的業主立案法團被裁定違反該條例有關規定而罪名成立。至今為止,另有四宗類似個案亦已成功檢控。這些案例向業界發出強烈訊息,署方會繼續嚴謹及有效地執法。總括來說,由於署方在該條例生效之初已對條例的規定作廣泛宣傳,因此業界依法進行能源審核的比率也很高。

# 每三年一度檢討《建築物能源效益 守則》

《建築物能源效益守則》第一版於2012年推出,並會每三年定期檢討守則,收緊各種能源效益設計標準,同時,機電工程署也會不斷監察主要的能源效益參項,確保設計標準符合國際水平。2014年初,相關的照明功率密度已經提高,照明設計標準也因而收緊(例如辦公室最高許可為每平方米13瓦,走廊通道最高許可為每平方米八瓦)。目前署方正參照最新的技術發展、國際標準和公眾期望等因素,為2012年版的《建築物能源效益守則》作出全面檢討,並預計於2015年底完成。

去年香港在能源效益和節能方面有很大進展,我 很高興,希望明年有更多好消息向大家報導!

#### DCS CERTIFIED TO LEED GOLD STANDARD

A related piece of good news is that the DCS North Plant achieved Gold LEED certification in July 2014. LEED, which stands for Leadership in Energy and Environmental Design, is the premier global green building certification programme. It is operated by the US Green Building Council to recognise best-in-class building strategies and practices around the world. The DCS North Plant has become the first plant building in Hong Kong to obtain this recognition, scoring high marks for sustainability in several assessment categories including site selection, indoor environmental quality, innovation, design process and regional priorities. The DCS South Plant is also being LEED certified, while ISO 50001 certification has been obtained for the North Plant.

# SUCCESSFUL PROSECUTIONS SIGNAL EFFECTIVE BEEO ENFORCEMENT

EMSD has been doing a great deal to help buildings in Hong Kong save more energy, including via enforcement of the Buildings Energy Efficiency Ordinance (BEEO). The first prosecution took place in 2014 and the Owners' Corporation of the relevant building was convicted of contravening the relevant requirements of the BEEO. Four similar prosecutions have been successfully concluded to date, sending a strong message to the trade that BEEO will be strictly and effectively enforced. On the whole, compliance with energy audit requirements is high due to extensive prior publicity of the BEEO provisions.

# THREE-YEAR UPGRADING CYCLE OF BEC STANDARDS

The BEC will be reviewed at three-year intervals, after the initial edition was issued in 2012, to further tighten the energy efficiency standards. Meanwhile, EMSD will monitor the key energy efficient parameters continuously to make sure they are comparable with relevant international standards. In early 2014, the Lighting Power Density was upgraded to tighten the relevant lighting standards (e.g. 13W/m2 for office and 8 W/m2 for corridor). Currently, a comprehensive review of the BEC 2012 is under way for completion in 2015. In each review, reference will be made to the latest worldwide technological developments, updated international standards and public aspirations.

I am glad that so much progress was made in Hong Kong last year on the energy efficiency and conservation front, and trust that there will be more good news to report next year!

#### Promoting Energy Efficiency and Conservation



# 示範建築物: 聖言中學與工業貿易大樓

### SHOWCASE BUILDINGS: SING YIN SECONDARY SCHOOL AND TRADE & INDUSTRY TOWER

2008/09 年度的《施政綱領》,選定聖言中學和工業貿易大樓為展示最新能源效益設計與科技的示範建築物,機電工程署則在採用新的節能科技設計方面參與了工作。

聖言中學已獲美國綠色建築議會頒發「2013年全球最緣學校獎」,傳媒也曾廣泛報導該校的節能佳績,並已成為其他學校的節能榜樣。聖言中學採用了一系列十分有效的系統和措施,包括全港首個在學校使用的淡水水冷式中央空調系統,比氣冷空調系統可節省達兩成用電量。該校也採用了LED照明系統、各種可再生能源裝置、和一個可靈活控制如照明和空調等各種屋宇工程系統的建築物能源管理系統,以節省能源。

聖言中學的設計目標是每年節省27.3%耗電量,這目標很快已達到。學校除了應用節能科技外,還實行其他配套工作,比如綠色班長制和各種鼓勵環保行為的推廣活動。該校目前的耗電量,比香港其他中學的平均耗電量低近三成。

工業貿易大樓由2014年起已逐步開始運作。大樓的目標,是要取得美國綠色建築議會的最高鉑金級認證。大樓的主要節能設施,包括升降機電力再生系統,可於升降機下行時回收電力,比一般升降機的能源效益高兩至三成;此外還有一個風冷系統,運用外面的空氣為大型伺服器房降溫;也有一個可從空調冷凝水回收熱能的系統,預先冷卻抽入的暖鮮風。所有這些系統都能減少耗電量。

工業貿易大樓的另一特色,是接駁了啟德區域供冷系統,大樓既享有高效益的中央水冷空調服務,又能騰出更多空間,建造綠化天台。由於大樓尚新,入伙後的能源效益評估仍在進行中,要到2016年年中才完成,但預期大樓的能源效益表現應相當高。



聖言中學展示了最新的能源效益設計與科技應用,例如LED照明系統、各種可再生能源裝置、及全港首個在學校使用的淡水水冷式中央空調系統。 Sing Yin Secondary School features state-of-the-art energy efficiency designs and technologies, such as LED lighting, various renewable energy installations as well as a fresh-water-cooled centralised air-conditioning system, the first in a school setting.

The 2008/09 Policy Agenda identified these two buildings as projects to demonstrate state-of-the-art energy efficiency designs and technologies. EMSD is involved in the design stage in the adoption of new energy efficiency and conservation technologies for demonstration purposes.

Sing Yin Secondary School was recognised by the US Green Building Council as the "Greenest School on Earth 2013", and its energy-saving achievements have been widely reported in the media. It is seen as a model for other schools to follow, incorporating a number of proven energy conservation features. These include a fresh-water-cooled centralised air-conditioning system, the first in a school setting, which reduces electricity consumption by up to 20% compared to air-cooled systems. It also uses an LED lighting system; various renewable energy installations; and a building energy management system that facilitates flexible control of various building engineering systems such as lighting and air-conditioning to save energy.

The design target was to reduce the school's annual electricity consumption by 27.3%, which was readily achieved. With its energy-saving technologies supported by a system of Green Prefects and energy-saving behaviour programmes, the school's current electricity consumption is nearly 30% lower than the average electricity consumption of other secondary schools in Hong Kong.

The Trade and Industry Tower, incrementally operational since 2014, aims to achieve the highest platinum rating in the US Green Building Council's global Leadership in Energy and Environmental Design (LEED) programme. Its key energy conservation features include a lift power-regeneration system that reclaims energy as the lift travels downwards, making it 20% to 30% more energy efficient than conventional lifts. It also has a free cooling system that uses outside air to lower the temperature in large server rooms and a heat recovery system that reclaims energy from air-conditioning condensate water to pre-cool warm fresh air intake. All of these systems reduce electricity consumption.

Another key feature is that the Tower is connected to the District Cooling System for highly efficient, centralised water-cooled air-conditioning with more space for a green roof. As the Tower is relatively new, post-occupancy evaluation will be in progress until mid-2016, but its energy performance is expected to be highly positive.



# 立法會議員視察區域供冷系統北廠 LEGCO MEMBERS VISIT DCS NORTH PLANT

Members of the Legislative Council (LegCo) visited the District Cooling System (DCS) at Kai Tak Development on 24 February 2015 to observe it in operation. LegCo members who participated in the visit included the Chairman of the Bills Committee on the District Cooling Services Bill Dr Lo Wai-kok, as well as non-Committee members Mr Gary Fan and Mr Ip Kin-yuen. More than 30 journalists also attended.

供冷系統,了解其實際運作。出席議員包括《區域供冷服務條例草案》委員會主席盧偉國博士、及非委員會委員范國威議員及葉建源議員,並有30多位記者到場採訪。

立法會議員於2015年2月24日視察了啟德區域

機電工程署高層管理首先簡介了區域供冷系統的概念和優點,再帶議員參觀北廠控制室和製冷機組。議員然後前往鄰近的晴朗商場,了解供冷設施和為一個典型用戶提供供冷服務的情況。今次視察活動,有助議員具體了解區域供冷系統的運作方法、怎樣節能、和系統如何讓個別建築物無須安裝製冷機組。

立法會其後已於2015年3月25日通過條例草案,成為《區域供冷服務條例》(第624章),並於2015年3月27日刊憲,即時生效。

The visit began with a briefing by EMSD senior management on the concept and benefits of DCS, followed by a walkthrough of the North Plant control room and its chillers. Visitors were then taken to the DCS substation at the nearby Ching Long Shopping Centre to observe the cooling facilities and services provided to a typical user. The tour gave visitors a better understanding of how DCS operates, how it saves energy and eliminates the need for individual buildings to install their own chillers.

LegCo subsequently passed the Bill on 25 March 2015 as the District Cooling Services Ordinance (Cap 624). It was gazetted on 27 March 2015 and took immediate effect.



左圖為機電工程署高層管理與立法會議員於視察途中合照。右圖為機電工程署人員為議員簡介區域供冷系統的好處及操作概況。 EMSD senior management and Legislative Council members during







提高公眾安全及節能意識

RAISING PUBLIC AWARENESS OF SAFETY AND ENERGY CONSERVATION



馬克一家在周末常參加各種社區活動,讓馬田和愛瑪拓 闊視野, 而跟爺爺馬泰一起出席具教育意義的嘉年華和 類似活動,也是三代樂聚天倫的好機會。

Weekends are always fun for Mark and his family as they often attend community events that will help Martin and Emma broaden their horizons. Going to educational fairs and other events together with Matthew is also a good opportunity for the children to connect with grandpa.

跟香港很多家庭一樣,我們因末都拿找些流動,讓孩子在輕鬆有趣 的氣為下學點新事物。作為一個矢志為全港市民提升生強質素的政 南部門,機電工程署也時常為市民攀辦這類沉動,讓我們全家在享 受輕鬆強動之餘,也增進機電安全和能源效益的知識。

機電工程署多年來,一直都以雙管齊下的方式興持份查溝通,即上 述的社區大眾強動,从及為業界亦設的強動。以下是部門20(4/(5 年度在這兩方面的重點工作。

Like many families in Hong Kong, we are always on the lookout for something





機電工程署緊密維繫被規管的各個行業,與業界代表經常進行會議及各種討論交流。圖為署方人員與升降機及自動梯業界人士進行工作小組會議。 EMSD engages with the regulated trades via frequent meetings and discussions with trade representatives. Photo shows EMSD officers in a working group meeting with representatives from the lift and escalator trade.



機電工程署於「亞太區鐵路會議 2015」設立展覽攤位,展示署方在 悉港鐵路安全相管方面的工作。

EMSD staged an exhibition booth at the Asia Pacific Rail 2015 to showcase its railway safety regulatory work in Hong Kong.

#### 維繫業界

#### 與業界溝通 推動機電安全

直接與業界溝通,對保障從業員以至市民大眾的 安全都很重要。機電工程署全年都舉辦各種講 座、座談會和工地簡報會,為電氣、氣體、升降 機和扶手梯行業的承辦商和工人講解安全作業方 法。

署方也與不同的業界商會、工會和培訓機構合作,舉辦各種安全培訓課程和推廣安全活動,部分是直接合作,部分則與包含上述機構代表的各種工作小組和諮詢委員會合辦,活動包括安全獎項、業界比賽和持續專業進修計劃等。此外,署方也發放大量宣傳機電安全的單張、小冊子、海報、短片和網站內容等,滿足業界需要。

機電工程署定期舉辦業界會議和研討會,增進業界領袖和從業員對海外新科技和本港規管發展的知識,並加強署方和業界的交流互動,討論雙方關注的問題。比如每年由機電工程署與港九電器工程電業器材職工會及香港電器工程商會合辦的「電力技術研討會」,就是個好例子。

署方也積極參與重要的區域或國際性業界會議,例如部門今年就參加了2015年3月31日至4月1日在香港舉行的「亞太區鐵路會議2015」,並首次在該會議設立展覽攤位,向來自亞太區各地的千多位鐵路專業人士,包括規管人員、營運商、顧問及研究人員等,展示香港在鐵路安全規管方面的工作。機電工程署助理署長/鐵路也在大會上以「香港鐵路 — 邁進新時代」為題演講,並主持圓桌座談會,與亞太區各地的鐵路業持份者交流意見。

#### **ENGAGING WITH THE TRADES**

#### **E&M Safety Trade Communication**

Direct communication with the trades is very important to ensuring the safety of trade practitioners and the general public. In this regard, numerous talks, seminars and on-site briefings are held year-round to promote good work safety practices to contractors and workers in the electrical, gas and lift and escalator trades.

EMSD also organises safety training and events in cooperation with various trade associations, workers' unions and training institutes, either directly or through their representatives in numerous working groups and advisory committees. Such events include safety awards, trade competitions and continuous professional development programmes. Furthermore, EMSD produces and distributes a wide range of tradesspecific E&M safety education materials, such as leaflets, brochures, posters, videos and website content.

EMSD-led trade conferences and symposiums are organised regularly to help trade leaders and practitioners keep abreast of new overseas technologies and of regulatory developments in Hong Kong. They also serve as forums for the trades and EMSD to exchange views and discuss issues of concern. An example is the Annual Technical Seminar for the electrical trade, which is jointly organised by EMSD, the Hong Kong & Kowloon Electrical Engineering & Appliances Trade Workers Union and the Hong Kong Electrical Contractors' Association.

EMSD also pro-actively participates in major regional and international trade conferences. This year, EMSD staged an exhibition booth for the first time at Asia Pacific Rail 2015. Held in Hong Kong from 31 March to 1 April, the 2015 conference attracted more than 1 000 rail professionals, representing regulatory authorities, operators, consultants and research institutes, etc from throughout the Asia Pacific rail industry. In addition to showcasing Hong Kong's railway safety regulatory work at its busy booth, EMSD also took the opportunity to directly address conference delegates. EMSD's Assistant Director/Railways presented a paper entitled "Railway in Hong Kong – Stepping into a New Era" and chaired a round-table session with various railway industry stakeholders from different countries in the region.

#### 與能源效益業界溝通

機電工程署也同樣注重與能源效益行業保持溝通,並經常為家用電器製造商、出入口商及零售商舉行大量講座和研討會。在2014/15年度,由於署方須就「強制性能源效益標籤計劃」的《產品能源標籤實務守則》訂定2014年新版,因此更就此而廣泛諮詢業界。此外,署方的能源效益大使也經常走訪全港各電器零售商,確保店鋪的前線員工對新評級制能源標籤有一定認識。新評級制能源標籤將由2015年11月25日起開始使用。

至於建築物能源效益方面,機電工程署近年為業界舉辦了大量講座和研討會,講解《建築物能源效益條例》的主要條款,通過這類面對面的直接交流,讓發展商、建造業人士、業主立案法團和物業管理公司熟習該條例的要求,及其根據條例規定的法律責任。署方也定出版各種通訊、單級規定的法律責任。署方也定出版各種通訊、單級人工,讓各持份者掌握有關建築物能源效益守則》作出檢討。其中照明功率密度標準已於2014年初作出提升。此外,本署自去年9月起全面檢討《建築物能源效益標準。預計年底完成有關檢討程序。

#### 維繫市民

機電工程署每年都本著「讓市民安全安心」的宗旨,推行大量公眾教育工作,內容包括豐富多元的廣告及宣傳計劃、大型活動、學校和社區外展探訪、及各界參觀位於署方總部大樓的教育徑等,此外還有其他為特定目標而設的活動。所有活動都是為了與市民大眾分享機電安全資訊,並鼓勵大家在家居和工作間實踐能源效益。

#### 「機電青少年大使」計劃

機電工程署2014/15年度的重點工作之一,是加強與青少年的聯繫工作,尤其是加大力度推廣「機電青少年大使」計劃。該計劃的宗旨,是培養青少年成為機電工程署的大使,在日常生活中推廣機電安全、能源效益以及機電業發展。署方在2014/15年度進行了大使招募活動,已登記的大使總人數升至3800名。

#### **Communicating with the Energy Efficiency Trades**

Continuing its strong commitment to trade communications, EMSD also holds numerous talks and seminars for manufacturers, importers/ exporters and retailers of domestic appliances. Such work was particularly important in 2014/15 as the trade was extensively consulted about the new Code of Practice on Energy Labelling of Products 2014 under the Mandatory Energy Efficiency Labelling Scheme. The regraded, tightened energy standards commenced when the new Code was gazetted in October 2014. EMSD's energy efficiency ambassadors also visit appliance retailers throughout Hong Kong to ensure that their frontline staff are familiar with the new, upgraded energy labels that will be used on or after 25 November 2015.

On the buildings energy efficiency front, EMSD has held numerous talks and seminars in recent years to explain and publicise key provisions of the Buildings Energy Efficiency Ordinance. Such face-to-face communications ensure that developers, buildings professionals, owners' corporations and property management companies are familiar with the statutory requirements and their respective duties under the Ordinance. Newsletters, leaflets and brochures are also produced regularly to keep these stakeholders updated on the latest developments. EMSD will review regularly the Building Energy Codes. In early 2014, the Lighting Power Density requirements were upgraded. In addition, EMSD has started to review the Building Energy Code 2012 Edition since September last year with a view to further upgrading energy efficiency standards, and will complete the review at the end of this year.

#### **ENGAGING WITH THE PUBLIC**

Every year, EMSD runs an extensive public education programme that is aligned with its objective to ensure "safety and peace of mind" for all in Hong Kong. It comprises a rich variety of advertising and publicity campaigns, special events and school and community visits to the Education Path at its headquarters, not to mention other tailored initiatives. They all aim to share E&M safety tips with the public and to promote energy efficiency in our homes and workplaces.

#### **E&M Young Ambassador Scheme**

One of EMSD's priorities in 2014/15 was to step up its youth engagement programmes, in particular its E&M Young Ambassador (EMYA) Scheme. The Scheme aims to empower youngsters to become EMSD ambassadors and help promote E&M safety, energy efficiency and E&M engineering development in their daily lives. A membership recruitment drive in 2014/15 saw the number of registered ambassadors rise to about 3 800.





左圖為「機電安全香港通」2014才藝比賽各優勝隊伍,於2014年12月舉行的機電安全嘉年華領獎後合照,右圖為嘉年華演唱節目,是最受歡迎的項目之一。 Winners of the E&M Safety Campaign 2014 Talent Competition with their trophies at the E&M Safety Carnival held in December 2014 (left), and singing performance at the Carnival, one of the most popular items at the event. (right).

已登記的機電青少年大使會定期從網上收到訊息,包括2015年1月推出的每月通訊,內有豐富的機電安全和能源效益資訊。署方也會邀請大使參加各種活動,例如機電安全嘉年華、機電工程署開放日及「機電青少年大使」計劃的周年活動。2015年的周年活動,是在7月免費乘坐中環海濱摩天輪,大使的反應十分熱烈!

#### 學校外展項目

機電工程署的學校外展活動,多年來已走訪接觸了數以百計的幼兒園、幼稚園、中小學及專上院校,部門多位專責學校外展工作的大使,全年無間地與全港不同年齡的學生直接對話,提升學生的能源效益和節能意識,並增進他們對安全使用電氣和氣體用具、升降機、扶手梯和機動遊戲機的知識。2014/15年度,署方的學校外展大使共探訪了535家學校和相關機構,包括357家幼稚園、57家小學、84家中學、兩家專上學院或培訓機構、35家長者和社區中心,共探訪了約120400名市民。

機電工程署總部大樓的優勢之一,就是有一個出色的教育徑,能為全港學校和社區中心以至外地訪客及專業團體,提供內容豐富、生動活潑的團體導賞服務,在輕鬆的氣氛下以互動形式,去增強參觀者對能源效益、節能和機電安全的知識。社會人士對教育徑導賞服務,全年都需求甚殷。2014/15年度,署方就接待了259個學校、社區及青年中心、本地專業團體及海外代表團瀏覽教育徑,提供導賞。參觀人士來自各年齡層和各行各業,總數約達10900位。

### 「全民節能」運動及相關活動

年內另一重點活動是由環境局與機電工程署合辦的「全民節能」運動,目的是支援《香港都市節能藍圖 2015~2025+》:這是香港首份都市節能藍圖。署方特別為此推出了兩個嶄新的比賽,即「新能源新世代太陽能車比賽」和「慳電熄一熄青年獎」(詳情見「推廣能源效益及節能」一章第44頁)。

Registered ambassadors receive regular online updates, including a monthly newsletter, launched in January 2015, which contains useful E&M safety tips and energy efficiency information. E&M Young Ambassadors are also invited to events such as the E&M Safety Carnival, EMSD Open Days and the annual EMYA activity. The 2015 annual activity was a free ride on the Hong Kong Observation Wheel in July, which won excellent response from ambassadors!

#### **School Outreach Programme**

Over the years, EMSD's school outreach programme has touched hundreds of nurseries, kindergartens, primary and secondary schools and tertiary institutes. Its dedicated team of ambassadors come into direct contact with students of all ages all year round to raise students' awareness of energy efficiency and conservation and to improve their knowledge of the safe use of electrical and gas appliances, lifts and escalators and amusement rides. During 2014/15, ambassadors from various EMSD divisions visited a total of 535 institutions, covering 357 kindergartens, 57 primary schools, 84 secondary schools, two tertiary or training institutes, 35 elderly and community centres, reaching about 120 400 individuals in all.

Thanks to an excellent Education Path at its headquarters building, EMSD is well positioned to offer informative and interesting guided tours to groups from schools and community centres and to overseas visitors and professional bodies, as required throughout the year. Visitors learn about energy efficiency and conservation as well as E&M safety in a relaxed and interactive environment. In 2014/15, EMSD conducted a total of 259 Education Path guided tours for schools, community and youth centres, local professional bodies and overseas delegations, reaching about 10 900 individuals of different ages and from all walks of life.

#### "Energy Saving for All" Campaign and Related Initiatives

Another major communications initiative was the "Energy Saving for All" Campaign jointly introduced by the Environment Bureau (ENB) and EMSD. It aims to support the ENB's Energy Saving Plan for Hong Kong's Built Environment 2015~2025+, which is the first-ever energy saving blueprint for Hong Kong. In support of the campaign, EMSD also launched two youth competitions, namely the New Energy New Generation Solar Car Competition and the Youth Energy Saving Award. (For details, see p.44 in the "Promoting Energy Efficiency and Conservation" chapter.)

#### 提高公眾安全及節能意識

#### Raising Public Awareness of Safety and Energy Conservation

#### 機電工程署開放日及傳媒聚會

機電工程署每隔一段時間,就會在總部大樓舉辦開放日,讓公眾了解部門的服務,並增加對機電安全和能源效益的認識。我們全家就去了2014年11月1日和2日舉辦的機電工程署開放日,覺得很開心。我們特別喜歡參觀教育徑和毗鄰的啟德區域供冷系統,還有就是當天展出的各類電動車。兩天的開放日,共有5000多名市民參與。

署方也在開放日的前一天,即2014年10月31日舉行傳媒周年聚會。席間,部門高層管理人員就能源標籤新評級標準,向傳媒朋友作了簡介,並帶他們預覽開放日的攤位和節目。當天的聚會共有30多位記者和編輯出席。

#### 鐵路安全影片

繼2013/14年度出版《安全鐵路開心旅程 Go Go Go!》手冊之後,機電工程署與港鐵公司再攜手合作,在2014/15年製作了新的影片,以上述手冊的創作意念和動畫家庭為藍本,講述一家人乘坐輕鐵及重鐵路綫,往紅磡聽演唱會途中的經歷,藉此帶出安全使用鐵路的多個重要訊息。影片有中文和英文版,將於港鐵列車內播放,大家也可於機電工程署網頁上收看。

#### 更佳數碼工具

無論任何年齡群組,近年都已漸轉往網上媒介取得資訊和娛樂,機電工程署也與時並進。部門年內推出了一個新網站www.energysaving.gov.hk,市民從這一站式綜合平台已可取得所有關於香港節能和活動的資訊,網站也齊備通往本地所有主要能源效益機構的連結。另一例子是www.gsp.emsd.gov.hk氣體安全網站,有齊市民大眾及業界所需的氣體安全資訊。機電工程署致力整合及改善數碼溝通工具,務求為市民帶來更順暢的網上閱覽經驗,這些都是部分例子。

#### **EMSD Open Day and Media Gathering**

EMSD organises Open Days at its headquarters from time to time so that the public may learn more about the Department's services as well as E&M safety and energy efficiency. Our family went to the most recent Open Day, held on 1 and 2 November, 2014 and enjoyed the event. We particularly liked visiting the Education Path and the nearby Kai Tak District Cooling System and seeing different types of electric vehicles on display. More than 5 000 visitors attended the Open Day.

EMSD held its annual media gathering on 31 October 2014, just prior to the Open Day. Senior management briefed journalists on the new regraded standards for energy labels and took them on a preview of the Open Day booths and programmes. More than 30 journalists and editors attended the gathering.

#### **Railway Safety Video**

Further to the Railway Safety – Happy Journey Go Go Go! handbook published in 2013/14, a new video on railway safety was jointly produced by EMSD and MTRCL in 2014/15. Using the same creative platform as the handbook and featuring the same characters, the video follows a cartoon family taking the MTR Light Rail and heavy railway lines to a pop concert in Hung Hom, highlighting key safety messages for railway users along the way. The video, in both Chinese and English, will be broadcast on MTR trains and available on EMSD's homepage.

#### **Better Digital Tools**

As people of all ages are increasingly migrating to online media for information and entertainment, EMSD has also moved with the times. Its new comprehensive website www.energysaving.gov.hk aims to serve as a one-stop platform for the general public to acquire everything they wish to know about energy saving in Hong Kong, with hyperlinks to all major energy efficiency organisations and activities in the city. A dedicated portal www.gsp.emsd.gov.hk also features all key gas safety information for the public and the trade. These are just some examples of how the Department continues to consolidate and improve its digital communication tools for a better user experience.





「機電安全香港通」2014各項比賽的優勝者・於機電安全嘉 年華大合照。維期六個月的運動・吸引了各年齡群組及各行 各業的市民積極參組。

Winners of various competitions of the E&M Safety Campaign 2014 at the E&M Safety Carnival. The sixmonth Campaign attracted enthusiastic participation by people of different age groups and all walks of life.



# 「機電安全香港通」與市民互動 老少咸宜 E&M SAFETY CAMPAIGN ENGAGES PEOPLE OF ALL AGES

「機電安全香港通」是機電工程署的旗艦活動,由署方與香港工程師學會及來自不同界別的機構協辦,包括電力、氣體、公共交通、房屋、遊樂及行業商會等。「機電安全香港通」始於2001年,發展至今,已是本港最大型推廣機電安全和節能環保的公眾教育活動之一,隔年舉行一次。

機電工程署氣體標準事務處的工程師丁邦佑女士,是2014年為期6個月的「機電安全香港通」活動的工作小組成員之一。工作小組除了舉行多年來深受歡迎的海報設計比賽和網上問答比賽外,更為較年輕的市民首次推出3項新比賽:校際問答比賽、填色比賽和才藝比賽。填色比賽是為幼稚園而設,極受歡迎,推出數周已收到兩萬多份幼稚園學生的作品。大家可於www.emsd.gov.hk/emsd/emsafetycampagin2014 瀏覽各比賽得獎作品和短片,而才藝比賽優勝隊伍的《電器安全歌》,也可於www.youtube.com/user/emsdgovhk 頻道欣賞。

活動的壓軸節目,是大眾期待的機電安全嘉年華,已於2014年12月6日及7日一連兩天假九龍花塘公園舉行,並由環境局常任祕書長王倩儀女士出任主禮嘉賓。兩天的嘉年華會,吸引了約10130位市民進場,參與各種攤位遊戲、欣賞歌星表演、話戲演出和投入充滿趣味玩意的兒童角。才藝比賽和校際問比賽的總決賽也於嘉年華舉行,現場觀眾十分享受台上的熱烈氣氛。

丁女士回想整個活動的籌備過程,有很深體會。這是她第一次參與大型宣傳活動的籌組工作,跟她日常的工程工作很不同,但共通點是兩者都涉及項目管理。她説:「時間緊逼是最大挑戰,而最開心的一刻是見到嘉年華順利開幕。另外,在現場見到各階層的市民,與親友開心共度一天,至學到關於機電安全和能源效益的知識,而這些都是我們工作的直接成果,都是令人開心的時刻。」丁女士的日常工作,是與同事聯手執行氣體法例,往往需要較長時間才能見到工作成果,而今次參加「機電安全香港通」工作,讓她感受過經驗。備工作帶來的即時直接成效,她很享受這經驗。

她笑著説:「活動期間,我上班乘坐的巴士,有時會播出我們攝製的宣傳短片,我就會非常緊張和 在意,還會偷看其他乘客,看他們有甚麼反應!」 The E&M Safety Campaign is a signature programme jointly organised by EMSD, the Hong Kong Institution of Engineers and other leading E&M organisations from the utilities, gas, public transport, public housing and recreation sectors. Launched in 2001, the biennial event has become one of Hong Kong's largest public education programmes promoting E&M safety and energy efficiency.

Ms Fanny Ting, engineer at the Gas Standards Office, was a member of the working group for the 2014 Campaign. On top of established activities like the Poster Design Competition and Online Quiz, the sixmonth campaign introduced three new elements to target youngsters of different ages: an Interschool E&M Safety Quiz, a Colouring Competition and a Talent Competition. The Colouring Competition for kindergartens in particular proved extremely popular, with more than 20 000 submissions received from kindergarten students in just a few weeks. Visit http://www.emsd.gov.hk/emsd/emsafetycampaign2014 to browse winning pictures and performances. The winning team's "Electrical Safety Song" is also on http://www.youtube.com/user/emsdgovhk.

The E&M Safety Carnival, the much-anticipated two-day finale event, was held on 6-7 December, 2014 at Fa Hui Park in Kowloon, officiated by Ms Anissa Wong, Permanent Secretary for the Environment. A total of about 10 130 visitors attended to enjoy educational booth games, Canto-pop and drama performances and a children's fun corner. The audience also enjoyed live performances by the winning teams of the Talent Competition as well as the exciting final round of the Interschool E&M Safety Quiz.

Thinking back on what she learnt from the experience, Ms Ting said it was the first time she had organised such a large-scale publicity event. This was a departure from her day-to-day engineering work, though both involve project management. "Beating very tight deadlines was challenging," she said. "The happiest moment was when the Carnival opened smoothly. It was so gratifying to see people from all walks of life having fun with family and friends while learning something about E&M safety and energy efficiency – all as a direct result of our work." As part of a team that performs law enforcement duties, which often take some time to complete, Ms Ting enjoyed seeing the immediate, positive impact of her work via this project.

"During the campaign period, I would sometimes see our video commercials being aired on the bus I take to work. I felt so involved that I would even check out the other passengers to see their response!" she added with a laugh.





# 抱負 Vision

致力提供優質機電工程服務,精益求精,以提升市民的生活質素。
To improve the quality of life for our community through continuous enhancement of our electrical and mechanical engineering services.

# 使命 Mission

#### 客戶 Customer

提供優質的工程方案,以滿足客戶的需要。

Providing quality engineering solutions to satisfy our customers' needs.

#### 員工 Staff

建立一支卓越的員工隊伍,並維持和諧的工作環境。

Developing a competent workforce and maintaining a harmonious environment.

### 部門 Organisation

掌握科技發展和流程改善,以提供更佳服務。

Keeping pace with technology development and process improvement for service enhancement.

# 信念 Values

#### 誠信 Integrity

我們秉持誠信,維持良好道德操守。

We uphold honesty and integrity to embrace an ethical culture.

### 出色服務 Service Excellence

我們提供安全可靠、高效率、具成本效益和優質的服務。

We provide safe, reliable, efficient, cost-effective and quality services.

#### 關懷 Caring

我們關懷員工、客戶和市民大眾,並重視環保。

We care for our staff, customers, community and the environment.

#### 以客為本 Customer Focus

為滿足客戶的各種需要,我們盡心竭力,積極提供工程方案,以贏 取客戶的信任和支持。

We focus on the needs of our customers and provide engineering solutions in a proactive and responsible manner to win their trust and support.

#### 承擔 Commitment

我們言行一致,信守承諾。

We do what we promise.

# 常務委員會

# **EXECUTIVE BOARD**

#### 主席 Chairman



成員 Members



發展同吊性他青文(工物)
Permanent Secretary for Development (Works)



Mr Chan Chi-ming, JP 發展局副秘書長(工務)2 Deputy Secretary for Development (Works)2



**Mr Chan Fan, Frank, JP** 機電工程營運基金總經理(機電工程署署長) General Manager, EMSTF (Director of Electrical and Mechanical Services)



**Mr Tai Tak-him, JP** 機電工程署副署長/營運服務 Deputy Director/Trading Services, EMSD

秘書 Secretary



羅肇嫻女士 Ms Lo Siu-han, Cynthia

機電工程署主任秘書 Departmental Secretary, EMSD

- \* 薛永恒太平紳士出任機電工程署副署長/營運服務至2014年10月2日 Mr Sit Wing-hang, Alfred, JP was Deputy Director/Trading Services, EMSD up to 2 October 2014
- \* 周楚添先生出任機電工程署主任秘書至2014年7月13日 Mr Chow Chor-tim was Departmental Secretary, EMSD up to 13 July 2014

### **MANAGEMENT BOARD**



Mr Chan Fan, Frank, JP

機電工程營運基金總經理 (機電工程署署長) General Manager, EMSTF (Director of Electrical and Mechanical Services)

#### 成員 Members

2 戴德謙太平紳士 Mr Tai Tak-him, JP

> 機電工程署副署長/營運服務 Deputy Director/Trading Services, EMSD

3 張丙權太平紳士 Mr Cheung Ping-kuen, Michael, JP 機電工程署助理署長/1

4 李英明先生 Mr Li Ying-ming, Larry

Assistant Director/1, EMSD

機電工程署助理署長/2 Assistant Director/2, EMSD

# 5 張國輝太平紳士 Mr Cheung Kwok-fai, JP

機電工程署助理署長/3 Assistant Director/3, EMSD

# 6 羅雪芬女士 Ms Law Suet-fan, Rebecca

機電工程署財政經理 Finance Manager, EMSD

### 7 羅福基先生 Mr Law Fuk-ki

機電工程署員工關係主任 Staff Relations Officer, EMSD

### 秘書 Secretary

8 羅肇嫻女士 Ms Lo Siu-han, Cynthia

> 機電工程署主任秘書 Departmental Secretary, EMSD

\* 薛永恒太平紳士出任機電工程署副署長/營運 服務至2014年10月2日

Mr Sit Wing-hang, Alfred, JP was Deputy Director/Trading Services, EMSD up to 2 October 2014

\* 何世景太平紳士出任機電工程署助理署長/1至 2014年12月29日

Mr Ho Sai-king, JP was Assistant Director/1, EMSD up to 29 December 2014

\* 戴德謙太平紳士出任機電工程署助理署長/3至 2014年10月5日

Mr Tai Tak-him, JP was Assistant Director/3, EMSD up to 5 October 2014

\* 周楚添先生出任機電工程署主任秘書至2014 年7月13日

Mr Chow Chor-tim was Departmental Secretary, EMSD up to 13 July 2014

# 業務回顧與前瞻

### **OPERATIONS REVIEW AND OUTLOOK**

電工程營運基金在2014/15年度有穩定表現。 這年度是我們為實踐企業目標推行五年策略計劃的第二年,年內營運基金已達到所有財務指標, 而在其他主要營運範疇,包括提高客戶及員工滿意 度等,皆有進展。

The Electrical and Mechanical Services Trading Fund delivered steady performance in 2014/15. In the second year of our five-year strategic plan to achieve our corporate goal, EMSTF met all its financial targets while working further in key operational areas, including customer and staff satisfaction.

**戴德謙太平紳士 Mr Tai Tak-him, JP** 機電工程署副署長/營運服務 Deputy Director/Trading Services, EMSD



2014/15年度,營運基金的收入回報率為5.3% (2013/14年度為5.3%),總收入為54.92億港元 (2013/14年度為50.2億港元)。收入上升,主要是由於服務規模擴大、新接收場地增加及通脹,但大部分收入增幅已被開支增長抵銷,尤其是不斷上升的承辦商費用。至於收入回報率則與上年度相同。未來數年,我們會繼續以微利營運,讓客戶節省更多開支以為市民提供更佳的服務。

#### **OVERALL PERFORMANCE**

Return on revenue (ROR) in 2014/15 was 5.3% (2013/14: 5.3%), with total revenue of HK\$5,492 million (2013/14: HK\$5,020 million). The revenue increase is mainly attributed to increased scale of services and the new venues we are now servicing, plus inflation, though its impact is largely offset by increased expenditure, particularly rising contractor cost. The ROR is same as that of the previous year. We will maintain the slimprofit model in coming years so that clients may save more to serve the community better.

自從營運基金在2012/13年度把企業目標定為「透過與客戶的伙伴關係,創造公眾價值利惠市民」,全體同事都朝著這清晰目標努力,調校工作優次,大家可於稍後章節了解我們年內的工作重點。總的來說,我們欣然報告營運基金的努力方向是正確的,而且建基於客戶高度滿意的堅實基礎上。2014年的客戶意見調查,以8分為滿分計,我們的客戶滿意指數就創下6.22分的歷史新高。

Since adopting the new corporate goal of "creating public value for community betterment through partnership with our clients" in 2012/13, all of us at EMSTF have been aligning our efforts and priorities with this clear focus. Readers will find highlights of our work in the following chapters. Overall, we are happy to report that our efforts are in the right direction with the solid foundation of a record-high overall score of 6.22 out of 8 on the Customer Satisfaction Index, per the 2014 Customer Opinion Survey.

### 調查確認服務物超所值

根據2014年客戶意見調查,大部分客戶都視營運基金為首選的機電服務供應商,並認為我們的價格具競爭力,服務也物超所值。在所有受訪客戶中,有75%以營運基金為首選的機電服務供應商,較2012年的調查上升18%。受訪客戶表示,他們繼續選用營運基金工程服務的主要原因,首要是「服務可靠」,其次是「技術才的主要考慮因素。整體來說,受訪客戶評定營運基金的服務競爭力指數為6.19分,較2012年的5.87分高。這些數字,是我們多年來持續改進服務質素及為客戶創造價值的最佳證明。

2014年4月發表的審計署署長報告書曾提出多項 營運基金須予改善的事項,當中包括有關員工逾 時工作的事宜,及營運基金定價的問題。為審視 報告書中就營運基金定價所提的意見,我們委託 德勤企業管理諮詢(香港)有限公司於2014年進 行一項獨立研究。研究發現,我們現時採用「成 本附加」定價策略,「以確保機電工程服務定價 合理,前後一致」,這意味原則上「營運基金的 價格應與市場交易價格大致相符」。

#### 員工開心 客戶稱心

客戶與員工是我們服務社群的價值鏈中相互緊扣的重要一環。我們相信,只要為員工提供良好工作環境讓他們發揮所長和盡展潛能,並給予正面鼓勵,員工自會有更好的表現,客戶便會因員工的優質服務而讚賞員工。當員工的努力獲肯定後,自信便會增加,推動他們做得更好。所以說員工開心,才能使客戶稱心。根據我們的最新的人工滿意度調查,以10分為滿分計,員工滿意指數本6.3至6.6分之間,反映員工滿意度大致平穩,不過當然也有改進的空間以達至我們的目標。

# **SURVEY CONFIRMS VALUE-FOR-MONEY SERVICES**

The 2014 customer survey reported that a majority of clients regarded EMSTF as their preferred E&M service provider with competitive services that deliver value for money. Of all respondents, 75% considered that EMSTF was their "most preferred E&M service provider", which was 18% higher than the number in the 2012 survey. Respondents chose "reliability", followed by "technical competency" and "service quality", as the key factors driving them to continue to choose EMSTF's services. Price was not our clients' top consideration. Overall, survey respondents gave EMSTF a Service Competitiveness Index rating of 6.19, as compared to 5.87 in 2012. These figures are the best proof of our continuous improvements over the years and of the value we create for clients.

The release of the Director of Audit's Report in April 2014 revealed several areas for EMSTF to improve, including the overtime issue for staff and concerns about our pricing strategy. To address the EMSTF pricing issue raised in the report, we commissioned an independent study by Deloitte Consulting (Hong Kong) Limited in 2014. The study found that EMSTF's current cost-plus pricing strategy was "to ensure that the price of its E&M services is reasonable and consistent over time", and it meant that in principle "its prices should be in broad alignment with, and comparable to, market transaction prices".

### **HAPPY STAFF, HAPPY CUSTOMERS**

Customers and staff are very important links in our value chain to serve the community. Our belief is that if we give staff a good environment for them to excel, develop their potential and motivate them to do well, they will perform better. Clients will therefore be happier with the quality service received and be more appreciative and this will, in turn, enhance the self-esteem of staff members and motivate them to do even better. It is true that happy staff is essential to make customers happy. Our latest Staff Satisfaction Survey saw us achieve the Staff Satisfaction Index of 6.4 on a scale of 10. In fact, this Staff Satisfaction Index has held steady within a range of about 6.3 to 6.6 for the past few years, indicating a consistent level of staff satisfaction but certainly there is room for improvement to meet our goals.

#### 2014/15年度亮點

年內我們做了不少工作,致力分析和構想不同方 法滿足客戶的需要。對內方面,我們集中釐清營 運基金的各個策略,並就各個策略向不同層級的 員工詳加闡釋,以深化員工的了解,確保大家方 向一致。

年內我們推出多項新措施處理一些存在已久的問題,例如在多次客戶意見調查中反映,有需要讓客戶更清楚知悉工作進度。我們相信最徹底的解決方案,是革新我們現有的工作管理系統,並優化工作程序,讓工作的分配和進度追查變得更透明更有效率。我們希望這樣的一套新系統能於2017/18年度推出,屆時經全面革新的客戶服務中心亦將運用電子平台,主動為客戶提供適時的工作進度報告,並更有效處理客戶查詢。此外,我們會陸續引入先進科技,幫助客戶優化工程系統的性能。

年內,我們著手研訂員工的才能矩陣,以找出員工的培訓需要,以便就員工的培訓和發展作出更妥善的籌劃和安排,最終目的是提升員工的專業水平。例如,我們已優化了技術員訓練計劃的內容,注入更多技能元素。新的訓練計劃將於2015年9月的新學年開展。此外,為提升合約管理能力,我們制訂了清晰的部別指引以管理及監察合約項目,作為其中一項加強監察承辦商表現的措施。

### 客戶及員工滿意度:訂下未來目標

年內我們也打破慣例,為客戶及員工滿意度 訂下未來目標。我們希望客戶滿意指數在 2017/18年度能達到6.3分,到2019/20年度達 到6.5分(目前為6.22分);員工滿意指數方面, 則希望在2016/17年度達到6.8分,到2018/19年 度達到7分(目前為6.4分)。常言道,凡事要量 度才會有進步,訂下清晰可量度的目標,可令大 家專注朝著目標努力;而各個策略業務單位,也 會每年為其單位進行策略性規劃,讓每個部別 擁有專為其客戶及員工而設的改善措施。我們也 檢視並整理了營運基金的主要表現指標,以符合 最新的「全面優質管理」理念架構,使量度機制 更有效。

#### 2014/15 HIGHLIGHTS

Much effort went into analysing and developing means that meet client needs during the year. Internally, we focused on clarifying and communicating EMSTF's strategies at every level of the organisation to deepen staff understanding and alignment.

2014/15 also saw the launch of initiatives that aim to tackle some long-term issues, one of which is the need to keep customers better informed of work progress, as reflected in several Customer Opinion Surveys. We believe the ultimate solution is to overhaul our current job management system and introduce major process improvements so that job assignment and its progress tracing will become more transparent and efficient. Our aim is to roll out the new system in 2017/18 alongside a totally revamped Customer Service Centre operating on an e-platform. This will enable us to give clients pro-active, timely updates of work progress and help us to handle client enquiries more effectively. Moreover, we have continued to introduce more advanced technologies to optimise plant performance for our clients.

Another initiative in 2014/15 was developing a staff competency matrix which aimed to enhance the professionalism of our staff by identifying their needs for better planning of staff training and development. For instance, we enhanced the content of our Technician Trainee Programme so that it becomes more skill-based. The new programme will be implemented for the new cohort in September 2015. Also, we enhanced our contract management capability, and one of the step-up measures we took was to have clear divisional guidelines to manage and supervise contract.

# CUSTOMER AND STAFF SATISFACTION: FUTURE TARGETS SET

During the year we also took the unusual step to set future targets for customer and staff satisfaction. The aim is to achieve a Customer Satisfaction Index of 6.3 in 2017/18 and 6.5 in 2019/20 (from the current 6.22), and a Staff Satisfaction Index of 6.8 in 2016/17 and 7 in 2018/19 (from today's 6.4). As the saying goes, "nothing measured, nothing gained". A clear and measurable target will keep people focused and commit them to act. Accordingly, each Strategic Business Unit now goes through an annual strategic planning process so that there is Divisional ownership of improvement initiatives tailored for its clients and colleagues. We have also reviewed and refined EMSTF's Key Performance Indicators to align them with the latest Total Quality Management model and achieve more effective performance measurement.

### 綠色作業為2015/16年度及往後的 重點

展望將來,由於環境局要求所有政府大樓必須以 2014年為基準,於2020年節省5%的耗電量,因 此協助客戶持續進行綠色作業將相當重要。近年 我們為客戶更換能效較佳的設備,有關工作已接 近完成,未來重點將是協助客戶提升工程系統的 能效表現。就此,我們提升設備的運作,例如監 察和讀取運作數據來加以分析,以及與客戶分享 我們在整體系統能源模擬方面的知識。

我們也須繼續提升優質服務的標準。我們曾以「包搞掂」為目標,後來我們將重點由維修故障轉至預防故障,即「包無事」。然後我們把目標提高至「包滿意」。現在的目標是「包智能」,即是協助客戶以智能方法去管理機電資產,提升工程系統的表現。我們目前的表現跟「包智能」這要求較高的優質服務目標尚有距離,我們的團隊仍須努力以達成目標。

為與客戶一起面對「0-1-1」計劃的挑戰,我們會繼續實踐微利營運,並透過多種提高生產力的措施及採用先進科技,範疇包括資訊科技、各項監察和流動通訊科技、知識管理,為客戶提供優質服務。

#### 致謝

最後,我要向一直支持我們的客戶及表現出色的 員工衷心道謝。目前還有很多挑戰,例如市場人 手短缺及要以有限資源完成更多工作等,都是需 要大家共同面對,但建基於與客戶的緊密伙伴關 係,我們必能共同克服挑戰,為社會提供更優質 服務。

我們也衷心感謝常務委員會的指引和寶貴意見, 也多謝承辦商、顧問公司和業界的支持,期望來 年也見到豐碩的成果。

# 載德謙

#### 戴德謙

機電工程署副署長/營運服務

# GREEN OPERATIONS AS KEY FROM 2015/16 ONWARDS

Looking ahead, helping clients sustain green operations will be important in response to the Environment Bureau's requirement for all government buildings to reduce electricity consumption by 5% by 2020 from a 2014 baseline. As the upgrading of equipment to more energy efficient models has largely been completed in recent years, we should now focus on helping clients find new ways to optimise the energy performance of their systems. In this regard, we shall carry out optimisation of plant operation via, for example, monitoring and capturing operation data for further analysis, and share our knowledge of whole-system energy modelling.

Similarly, we must continue to raise the bar in service excellence. We used to be content with "guaranteed done", but when our focus shifted from fault rectification to fault prevention we progressed to "guaranteed no breakdowns". Then we aimed higher with "guaranteed satisfied". Our latest goal is "guaranteed smart", meaning we help clients manage their E&M assets in an intelligent way to optimise system performance. There are still gaps between our current performance and the higher levels of "guaranteed smart" excellence, and our team is striving to close them.

To meet the challenge of the "0-1-1" envelope saving programme together with our clients, we will continue to operate with the slim-profit model and deliver quality service to our clients through various productivity improvement measures and adopting advanced technologies. These include areas of information technology, various monitoring and mobile technologies and knowledge management.

#### **APPRECIATION**

In closing, I would like to share our heart-felt appreciation for the support we receive from clients and for the outstanding service our staff provide. Current issues, such as tight manpower supply and the need to do more with less, are common challenges for us all, yet we believe our strong partnership with clients puts us in a good position to overcome our obstacles together to better serve the community.

Our appreciation also goes to the Executive Board for its guidance and advice. We also thank our contractors and consultants and the trades for their support. We look forward to another fruitful year in 2015/16.

Lovous

#### Tai Tak-him

Deputy Director/Trading Services, EMSD







機電工程營運基金事事以人為先,意思是我們非常關心客戶、員工和社會的需要。我們時刻提醒自己,營運基金工作 的最終目的,是為了讓市民有安全和美好的體驗,享受更優質的生活。這就是「創造公眾價值」。

透過三千多人的團隊,營運基金為本港的百多個政府客戶部門和公營機構,提供全天候的專業機電工程服務。我們的 服務範圍非常廣泛,觸及市民生活的每個層面,有些更可能是你從未想過。

為了讓大家了解營運基金去年怎樣透過支援客戶、裝備同事,來服務香港市民,我們請來機電工程署的幾位同事,帶 大家看看營運基金去年的工作亮點。

People are our top priority. For us at the Electrical and Mechanical Services Trading Fund, this means that we care for our clients, our staff and our community. We always keep in mind that the very reason for everything we do is to give people safe and pleasant experiences that contribute to their quality of life. We call this "creating public value".

Our 3 000-plus staff team provides professional E&M services to over 100 client departments and public bodies all year round. Indeed, we provide such a wide variety of services that we touch every aspect of your life – perhaps in ways that you have probably never imagined.

To show you how we have, by supporting our clients and equipping our staff, served the people of Hong Kong over the past year, our colleagues will walk you through the key areas of our work.



年的工作概況,闡釋我們工作如何重要、如何惠及市民。讓我們的旅程現在開始吧!

It is often said that a picture is worth a thousand words. I am delighted to have this opportunity to share some photos and stories that illustrate the work of EMSTF over the past year. I will explain why our work is important and how it benefits everyone in Hong Kong. Shall we begin?

# 以人為先

阿駿是部門其中一位工程師,今次他會當我們的「導賞員」,介紹營運基金在 2014/15年度如何支援客戶,為香港每位市民提升生活質素。

Tommy, one of our engineers working at EMSD, will be your guide as we look at how EMSTF has supported clients in 2014/15 to raise the quality of life for everyone in our community.

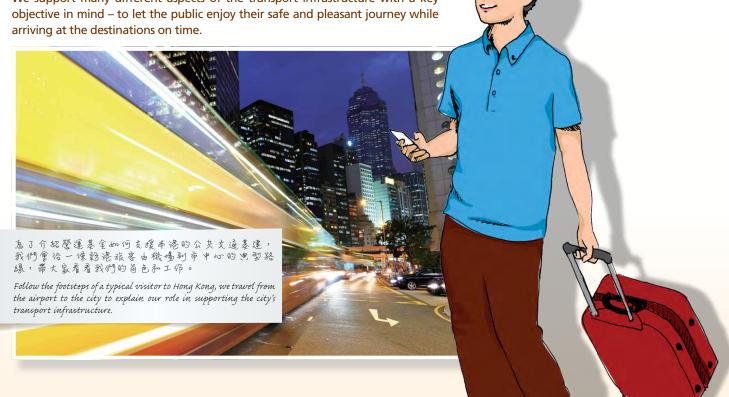


# 運輸設施安全 交通體驗暢快

# **GIVING US A SAFE AND** PLEASANT JOURNEY

我們的公共交通網絡一向以高效馳名,每天都有過百萬人使用,誠然是香港的命脈。 營運基金對交通基建的各方面都提供支援,務求令市民享受安全和舒適的旅程,準時 抵達目的地。

Used by millions of people each and every day, the city's public transport network is well-known for its efficiency, and is truly the lifeblood of Hong Kong. We support many different aspects of the transport infrastructure with a key



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#### 旅程始於機場

我們先由香港國際機場 一 大多旅客抵港的大 門開始,為大家介紹營運基金2014/15年度的工 作。去年,我們除了為機場主要機電工程系統提 供操作及維修保養服務之外,也開展了改善跑道 燈供電系統工程,以應付不斷增加的航班。我們 更與機場管理局(機管局)聯手,為跑道燈系統 取得ISO 55001認證,從而完善資產管理,這是 香港首次由兩家機構攜手合作取得該認證。我們 很高興能與機管局團隊合作,讓旅客有更愉快的 機場體驗。

年內,我們也為民航處總部內的航空交通管制中 心大樓,成功取得ISO 55001認證,亦在政府飛 行服務隊總部引進了綜合樓宇管理系統,加強對 設施的監察。

#### THE JOURNEY BEGINS AT THE AIRPORT

Our journey of the highlights of our work in 2014/15 starts at the Hong Kong International Airport, the gateway to Hong Kong for most visitors. In addition to providing operation and maintenance (O&M) services for major airport E&M systems last year, we also commenced key projects to improve electrical power supply of the Airfield Ground Lighting (AGL) system in anticipation of the ever increasing air traffic. Together with the Airport Authority (AA), we obtained ISO 55001 certificate for the AGL as part of our asset management initiative. This is the first joint certification in Hong Kong between two organisations. EMSTF is delighted to be partnered with the AA team in improving the experience for airport users.

Also related was our joint certification on ISO 55001 for the Air Traffic Control Building of Civil Aviation Department (CAD) Headquarters with CAD, as well as our introduction of the integrated Building Management System at the Government Flying Services Headquarters for better monitoring of facilities.



#### 隧道與交通監察

離開機場,大部分乘搭公共交通工具前往目的地的旅客沿途看見不少公共交通建設。香港有多條24小時不停暢順運作的行車隧道、海底隧道和大橋,背後都有由我們為運輸署設計、安裝和維修保養的最新監察系統及機電設備,當中包括剛於2014/15年度更新的城門隧道交通控制及監察系統和正在進行更新的香港仔隧道照明系統。北許會留意到很多主要的住宅和商業中心,就是由公共運輸交匯處。去年我們的工作之一,就是為十個公共運輸交匯處改裝和重新設計鮮風及抽氣系統,加強通風,達至令人滿意的改善空氣質素成效。

#### 海港妙韻

旅客沿著海濱前進,沿途不但讚嘆維多利亞港的美麗,而且驚訝海面上船隻頻繁卻秩序井然的往返。維多利亞港的交通竟然可以這麼暢順,海事處的船隻航行監察服務系統可謂居功至偉。在2014/15年度,我們繼續支援及優化這個歷時數載的系統更新及提升項目,完成後可以向在本港水域參與該系統的船隻,提供更多的船隻航行資訊、更完善的交通安排和導航援助服務。我們為船隻航行監察服務系統進行的設計工作進展良好,將於2015年第三季展開安裝工程,預計整個項目於2016/17年度完成。

#### **TUNNELS, MONITORING AND SURVEILLANCE**

Leaving the Airport, most visitors commute to their destinations through public transport will see much of the city's transport infrastructure along the way. Hong Kong's various road tunnels, the cross harbour tunnels and bridges operate smoothly round the clock, supported by state-of-art monitoring and surveillance systems and E&M systems that we design, install and maintain for the Transport Department. Examples are the traffic control and surveillance system at Shing Mun Tunnels, newly replaced in 2014/15, and the tunnel lighting system at Aberdeen Tunnel, being replaced in progress. Visitors may also notice the many Public Transport Interchanges (PTIs) that serve Hong Kong's major residential and commercial complexes. One of our tasks last year was to reconfigure the air intake and exhaust systems at ten PTIs to improve ventilation for users, with satisfactory air quality improvement results.

#### HARMONY IN THE HARBOUR

Visitors who travel along waterfront will be captivated by the beauty and busyness of Hong Kong's bustling waterway, Victoria Harbour, and the fact that so many vessels navigate so smoothly and efficiently in one of the busiest harbours in the world. This is made possible by the Marine Department's Vessel Traffic Services (VTS) System. During 2014/15, we continued to work on the major multi-year project to replace and upgrade the VTS system to raise its capabilities in providing vessel traffic information, traffic organisation and navigational assistance services to all VTS-participating vessels in Hong Kong waters. Our work on the system design was in good progress and installation of the VTS system will be commenced in the third quarter of 2015, with anticipated project completion in 2016/17.





我們為運輸署交通燈維修建立了一個結合交通燈資產管理系統的地理資訊平台,系統已於2014年11月投入服務, 能實時監察 1,800 個路口的交通燈。

We developed a new Geographic Information System integrated with an asset management system to support the maintenance of traffic lights for the Transport Department. Beginning service in November 2014, it monitors traffic lights live at 1 800 road junctions.

### 交通燈結合地理資訊系統

乘搭陸路交通工具的旅客必會留意路面交通十分 繁忙,而交通燈也起了指揮作用,疏導交通。營 運基金為運輸署提供安裝和維修保養全港交通燈 的服務,並於2014/15年度踏出了重要的一步, 把交通燈監察系統與地理資訊系統結合,大大提 升了系統的能力。現在如交通燈發生故障,我們 能透過這監察系統實時找出準確的地理位置,迅 速進行維修。

類似的遙距監察裝置,也已安裝在全港約250條地下行人及行車隧道的抽水系統,以監察及預防水浸。展望未來趨勢,把遙距監察設備與地理資訊系統整合,以提高實時監察成效和加快修理工作,是我們為客戶維修保養交通設施的策略。

#### 行人通道以人為本

香港政府近年推出「人人暢道通行」計劃,提倡無障礙通行。當中計劃包括現正在全港多處行人通道安裝300多部新升降機:落成之後,我們維修保養的升降機和自動扶梯數目將增加一倍。我們在有關的設計和建造過程中,為客戶部門提供技術支援和顧問服務,以及日後的維修保養服務,確保使用者感受到真正的無障礙體驗。

#### WHEN TRAFFIC LIGHTS MEET GIS

Visitors using road transport will certainly notice the steady flow of heavy road traffic, well directed by traffic lights, as they arrive downtown. As the service provider responsible for installing and maintaining all traffic lights in Hong Kong for the Transport Department, we took a major step in 2014/15 to integrate the city's traffic light monitoring system with the Geographic Information System (GIS) platform. With this new capability, we can have a consolidated geographical view of faulty traffic lights at their exact locations in real time. This allows for prompt rectification of problems.

Similar remote monitoring devices have also been installed on pumping systems in about 250 pedestrian and vehicle subways to monitor water levels and alert our team to prevent or mitigate flooding. Indeed, GIS-integrated, real-time monitoring and fault rectification is the way forward for our transport maintenance strategy for clients.

#### A HUMAN TOUCH TO WALKWAYS

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Related to public transport is the city's focus on barrier-free access under the Government's Universal Accessibility Programme. Under the programme, more than 300 new lifts are now being installed at various walkways, which will double the number of footbridge lifts and escalators we maintain. We provide technical support and advisory services to client departments during design and construction stages, as well as the subsequent maintenance of the new systems. We are ensuring via these services that walkways fitted with lifts give users a truly barrier-free experience.

#### 綠化政府車隊

旅程中,旅客或會留意到路面有不少掛著特別車牌的政府車輛,包括一般用途車輛、警車、救護車、流動圖書館、洗街車及垃圾收集車等,而這些也只是政府車隊一部分而已。這支龐大的政府車隊約有5800輛車,其中有200多部電動車。我們就是負責政府車隊的採購、改裝和維修保養工作。

為了提倡更廣泛使用電動車,我們一直支援客戶部門,採購更多具高效能車載充電器的電動車,包括一款可連接32安培掛牆盒式電源充電設施並於四小時內完全充電的最新型號電動車。同時,我們也幫助客戶於政府停車場內安裝這類充電設施。此外,為推動可持續發展,我們正協助客戶部門,逐漸淘汰政府車隊中的歐盟三型車輛,以更低排放的歐盟五型以至最新的歐盟六型取代。

#### **GOVERNMENT FLEET GOES GREEN**

Visitors may also have a chance to notice our active government fleet with special licence plates comprising general purposes vehicles, police vehicles, ambulances, mobile libraries, street washing vehicles and refuse collection vehicles, to name just a few. Our team helps the Government procure, modify and maintain this fleet of around 5 800 vehicles, of which more than 200 are electric vehicles (EVs).

To help promote the use of EVs, we have been assisting client departments in acquiring more EVs with built-in high capacity charger, including a latest model that can be fully recharged within four hours by connecting to a 32A wall box, and installing such charging facilities in government car parks. With sustainability in mind, we are assisting client departments to phase out Euro 3 vehicles in the government fleet and replace them by lower-emission Euro 5 or the latest Euro 6 models.



為響應政府的環保政策,改善路邊空氣質素和減少溫室氣體排放,我們於政府停車場陸續加裝了電動車充電設施,並為政府車隊引入有較高充電能量系統的最新電動車型號。

To support Government's green policies to improve roadside air quality and reduce greenhouse gas emissions, we have installed EV charging facilities at government car parks and introduced to the government fleet the latest EV models with higher-capacity charging systems.



## 協助紀律部門 市民安全安心

# HELPING MAKE OUR CITY SAFE AND SECURE

我們為紀律部隊的客戶部門提供一貫的優質服務,讓他們繼續發揮 專長,為每位市民、旅客帶來安穩的生活環境。

We maintain the quality of our services for clients of disciplinary forces, who will in turn maintain a safe and stable living environment for every citizen and visitor.





我們為消防處將軍澳消防訓練學校繼續建造第二期項目的多個實景模型,協助提升模擬消防訓練的質素。(右)採用建築資訊模型技術設計的模擬船隻事故訓練設施。

Our construction of live fire simulators continued for Phase Two of the Fire Services Department's Tseung Kwan O Fire Services Training School, to help enhance the quality of fire training. (Right) Ship Fire Simulator design adopting Building Information Modelling.

#### 由保安系統至消防設施

我們在2014/15年度為紀律部隊客戶完成了多個重要工程項目,包括為懲教署於羅湖懲教所安裝電鎖保安系統,為海關於國泰航空貨運站安裝的航空集裝箱檢查系統,而為警務處於打鼓嶺段設置的邊境圍網保安系統也已完成,提升了邊境保安。

懲教署對電鎖保安系統很滿意,並要求我們把系統擴展至大欖女懲教所,而有關的設計也於年內完成。懲教署另一新項目,是更新及擴展於赤柱監獄現有的閉路電視系統,以全面提升系統的監察能力。此外,上述為海關打造的航空集裝箱檢查系統,在應用技術上有多個突破,讓關員可更快捷有效地檢查貨物。

另外,我們同事繼續為現正籌建中的消防處將軍 澳消防訓練學校的各種實火模擬事故訓練設施提 供機電工程支援。項目的第二期包括現正建造中 的實物原大的飛機、船隻和火車實景模型。這些 設施會為消防員提供高度像真的培訓環境,幫助 消防隊伍在日後救援行動中有更佳表現,市民安 全更有保障。

## FROM SECURITY SYSTEMS TO FIRE SERVICES INSTALLATIONS

Our colleagues completed several major projects for our clients of disciplinary forces in 2014/15, including the Electric Locks Security System (ELSS) at the Lo Wu Correctional Institution for CSD and the Palletised Cargo Inspection System at the Cathay Pacific Cargo Terminal for the Customs and Excise Department (C&ED). The new border fence protection system for the Hong Kong Police Force (HKPF) at the Ta Kwu Ling sections was also completed, gearing up border security.

We were happy to see that CSD was so satisfied with the ELSS and it has further asked us to extend the system to the Tai Lam Centre for Women, the design of which was completed during the year. Another new task for CSD is to replace and expand the existing Closed-Circuit Television (CCTV) system in Stanley Prison on a major scale to step up its surveillance capability. Besides, the Palletised Cargo Inspection System marks multiple breakthroughs in technology application and helps C&ED inspect cargo faster and more effectively.

Our colleagues continue to provide E&M support to the Fire Services Department (FSD) as it builds specialised live fire training simulators at its Tseung Kwan O training school. Phase Two of the project, which includes the construction of full-size mock-ups of an aircraft, a ship and a train, is well underway. These facilities will provide a more realistic setting for drills, helping our fire fighters perform better in future rescue operations to make our community safer.

## 協助紀律部門 市民安全安心 Helping Make Our City Safe and Secure



#### 邊境的X光挑戰

陸路邊境交通日趨頻繁,加重了邊境關卡運作, 也延長了跨境貨車輪候待檢的時間。為解決這問題,海關希望更新現有的固定X光檢測系統,我 們現正協助海關擬定新系統的設計和採購規格, 以增加車輛檢測流量和改善檢測影像清晰度。

路政署委託機電工程營運基金,為港珠澳大橋香港口岸過境設施提供技術支援服務。香港第一台門架式固定X光車輛檢查系統,將會在香港口岸過境設施區安裝使用,其他邊境口岸預期會陸續加設類似的設施。新系統能夠提升檢測速度和影像質素,令清關工作更流暢,對客戶、物流業和社會都帶來好處。

#### THE BORDER X-RAY CHALLENGE

Growing border traffic is increasing cross-border operations and lengthening wait times for cross-border truck inspection. To tackle the issue, C&ED has asked us to upgrade the existing fixed X-ray inspection system. We are now setting design and procurement specifications in order to increase inspection throughput and improve image resolution of the new system.

The Highways Department has entrusted EMSTF to provide technical services for the Hongkong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities. The first new Gantry Type X-ray Vehicle Inspection System will be installed at the Hong Kong Boundary Crossing Facilities and will likely be introduced to other border points later. It will greatly improve inspection speed, image quality and the overall efficiency of the customs clearance to benefit our clients, the logistics industry and the community.



我們負責香港海關位於機場的機電設備維修保養工作。(右)職員用布揩抹可疑行李表面,再把抹布放進爆炸及毒品痕量檢測器,偵測建禁毒品。 Our team is responsible for the maintenance of E&M equipment for the Customs and Excise Department at the airport. (Right) Staff wipes the surface of suspected luggage, and puts the wiping cloth to the Explosives and Narcotics Trace Detector to detect any contraband drugs.



#### 科技、通訊與能源效益

去年我們也為民安隊完成了一套新的電子人力資源管理系統,以優化其員工工時記錄和編更系統,並協助他們由舊有的模擬流動通訊系統,轉換及加入聯合數碼通訊平台,並可以與該平台的其他政府部門使用者進行聯網通訊。

我們也用各種方法,讓同事能適時回應客戶有關 其工程項目進展的查詢,比如為前線同事提供智 能電話,與客戶在網上溝通,並正研發一套專用 的加密即時訊息軟件名為「項目聯繫」,預計可 於2015/16年度初推出。

一如其他政府政策局和部門,我們的紀律部隊客戶部門也須應環境局要求,在未來五年減少5%的能源消耗量。因此,我們除了提升同事在能源審核方面的合約管理,也開始檢視客戶目前應用的一些節能技術的整體生命周期效益,尤其在照明及空調方面作出檢視,希望為客戶長遠節省更多能源。

#### 操作及維修保養服務

除了工程項目管理服務,我們也繼續為紀律部隊提供機電設施的操作及維修保養服務,範圍之廣,涉及機電、電子及屋宇裝備服務等系統。在2014/15年度,我們在資產管理及預防性維修保養方面更加大力度,並將我們的綜合樓宇管理系統擴大應用範圍至更多紀律部隊的設施和場地,並更嚴格執行營運基金的「維修外判合約表現監察系統」,務求改善外判承辦商的表現。

我們相信這些措施,能讓我們為紀律部隊的客戶部 門提供一貫的優質服務,讓他們繼續發揮專長,為 每位市民、旅客帶來安穩的生活環境。

## TECHNOLOGY, COMMUNICATION AND ENERGY EFFICIENCY

The past year also saw us complete a new electronic Human Resources Management System for the Civil Aid Service to upgrade its staff work time record and roster system, and helped it convert its analogue mobile communication system to the Unified Digital Communications Platform for the interoperability with the users from other government departments.

We have also been helping our colleagues improve their ability to keep clients informed on progress of project works. We provide frontline staff with smartphones for online communication and are developing a dedicated encrypted instant messaging system called "Project Link" that is to be launched in early 2015/16.

Like other government bureaux and departments, our clients of disciplinary forces are also required by the Environment Bureau to reduce energy consumption by 5% in the next five years. Hence, in addition to enhancing our contract management of energy audits, we have also started reviewing the overall lifecycle benefits of certain energy-saving technologies, in particular in lighting and air-conditioning, so that we can help clients save more energy in the long run.

#### **O&M SERVICES**

In addition to our project management, we also continue to provide O&M services for the disciplinary forces, covering a wide range of E&M, electronic and building services systems. During 2014/15, we stepped up efforts in asset management and preventative maintenance, extended our integrated Building Management System to more facilities and venues for clients of disciplinary forces, and improved the performance of contractors by more rigorous implementation of our Performance Monitoring System for Maintenance Contracts.

We trust that these initiatives will allow us to maintain the quality of our services for clients of disciplinary forces, who will in turn maintain a safe and stable living environment for every citizen and visitor.

## 市政設施精益求精

# IMPROVING OUR EXPERIENCE WITH MUNICIPAL FACILITIES

營運基金的同事每天都思考如何為客戶部門改善市政工程設施。他們致力協助客戶確保每個市政場地提供可靠、無間斷服務,以及良好的環境,讓市民生活更方便、更愉快。

At EMSTF, the team is always looking for ways to improve municipal facilities for client departments. They help clients ensure that everyone enjoys reliable, uninterrupted services and a pleasant environment at every municipal facility, thereby making everyone's life more convenient and enjoyable.



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#### 綜合樓宇管理系統帶來更好經驗

很多市民每天一早就去街市購物,如果街市燈光明亮、自動扶梯穩定可靠,大家購物也會更開心、更享受。同樣道理,對街市攤販,尤其那些賣鮮貨的,無間斷電力、可靠的保安設施及自動扶梯系統也一樣重要。

因此,我們在2014/15年度開始引進新科技,加強用以監察市政設施操作情況的綜合樓宇管理系統,例如引進閉路電視以監察保安、配電、空調、升降機和自動扶梯系統,以採取及時的行動。

#### IBMS DELIVERS A BETTER EXPERIENCE

To those who start the day with shopping at a municipal market, a well-lit environment and reliable escalators contribute to a pleasant experience. Similarly, reliable electricity supply as well as dependable security and escalator systems are vital to stall operators, especially those who sell fresh products.

That is why we began to enhance our integrated Building Management System (iBMS) with new technologies in 2014/15. Our iBMS helps us continuously monitor the operating status of municipal facilities. For example, it uses CCTVs to monitor security, power distribution, airconditioning and lift and escalator systems for timely actions.

綜合樓宇管理系統除了幫助我們快速偵測故障, 也能讓我們遙距調校系統的運作參數,例如調校 空調系統的溫度設定,提供舒適的環境。在偵測 故障方面,系統會把故障或預警以智能手機通知 同事,我們亦可透過手提電話馬上取到數據和觀 察實時情況。這些措施大大提升了我們的故障 修效率,減少市政服務中斷對公眾帶來的不便, 尤其在那些非長駐場地,系統能提供無間斷的遙 距監察服務,更形重要。未來三年,我們會把綜 合樓宇管理系統,陸續推至街市以外的其他主要 市政場地。

Besides helping us quickly detect failures, iBMS helps us remote adjusting of operational parameters such as adjusting temperature setpoints to maintain comfort environment for air-conditioning systems. For detecting failures, the iBMS will alert us of alarms and faults via smartphones, and we can immediately acquire related data and real time images from our smartphones. The new measures significantly boost our efficiency in repair work to minimise service interruption to the public. They are particularly valuable at unattended venues, where they allow continuously remote monitoring. The iBMS will be extended to other major municipal venues over the coming three years.



#### Improving Our Experience with Municipal Facilities



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### 莊嚴順暢的火葬服務

我們的火葬服務對死者及其摯愛親朋都十分重要。由於這是一種莊嚴的服務,我們對系統的操作和維修都非常嚴謹,務求提供可靠和暢順的運作服務。我們的火葬系統除了需要符合國際環保標準,還需要滿足不斷增加的火葬服務需求。我們的目標,是提供專業的一站式火葬服務,包括提供小禮堂的機電支援,讓死者家屬有安靜的環境進行追思儀式。

2014/15年度一個工作重點,是根據哥連臣角火 葬場計劃第一階段,完成接收四台重置的新火化 爐,加上將於2015/16年度完成第二階段,屆時 全港將會有六台新的火化爐,大大加強了火化設 施的容量。這不但縮短了市民輪候的時間,還讓 我們可以騰出空間試驗新技術,例如試用生物柴 油、及試行在海外如德國等已證實有效的24小 時火化爐運作。我們相信這些改善工作會加強效 率,從而讓死者家屬在痛失親人之餘,也能較暢 順地處理火葬事宜。

#### **DIGNIFIED CREMATION SERVICE**

Our cremation service is of great importance to the deceased and their loved ones. It is also a dignified service area where we must ensure reliable and smooth cremation service delivery by taking extra care on the O&M of the cremation system. Also, our system needs to satisfy rising service demand and keep pace with international environmental standards. Our aim is to provide professional one-stop cremation services, including providing E&M support to a chapel for families to hold memorial services in a peaceful environment.

A major initiative in 2014/15 was completing the takeover of four reprovisioned cremators under the Cape Collinson Crematorium Phase One programme. With Phase Two following in 2015/16, six new cremators will be added to boost the city's cremation capacity significantly. This will shorten waiting time and give us the extra cremator capacity we need to explore new technologies, such as the use of bio-diesel, as well as new concepts like 24-hour cremator operation which has proved effective in Germany and elsewhere. These improvements will enhance our efficiency, which in turn will ensure a smooth experience for the families of the deceased during a difficult time in their lives.



#### 整合服務以持續改善

我們的市政服務團隊去年除了做出上述成績外,還積極整合手上的工作,務求以更少資源做得更多,例如重新調配員工、運用科技使本來長駐場地變為非長駐場地,又於2015年2月開展了ISO55001資產管理認證工作,目標是把所有街市的空調系統認證,並於2015/16年度把認證工作擴至所有街市的自動扶梯,到2016/17年度,則為所有街市的機電設施進行認證。

由於這類新任務需要更緊密的團隊合作,我們年內舉行了兩次前線人員團隊工作坊和16場經驗分享會,以加強員工溝通和合作技巧。

香港市民能享受暢順無縫的市政服務,實在是種 福氣。我們也對在幕後默默工作、協助客戶為市 民不斷改善服務的所有同事致敬。

## CONSOLIDATE FOR CONTINUOUS IMPROVEMENT

Staff repairing E&M equipment at Centre Street Market in Sai Ying Pun, one of the many services the EMSTF team provides round the

While achieving these improvements over the last year, our municipal services team also actively sought opportunities to consolidate related tasks and do more with fewer resources. Some staff were redeployed, and some attended venues became unattended venues through better use of technology. The team also embarked on an ISO 55001 asset management certification programme, starting in February 2015 with air-conditioning systems in all markets. Certification work will be extended to all market escalators in 2015/16, then all market E&M facilities in 2016/17.

Our new initiatives called for better teamwork, hence two frontline teambuilding workshops and 16 experience-sharing sessions were held during the year to promote communication and collaboration among staff.

It is a privilege for us to be able to enjoy our city's seamless municipal services. At the same time, we appreciate our colleagues who work behind the scenes to help our clients continuously improve their services for all of us in Hong Kong.

## 維護市民健康

## SAFEGUARDING OUR HEALTH

我們相信,客戶的管理層和前線員工都對我們全面一站式的醫療設施與器材維 修保養服務放心安心。

We are confident that our clients can trust our comprehensive one-stop-shop O&M services for medical facilities and equipment, providing peace of mind for management and frontline staff.





我們秉持「以人為本」的精神·於醫院內推行全新的客戶探訪計劃·藉以收集如臨床工作人員等的用家意見·提高服務質素及加強與客戶的溝通。 Consistent with our people-oriented principle, we have launched the new "client visit" programme in hospitals to collect feedback from endusers such as clinical staff for quality improvement and strengthen communication between end-users and EMSTF.

#### 親善探訪醫護員工活動

首先要介紹的是我們為了聆聽前線醫護人員的聲音,而在2014年推出的一個以瑪嘉烈醫院和將軍澳醫院為先導的客戶探訪計劃。

相信大家明白與前線醫護人員保持緊密溝通對我們工作的重要性。為了繼續提供滿足客戶需要的優質服務,我們必須確切了解醫護人員在日常臨床工作中的需要和要求。

客戶探訪先導計劃的推行可讓我們在日常的工作 接觸以外,與前線醫護人員定期作更緊密的交流 和聆聽他們的聲音。為此,我們特別委任了馮弘 女士作為我們的客戶服務代表,和醫院的駐場同 事一起對病房進行探訪活動。在探訪中,馮女士 和同事們收到了大量的客戶回應和改善建議。

這探訪客戶活動不但可以使我們的服務更人性化,而且它為醫護人員提供了一個新的渠道,向我們反映他們在運作和維修上所遇到的問題,使這些問題可以得到更妥善和迅速的處理。我們很高興看到這先導計劃有助我們在2014年的客戶意見調查中取得好的評分。我們計劃於2015/16年度把探訪計劃進一步推展至醫管局轄下的各主要醫院和其他衞生工程服務客戶的場地。

#### 積極提供增值服務

醫院認證有助醫療服務機構保持和持續改善其服務質素,而透過認證過程更可為其服務建立相關的標準和加强醫療服務的安全。去年我們很榮幸可以支援瑪嘉烈醫院和東華東院成功取得澳洲醫療服務標準委員會認證,並與醫管局聯手為其腎科儀器的維修保養取得ISO 55001資產管理系統認證。

#### **CLIENT VISITS POPULAR WITH CLINICAL STAFF**

Let me begin with a new initiative we introduced in 2014: a new "client visit" programme that we piloted at Princess Margaret Hospital and Tseung Kwan O Hospital to hear the voice from the clinical frontline.

I believe you can understand how important it is to closely contact with frontline clinical staff. To continue providing quality services that satisfy client needs, we need to understand clinical staff about their requirements and needs in their daily clinical operations.

The "client visit" pilot programme is a regular programme developed to keep closer contacts with the clients and listen to their voice on top of our routine work communication. We recruited a new customer service colleague, Ms Rebecca Feng, to visit hospital wards with our frontline colleagues serving the hospital. During the visits, Ms Feng and her visiting team received a lot of feedback and suggestions from the clients.

This ambassadorial approach puts a human face on our service and provides a new channel of communication for clinical staff to raise O&M issues and have their concerns addressed in a more effective and quicker manner. We are happy to see that the pilot programme helped us earn good marks in the 2014 Customer Opinion Survey! We are extending the programme to other major HA hospitals and venues of our clients of health service in 2015/16.

#### **PROACTIVE IN VALUE-ADDED SERVICES**

Hospital accreditation is a useful means by healthcare providers to sustain and improve the quality for their healthcare services. The accreditation is also a process that can set the relevant standards and enhance patient safety. We were delighted to support Princess Margaret Hospital and Tung Wah Eastern Hospital in their successful bids to the accreditation from the Australian Council on Healthcare Standards last year. We have also obtained a joint certificate of the asset management system ISO 55001 with HA for the maintenance of its renal equipment.



#### 與客戶維持緊密伙伴關係

我們相信,客戶的管理層和前線員工都對我們全面一站式的醫療設施與器材維修保養服務放心安心。我們很高興在2014/15年度與衞生署成功延續五年服務水平協議,而我們亦成功投得年內由公立醫院發出的全部四份維修保養招標合約。這些成果顯示了我們在市場中的競爭力,以及客戶對我們服務質素和表現的認同。與此同時,我們會繼續努力不懈,以超越客戶對我們服務質素持續提升的期望。

### 以培訓和科技提升員工能力

我們希望透過培訓和科技提升員工能力,為客戶提供更優質和更具效率的服務。生物醫療科技發展一日千里,我們內部自行設計並推出了一套「生物醫療工程技術員證書課程」,以提高營運基金員工對現今生物醫療工程技術的掌握,和加強員工在臨床環境下支援客戶的技能。年內,我們正進行相關工作,將課程於香港的資歷名冊註冊,並探討進一步把課程向外推展的可行性,讓本地生物醫療工程從業員亦能報讀,從而促進生物醫療工程業界的發展。

為提高員工工作效率,我們通過為前線人員配備的平板電腦,把所採集的機房儀錶數據即時上載至機電署總部的伺服器。此外,透過遙距流動監察技術的使用,我們正在加强數據採集和處理的能力,為發展一套以客為本、互動的綜合客戶服務平台鋪路。

#### STRONG CLIENT PARTNERSHIPS CONTINUE

We are confident that our clients can trust our comprehensive one-stop-shop O&M services for medical facilities and equipment, providing peace of mind for management and frontline staff. We are delighted to have successfully renewed the five-year Service Level Agreement with the Department of Health in 2014/15, and to have won all our four O&M tender bidding from public hospitals. This is an encouraging indication of our service competitiveness in the market and the clients' trust on our quality and performance, but we must also continue to work hard to exceed their ever-rising expectations.

## BUILD STAFF CAPACITY VIA TRAINING AND TECHNOLOGY

We aim to strengthen our workforce through training and technology in order to provide better and more efficient services. To keep pace with fast-developing biomedical technology, an in-house designed-and-delivered Certified Biomedical Engineering Technician course was launched to upkeep our staff proficiency in prevailing technology in biomedical engineering, as well as skills for supporting clients in a clinical environment. During the year, we are working towards registration of the programme under the Hong Kong Qualifications Register, and exploring ways to open up the programme for the local biomedical engineering trade to benefit society at large.

To help our colleagues work smarter, we equip our frontline staff with tablet computers for plant room meter-reading to facilitate them to immediately upload data to servers at EMSD Headquarters. Through the use of remote monitoring mobile technology, we are strengthening our data capturing and processing capability with a view to develop a comprehensive client-oriented, interactive customer service platform in future.



#### 主動提高服務質素

我們也常主動提出故障修理以及預防性維修保養和設施監察等各種改善建議,讓客戶的工程系統恒常保持最佳狀態。其中一個例子,就是在去年度為醫院的氣動輸送系統提出的監察輸送管內狀態的創新方法。

氣動輸送系統是應用於醫院的自動輸送系統,它 大大提高了物料文件的輸送效率。但其管道封 閉的設計同時也對我們的保養檢查和尋找故障 造成了一定困難,所以我們的團隊充分利用了員 工在機電冷、屋宇裝備、電子和生物醫療方面的 專長,為客戶設計了一套可在管道內部進行錄影 監察而不影響其運作的檢查保養方案。方案不但 獲客戶讚賞,亦可應用於其他醫院的氣動輸送系 統。

#### 為未來打造更環保可靠設施

放眼未來,我們會應用科技,持續優化對機電設施的維修保養服務,加強對設施狀況的監察,務 求將事故或設施故障對客戶的影響減至最低。

我們亦會與客戶共同探討長遠綠色作業的措施、 高效節能科技的應用,為保護環境、節能減排盡 一分力。

#### **PROACTIVE FOR BETTER SERVICE QUALITY**

We take a proactive approach to ensure that clients' engineering systems are in good working condition, from fault rectification to preventive maintenance and monitoring. An example in 2014/15 was an innovative solution to monitor the interior condition of the Pneumatic Tube Transport System (PTTS) in hospital.

PTTS is an automated, efficient materials transport system used in hospitals, but its closed transmission pipelines design poses difficulties for our maintenance team to have preventive checking and fault-finding to its interior. Riding on our full range of electrical, mechanical, air-conditioning, building services, electronics and biomedical expertise, our team devised a solution that enables video-recorded, in-line assessment of PTTS without impeding its operation. The client is appreciative and the method is applicable to other hospital PTTSs.

## WAY FORWARD WITH GREENER, MORE RELIABLE FACILITIES

Going forward, we shall strive to apply technologies, continuously improve our maintenance services for E&M facilities and equipment, and enhance monitoring of plant and equipment condition so that we can minimise impact to clients when there is incident or equipment failure.

We shall also work with clients to identify long-term green operation initiatives and application of energy efficient technologies so as to contribute in protecting the environment and saving energy.

## 政府大樓設施 智能綠化並重

# SHOWCASING OUR INTELLIGENT AND GREEN GOVERNMENT BUILDINGS

機電設施管理的最佳作業方式,加上日新月異的科技,讓營運基金的團隊有更大發揮空間,使政府大樓和設施以更具智能、更環保的方式運作,讓客戶和公眾得益。

Best practice and new technology are creating opportunities for us to make government buildings and facilities smarter and greener to benefit clients and the public.



#### 資訊科技結合環保設施

政府大樓對香港其他建築物有示範作用。政府大樓糅合了最新的資訊和環保設施,務求帶領改善本港建築環境的質素。以我們的綜合樓宇管理系統為例,很多政府大樓和部分法庭現已採用,其特色是系統與數據網絡及流動通訊系統互相連結,有助我們全天候不停監察客戶的機電設施。用了綜合樓宇管理系統之後,一旦機電設施發生故障,系統就會透過手提電話即時向前線員工發出訊息,減少客戶設施中斷服務的時間,讓市民享受更可靠的服務。

#### WHERE IT MEETS GREEN FEATURES

In Hong Kong, our government buildings are a showcase for combining information technology and green features to improve the quality of our built environment. Take our integrated Building Management System (iBMS) for example. Now being extended to many government office buildings and some law courts, it links to a data network and mobile communication system to help us monitor E&M facilities round the clock. Using iBMS enables our frontline staff to be immediately alerted to faults via mobile phone, minimising the equipment downtime. The end result is more reliable services for the public.



建築資訊模型技術在建造業已十分流行,特點是以智能的數據模型去改善建築物設計和數據存檔。去年機電工程署總部大樓進行了一個有關建築資訊模型技術的先導計劃,透過產業管理系統與建築資訊模型融合,從而有效地與現有的樓運系統及新設計和安裝的電子系統,如射頻路電視、實時定位系統相配合,應用在流動裝置上。結果顯示這技術有助改善操作及維修、本,更有助工程資產管理。我們已陸續與客戶分享經驗,協助他們的建築項目採用這個新技術。

市民也日漸留意到,政府近年積極在公眾建築物推行綠色設施,而機電署的總部大樓在這方面更是不甘後人,希望發揮領導角色。雖然我們的總部大樓已使用了一段日子,但去年一連串翻新工程,確令大樓變得更環保、更具能源效益,比如在大堂安裝一個5.45米闊、5.6米高的全新植物牆,即一個垂直綠化系統,並翻新幾個主要會議室和圖書館,加強天然採光。在2015年2月,總部大樓成功通過審核,取得ISO 50001能源管理系統認證,並成為首幾幢獲ISO 50001認證的政府大樓之一,亦確認了機電署在能源管理方面的努力。

作為一幢高水平的綠色建築物,機電署總部大樓已 於2014/15年度,獲得由香港綠色建築議會發出的 「綠建環評」之「既有建築」鉑金級暫定認證,而 最後階段的認證評估也將於2015年稍後進行。與此 同時,我們已開始協助其他政府大樓籌備參加「綠 建環評」認證的工作,使更多客戶能享受節省成本 的效益,也為員工和公眾提供更佳的環境。

我們也為客戶的建築物安裝其他節能設施,包括 無油磁浮式製冷機、新一代LED照明裝置、和用 以灌溉植物的雨水收集系統等。 Popular in the construction industry, Building Information Modelling (BIM) uses intelligent digital models to improve building design and documentation. A pilot scheme held at EMSD Headquarters with integration of asset management (AM) system last year. The integration of AM with BIM can effectively interface with the existing Building Management System and some newly designed and installed electronic systems, such as Radio Frequency Identification system, CCTV system, and Real-Time Location System, on the mobile device. It showed that BIM-AM could also help us improve O&M workflow, repair faults and handle incidents faster and enhance asset management. We are now sharing our experience to help clients adopt BIM in their buildings.

The people in Hong Kong are increasingly aware that the Government is very active in adding green features to public facilities. In this regard, the EMSD Headquarters takes the lead. Though the building has been used for some time, it became greener and more energy efficient last year through various transformations. These include the installation of a new 5.45m-long-by-5.6m-high "green wall", or vertical greening system, in the lobby foyer, and the renovation of key conference rooms and the library to make better use of natural light. In February 2015, the headquarters building successfully passed the ISO 50001 audit and got the energy management system accreditation. It was one of the first few government buildings obtaining the ISO 50001 accreditation, which also recognised our effort in energy management.

As a high-quality green building, EMSD Headquarters received provisional BEAM Plus Platinum Rating for Existing Building certification from the Hong Kong Green Building Council in 2014/15, with the final assessment due to take place later in 2015. In the meantime, we are already helping other government buildings prepare for BEAM Plus certification so that more clients can enjoy cost savings and provide a better environment for staff and the public.

We also helped clients install energy-efficiency measures in their buildings, including oil-free chillers, next-generation LED lighting installations, and rainwater harvesting systems for the watering of plants.



### 新大樓 新意念

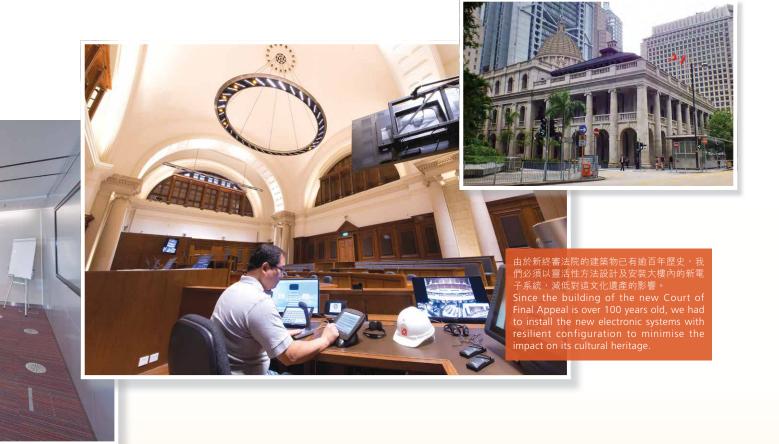
新大樓總帶來很多可能性,令人期待。比方在啟德 發展區新落成的工業貿易大樓(工貿大樓),當完 成大樓機電設施測試之後,我們便會開展操作及維 修保養服務。工貿大樓是具示範作用的最新政建 築物,內有最先進的節能及綠色設施,例如熱能 回收系統、升降機能源再生系統、其他各種再生 能源設施、大樓外牆垂直綠化設施及自動垃圾 集系統等,都是我們協助客戶設計和安裝的。在 稍後階段,當完成機電設施測試後,工貿大樓將 會採用啟德發展區區域供冷系統,進一步提升節 能的能力。至於新落成的九龍城政府辦公大樓, 我們去年也接收了其機電設施操作及維修保養工 作,而大樓亦已為該區居民順利展開服務。

富歷史價值的建築物翻新後,也會展開新一頁, 比如舊最高法院大樓,就已重新啟用成為新的終 審法院。新大樓內的電子及保安系統由營運基金 安裝,系統用上了最新科技及具靈活性的設計。 我們現已接收大樓的機電設施,以提供操作和維 修保養服務。由於大樓受《古物及古蹟條例》規 限,對大樓內的機電設施如何安裝和維修保養 嚴格限制,包括限制大樓的負重和不得影響其本 物價值等。雖然面前挑戰很大,但這大樓代表香 港的法治傳統,我們很高興能為這歷史價值深厚 的建築物提供服務。

## **NEW BUILDINGS BRING NEW POSSIBILITIES**

A new building is always exciting. The Trade and Industry Tower at Kai Tak is the latest for which we will be providing O&M services, once the testing and commissioning of E&M facilities is complete. As a showcase government building, the new tower comes with state-of-the-art energy-saving and green features such as a heat recovery system, a lift power regeneration system, renewable energy installations, vertical greening on the building facade and an automatic refuse collection system that we helped design and install. The tower will also be running on the District Cooling System in Kai Tak at a later stage upon the completion of testing and commissioning of E&M facilities, which will further boost its energy saving capacity. The E&M facilities of the Kowloon City Government Office Building were also handed over to us for O&M last year, and the building has been serving the local community well.

Giving a historic building a new lease on life, the Old Supreme Court Building reopens as the new Court of Final Appeal. We installed the electronic and security systems employing the latest technologies and resilient configuration, and take over the building's E&M facilities. This will be particularly challenging as the building is bound by the Antiquities and Monuments Ordinance, which restricts how E&M facilities can be installed and maintained, including a stringent loading limit and no tolerance on heritage impact on the building. Even so, we are happy to serve this historic building as it continues to stand for the rule of law in Hong Kong.



## 政府大樓肩負社會責任

另一富挑戰性的工作,是我們為機電署總部大樓進行的「綠建環評」社區評估計劃。這是一套全新的工具,用以在社區層面提倡可持續發展。實際上是要求發展商及業主不單著眼本身的建築物,更要顧及建築物外圍500米內的各種支援設施,如巴士站和花園的位置等,目的是為社區提供更好的支援。這計劃的重點,是強調在建築物的設計階段,已需和周邊社區的各方人士積極溝通。

我們會繼續為客戶的建築物進行能源審核,尋找 更多節能機會。我們也計劃為整幢政府辦公大樓 的所有機電設施,一次過取得ISO 50001認證, 並進一步改善操作及日常作業方法,節省更多能 源。

透過機電設施管理的最佳作業方式,加上日新月 異的科技,讓營運基金的團隊有更大發揮空間, 使政府大樓和設施以更具智能、更環保的方式運 作,讓客戶和公眾得益。我們期待為大家做得更 好。

## GOVERNMENT BUILDINGS WITH SOCIAL RESPONSIBILITY

Also challenging is our work on a pilot of the new BEAM Neighbourhood assessment scheme at EMSD Headquarters. The new tool is a means of promoting sustainable development on a community scale. In practical terms, it asks building developers and owners to look 500 metres beyond their building boundary to better plan supporting facilities such as bus stops and gardens. Talking to different parties in the neighbourhood to gauge their needs at the design stage is important to the process.

We continue to help clients conduct energy audits at their venues to identify where additional energy savings can be made. We also have plans to certify whole-building E&M facilities to ISO 50001 standard and to help clients save more energy by further improving operations and housekeeping practices.

Best practice and new technology are creating opportunities for us to make government buildings and facilities smarter and greener to benefit clients and the public. We look forward to serving them better.





我們一向以人為本,並致力關懷客戶、員工及社會大眾,用心為他們服務。為了達到機電工程營運基金「透過與客戶的伙伴關係,創造公眾價值利惠市民」的企業目標,我們推出了五年計劃,2014/15年度就是落實計劃的第二年,並取得長足進展,突顯了我們的企業服務與行政團隊,有效地為營運基金策略業務單位提供種種支援,以滿足員工和客戶需要,及至惠及公眾。本文將作重點介紹。

As always, people are our first priority and we continued to take good care of our clients, our staff, as well as members of the public. Our five strategies to achieve EMSTF's corporate goal of "creating public value for community betterment through partnership with our clients" gained further progress in the second year of implementation. The results also underscored the work of our various corporate service and administrative teams supporting the strategic business units in addressing our staff's and our client's needs, which in turn benefits the public. We are happy to report the highlights in this chapter.

## 企業管理 CORPORATE STEWARDSHIP

#### 企業管理

#### Corporate Stewardship



### 五大策略續有進展

#### 提供優質服務

我們於2014年的客戶意見調查,以8分為滿分,創出6.22分的客戶滿意指數新高。這佳績激勵我們精益求精,希望日後的指數能再創新高。年內,我們也委託了德勤企業管理諮詢(香港)有限公司進行研究,檢視營運基金的定價機制。研究的結論是,在原則上營運基金的價格應與市場交易價格大致相符。我們也籌劃由2015/16年度起,擴大現時的每月客戶電話意見調查,把覆蓋人數由每月的210個,增至逾兩倍的460個,務求搜集更多客戶對營運基金維修保養服務的意見。

為了進一步縮短我們回應客戶查詢的時間,我們的資訊服務中心在年內也籌備推出一連串改善措施,日後當中心收到客戶來電查詢維修進度時,系統會隨即發出手機短訊,通知負責的同事和高層管理人員。新措施將於2015/16年度實行,屆時中心也會同時推出優化版的網上事故報告表格,讓客戶更感方便。

此外,我們也嘗試為客戶提供更貼心的服務,以滿足他們的需求。如2014/15年的「品質、環境及生產力推廣計劃」,部門就收到近100份「最佳改善個案」及「最佳職安健改善個案」,證明同事在提升客戶服務質素及改善工程方案方面的努力。另外,部門三位員工榮獲2014/15年度公務員事務局局長嘉許狀,他們的傑出服務受到表揚。

善用新科技、為客戶進行精明的資產管理及有效 管理外判商,都是我們優化客戶服務的方法。正 如本報告在較早的章節提到,我們在客戶場地已 陸續推出綜合樓宇管理系統,為各種機電系統進 行遙距監察,並配合前線員工的手機程式,更快 速地報告故障,也更有效率地讓客戶知悉其工程 進度。

#### THE FIVE STRATEGIES MAKING PROGRESS

#### **Deliver Excellent Service**

The record high Customer Satisfaction Index of 6.22 out of 8 in 2014 Customer Opinion Survey has prompted us to keep up our improvements for achieving higher target. In addition, we commissioned an independent study by Deloitte Consulting (Hong Kong) Limited to review EMSTF's pricing mechanism. The study found that our prices should in principle comparable to market transaction prices. We also made preparations to more than double the coverage of our monthly telephone survey of customers, from 210 calls to 460 calls every month, to gather more feedback from clients on EMSTF's maintenance services starting from 2015/16.

To further reduce response time to our clients, preparations were made by our Information Services Centre (ISC) to alert the responsible officer and senior management via mobile phone text messages as soon as ISC receives client calls seeking repairing works progress updates. The feature will be introduced in 2015/16, together with enhancements in the ISC web-based fault reporting form for added convenience to our clients.

Furthermore, we tried every attempt to better serve our clients and satisfy their needs. In 2014/15, we received nearly 100 submissions of Best Improvement Projects and Best Occupational Health and Safety Enhancement Projects from staff under the Quality, Environmental and Productivity Promotion Programmes, demonstrating our effort to provide excellent service and solutions to our clients. Also, outstanding services from three of our staff were recognised by getting the Secretary for the Civil Service's Commendation Award 2014/15.

We make smart use of new technology, good asset management and effective contractor management to deliver excellent service to our clients. As reported in previous chapters, the integrated Building Management System, alongside smartphone apps used by frontline staff, has been increasingly deployed in client venues for remote monitoring of E&M systems, faster fault reporting and keeping clients better informed of work progress.

就2014年於機電工程署總部大樓在融合建築資訊模型與產業管理系統先導計劃的發展成果,我們與客戶分享經驗,並協助他們在其建築物採用這技術,以加強客戶部門的資產管理、提高維修保養服務的成效並降低成本。同時,為了完善資產管理,我們也與部分客戶就其建築物與重要資產,聯手取得ISO 55001認證,日後我們也將繼續協助其他客戶進行這方面的認證工作。

年內我們委託了顧問公司進行可行性研究,探討 營運基金應否就機電合約採用「新工程合約」的 形式。我們將會採納顧問公司的若干建議,試行 有關的合約形式。我們已舉辦一連串工作坊,讓 同事掌握有關「新工程合約」的知識。年內我們 也全面實施了「維修外判合約表現監察系統」, 加強管理外判商表現。

#### 成為業界典範

營運基金矢志成為業界典範,包括為機電業牽頭,建立一個溝通交流的平台,好讓機電從業員能分享在營運操作和維修保養方面的最佳做法,並維持高水平的職業安全標準,以及推廣機電行業,尤其著重向年青人進行推廣工作。我們繼續在由19家機電機構組成的香港機電業推廣工作小組中發揮領導角色,帶領組織各項活動,以提升機電業的形象。此外,我們也與香港機電工程商機電業的形象。此外,我們也與香港機電工程商職會成立了一個平台,就一些對本港機電業有長遠發展影響的課題進行溝通交流。我們與業界攜手合作,為社會謀福祉。

After a successful development of the pilot scheme in integrating Building Information Modelling (BIM) with asset management system at EMSD Headquarters in 2014, we have been sharing our BIM experiences with clients to help them adopt it in their buildings for better asset management and for more efficient and cost-effective O&M services. As part of our asset management initiative, we have obtained ISO 55001 joint certifications with some of our clients for their buildings and critical assets, and we shall continue to assist other clients in such work.

With a view to enhancing collaboration and contract management, a feasibility study on whether EMSTF should adopt the New Engineering Contract (NEC) forms for E&M contracts was conducted by our consultant. We will try the NEC forms with some of the consultant's recommendations taking onboard. A series of NEC workshops has been held subsequently to help colleagues acquire the requisite knowledge. Meanwhile, the Performance Monitoring System for Maintenance Contract has been implemented in EMSTF during the year to step up our contractor performance management.

#### **Become a Trade Model**

EMSTF's efforts to become a trade model include taking the lead in building a platform to share best practices in operation and maintenance with other E&M practitioners, maintain high standards of work safety, and promote E&M trade to the community particularly the younger generation. We also continued to lead the Hong Kong E&M Trade Promotion Working Group comprising 19 related E&M organisations and which runs many activities to promote the trade's image. An E&M trade forum with the Hong Kong Federation of Electrical and Mechanical Contractors Limited had been established for liaising and exchanging views with the EMSTF on major issues which might have long term impact to the development of the E&M trade in Hong Kong. Together with the trade, we make our community better.



awards presentation of the Secretary for the Civil Service's

. Commendation Award 2014/15.



#### 企業管理

#### Corporate Stewardship

為吸引更多新人入行,我們與香港機電業推廣工作小組聯手,首次參與了香港貿易發展局於2015年2月舉行、為期四天的2015年教育及職業博覽。我們的攤位展出了「見習工程師訓練計劃」、「技術員訓練計劃」和「機電青少年大使計劃」,吸引了一萬多位訪客參觀,包括學生及公眾人士。年內我們也為中學生在部門總部大樓舉辦了一個「工作影子日」,以提高機電業在年青一代心中的形象。

為了向業界樹立良好榜樣,提供更安全及健康的工作環境,我們就需要在高處進行的特定機電工作,發出了新的安全指引;並要求在假天花內進行的新工程實施工作許可證制度。此外,我們舉辦機電工作安全科技研討會及安全設備展覽,希望透過科技應用,推動機電工作的最佳職安健實務做法。

#### 建立員工才能與關懷文化

建立員工的技術才能與其他軟技能,對我們達至企業目標、以至每位員工的個人成長都十分重要。在這過程中,我們也必須培養一種互相關懷、互相扶持的工作文化,凡事都以人為本。

年內,我們為優化「技術員訓練計劃」做了大量 籌備工作,並更新了我們的培訓手冊,更配合現 今的業務需要。由2015年9月起,我們將會為技 術員提供更有系統的訓練課程,讓他們接受主要 機電系統的核心維修保養技術訓練。我們旨在培 訓技術職系員工,為進一步提升營運基金的服 務作好準備。此外,我們也訓練了一支技術員團 隊,參加「2014香港青年技能大賽」。 To attract new blood to the trade, we and the Hong Kong E&M Trade Promotion Working Group participated for the first time in the four-day Education and Careers Expo held by the Hong Kong Trade Development Council in February 2015. Our booth promoted "Engineering Graduate Training Scheme", "Technician Trainee Scheme" and "E&M Young Ambassador Programme" to more than 10 000 visitors including students and members of the public at the Expo. A "job shadow" day was also held for secondary students at our headquarters for promoting the E&M trade's image to the young generation in Hong Kong.

In order to set a good example for the trade in providing a safe and healthy working environment, we have issued new guidelines for specific E&M work at height, and kicked off the permit-to-work system for ceiling void works. Also, the Work Safety Technology Seminar in conjunction with the Safety Equipment Exhibition were held to promote the best Occupational Safety and Health practices in E&M works through the application of technology.

#### **Build Capacity and Caring Culture**

Building staff capacity in both technical skills and soft skills is vital to our ability to attain our corporate goal, and to the personal growth and development of all staff. In doing so, we must also cultivate a caring and supportive work environment so that people remain the focus of everything we do.

During the year we also prepared the Technician Trainee Scheme with many enhancements. We also updated our Training Handbook so that the syllabus is more in tune with current business needs. Starting from September 2015, we will provide a more systematic training system for our trainees to equip themselves with core O&M skills of key E&M systems. We aim to equip our technical staff to take EMSTF's service quality to a new level. We also coached a team of technician trainees to participate in the WorldSkills Hong Kong Competition 2014.



為了吸納年輕人加入機電業·我們參與了由香港貿易發展局於2015年2月 舉辦的「2015教育及職業博覽」·向訪客介紹機電署提供的就業機會、 晉升際權利培訓計劃。

To attract youngsters to the E&M trade, we participated in the "Education and Careers Expo 2015" held by the Hong Kong Trade Development Council in February 2015 to show visitors the job opportunities, career path and training programmes offered by EMSD.





我們的見習技術員於 2014 香港青年技能大賽中大顯身手・發揮出色的職業技能。
Our technician trainees excelled themselves in the WorldSkills Hong Kong 2014. The contest provided them with a platform to demonstrate their excellent vocational skills.

Pm a Winner

World Skills

至於虛擬實境的應用方面,我們一直與職業訓練局協作,開發一個虛擬實境場地訓練工具,創造出像真度極高的模擬訓練環境,讓學員在安全及受控的環境下進行培訓。

在2014/15年度,我們為來年設立在主要客戶場地的卓越中心暨優才訓練基地,建立堅固的基礎。卓越中心暨優才訓練基地旨在建立及提升內部員工的專業技能,以緊貼科技的急速發展及業界的最佳作業方式,並成為其他場地的典範。卓越中心暨優才訓練基地為前線員工及技術員提供在職訓練,把主要機電系統的操作及維修保養技術與經驗承傳下去,以維持一支精鋭的員工團隊。

卓越中心暨優才訓練基地由特定的專業職系同事 及管理人員監督,而中心的日常運作則由督察級 別的同事負責。這些中心不但作為營運基金的技 術員培訓中心,而且更展示我們核心的機電維修 保養技術,日後成為業界基準。透過建立員工才 能,我們能為客戶提供優質服務。

營運基金的關懷文化更惠澤社區。年內,我們積極探討各種與非政府機構合作的機會,希望僱用更多弱勢社羣及肢體傷殘人士,並努力克服種種困難,讓社會企業能在部門大樓內運作。我們很高興見到「另一咖啡店」於2015年年初在總部大樓的大堂開業。

我們也邀請了一個非政府機構,以先導計劃的方式,為部分工作單位提供文書服務,以支援社企,及為弱勢社羣增加就業機會。先導計劃成效令人滿意,我們已決定再續行兩年。這計劃規模雖小,但也惠及社會,我們很高興能略盡綿力。

營運基金十分重視員工,並主動推行各種措施,確保管理層聆聽員工意見。年內我們舉辦了不 少讓管理層與員工互動的活動,比如探訪、工作坊、論壇、團隊工作活動和各種經驗分享會等。

值得一提的,是我們年內也加強了營運基金員工的「工作表現獎勵計劃」,增添兩個新的獎勵評估 準則,即「提高生產力」和「為政府節省開支」。 這些改變,將進一步激勵同事有更佳工作表現。 In view of the value of virtual reality applications, we have been collaborating with the Vocational Training Council to develop a Virtual Reality and Augmented Reality Assisted Training Project, a training tool to create simulated training environments for highly realistic but a safe and controlled environment for trainees.

In 2014/15, we also laid the groundwork for setting up various Centres of Excellence (CoEs) at major client venues in the coming year. These CoEs for in-house O&M of major E&M systems aim to build up and sharpen in-house expertise and become a trade model for other venues. They provide an on-job training ground for frontline staff and trainees to sustain in-house competency.

CoEs are supervised by dedicated professional staff and line management while the CoEs' day-to-day operations are manned by inspectorate staff. CoEs not only serve as training hubs for EMSTF's technicians, but they also serve as showcases of our core O&M capabilities and a benchmark for the trade in due course. By building up staff competence, we provide quality service to our clients.

Our caring culture also means caring for the community. In 2014/15, we explored every opportunity to collaborate with non-governmental organisations (NGOs) for enhancement of employing the disadvantaged and physically disabled in the community. We worked to overcome the difficulties in allowing social enterprises to operate in our premises. We are happy to see the opening of "&other Cafe" in our headquarters lobby in early 2015.

We have also engaged an NGO to provide clerical support to some of our units as a pilot scheme, in order to support social enterprises and provide more job opportunities for the disadvantaged. In view of the satisfactory results of the pilot scheme, we plan to continue the scheme for another two years. We are happy that EMSTF can help, even in a small way.

We value our staff and take pro-active measures to ensure their views are heard. Numerous interactions were held in the year to facilitate exchange of views between management and staff such as visits, workshops, forums, teambuilding activities and experience sharing sessions.

Also worth noting was that we enhanced the Performance Incentive Scheme for EMSTF staff to include two new incentive parameters of "productivity enhancement" and "contributions to Government's saving". The change would bring additional motivation to our colleagues to excel ourselves.

#### 企業管理

#### Corporate Stewardship



自2013年年底開始,我們委託了香港家庭福利 會為部門員工提供輔導服務。我們舉行了多個由 輔導員帶領的壓力管理及危機處理工作坊,以照 顧員工的身心健康。

此外,我們定期舉辦社交活動,如長期優良服務 獎頒獎典禮、員工遊藝會,以及其他特別的活動,如「加路連山道總部惜別晚會」及「機電九 龍灣總部大樓落成十周年誌慶盆菜宴」等,讓員 工聚首一堂,促進部門的關懷文化。

鑑於營運基金年內上述種種努力,加上一貫的關懷文化,部門已於2015年3月參加了香港社會服務聯會的「商界展關懷」計劃。這是對我們在關懷社區、員工及環保方面成績的認同,也證明我們的方向是正確的。

#### 優化知識管理

為強化員工的工程知識讓客戶受惠,並促進彼此之間的學習及分享文化,我們在2014/15年度檢視了「知識管理網站」,並計劃於下年推出優化版本,進一步促進網上知識分享群體的設立和個人化的知識管理。新平台可方便員工更易接觸部門的知識庫,並使知識分享變得更有趣,更方便使用和更互動,也鼓勵同事之間在工作上更多協作。

在2014/15年度,我們審視了「機電知識區」, 嘗試找出可供改善的地方及增加更多知識區。我 們也根據最新的「全面優質管理」理念架構,檢 視了2013年出版的《機電工程營運基金政策手 冊》,並作出相應的結構修訂。該手冊對員工了 解部門各種政策背後的理念有很大幫助,並有助 員工為客戶提供更佳服務。 Since end of 2013, we have been commissioning the Hong Kong Family Welfare Society to provide counselling services to all EMSD staff. Workshops on stress management and group crisis intervention by counsellors were also held for the well-being of staff.

Furthermore, we organise regular social events such as the long and meritorious service award presentation ceremony, staff funfair, and other special events like "Farewell Ceremony for Former EMSD Headquarters", and "poon choi gathering for celebration of the tenth anniversary of EMSD Headquarters Building at Kowloon Bay" to bring staff together and foster a caring culture in EMSD.

With all these efforts and our established caring culture, EMSD joined the "Caring Company Scheme" under the Hong Kong Council of Social Service in March 2015. This was a recognition of our achievements in caring for the community, employees and the environment, and shows that our work is in the right direction.

#### **Enhance Knowledge Management**

To enhance staff engineering knowledge for the benefit of clients and foster a stronger learning and sharing culture among staff, we reviewed our Knowledge Management (KM) Portal in 2014/15 and planned to launch an enhanced portal in the coming year for better facilitating the set-up of virtual knowledge sharing communities and personalised view of KM contents. The new platform will better connect staff to our knowledge base and make knowledge sharing more fun, user-friendly and interactive. It will also encourage work collaboration among colleagues.

In 2014/15, we also examined the Knowledge Areas and tried to identify room for improvement as well as expansion. We also reviewed the EMSTF Policy Manual published in 2013 against the latest Total Quality Management framework and revised its structure accordingly. The Policy Manual helps staff better to understand the rationale of our various policies for facilitating better service delivery.

知識管理是持續的工作,也須與時並進,順應科 技發展,以確保我們有穩固的知識基礎,提升員 工能力和維持優質服務。我們希望來年在這方面 有更大進展。

#### 持續綠色作業

這策略也是基於我們「以人為本」的原則,因為 綠色作業的得益者,最終也是大自然和每一個 人。我們為機電工程署總部大樓落實「綠建環 評」之「既有建築」鉑金級認證的評估工作,有 關的暫定認證已於2014年12月發出,並且預計 最終評估將於2015年內完成。我們在2015年2 月,就機電工程署總部大樓的能源管理系統,也 取得ISO 50001認證。上述兩項佳績,都是我們 環保旅程的里程碑。

環保採購方面,具備相關的參考資訊十分重要, 以確保部門同事和外判商採購的所有材料和物 資,都符合環保要求。為此,我們根據2014/15 年度的所有投標和報價單資料,制訂了一份「部 門綠色產品名單」,並已上載至部門的內聯網供 同事參考。

營運基金年內也舉辦了一系列活動和措施,持續推行綠色作業,例如在個人層面,於日常工作盡量慳紙慳電,以至進行大規模工程項目,如更換較節能的製冷機組,此外還有各種提醒同事的「綠色」行為小貼士,像在辦公室和工場提倡各種節省天然資源的內務實用方法等,實無法在此一一盡錄,足見我們推動綠色作業不遺餘力。

Knowledge management is ongoing and must evolve with time and technology to make sure that we have a strong knowledge foundation on which to build staff capacity and maintain our service excellence. We look forward to further progress in this regard next year.

#### **Sustain Green Operation**

This strategy is also based on our "people first" principle, as green operations ultimately benefit the mother nature and people. With regard to our work to certify the EMSD Headquarters Building to the BEAM Plus - Existing Buildings, the provisional certification for platinum rating was awarded in December 2014 and final assessment is scheduled for completion in 2015. We also got the award of ISO 50001 certification on the Energy Management System of EMSD Headquarters Building in February 2015. Both are milestones in our "green" journey to become more environment-friendly.

"Green" procurement reference information is vital to ensure that all materials and supplies we and our contractors use are environment-friendly. Our colleagues have compiled a Departmental Green Products List, using data from various tender and quotation results in 2014/15, which has been uploaded to our Intranet for sharing.

There are other activities and initiatives within EMSTF to sustain green operations which are too numerous to list here. These range from the daily saving of paper and electricity at an individual level to macro projects such as replacement of more energy-efficient chillers, not to mention frequent "green" reminders of good housekeeping practices to conserve natural resources in the office and workshop. These are all examples of how we strive to achieve green operations.



我們於2015年3月榮獲由香港社會服務聯會頒發 2014/15年度的「同心展關懷」標誌・嘉許我們長 期履行企業社會責任。

We are happy to be awarded the 2014/15 Caring Organisation Logo by the Hong Kong Council of Social Service in March 2015, in recognition of our continuous commitment to corporate social responsibility.



機電署總部大樓的各項能源管理工作都符合ISO 50001能源管理系統的要求。我們將進一步提升能源效率,以保護環境。
The energy management work at EMSD Headquarters is compliant with the requirements of ISO 50001 energy management system. We shall make further efforts to maximise energy efficiency to protect the environment.





## 關於本報告

### **ABOUT THIS REPORT**

機電工程署欣然報告,部門在上財政年度於社會 及環保方面的表現。我們採取這報告模式,既 可時刻提點我們關心各個持份者的不同需要,也 讓我們緊記必須預計及滿足不同持份者所需。通 過這報告,我們希望與公眾及持份者分享一些看 法,讓大家給我們更多意見,使我們的服務更確 切滿足各方的需要。 The Electrical and Mechanical Services Department is delighted to report its performance in the past fiscal year in social and environmental aspects. The reporting model is a constant reminder of the diverse needs of our stakeholders and our responsibility to anticipate and satisfy those needs. This annual publication aims to share our insights with the public and our stakeholders, and help them give us feedback on how we can better serve their needs.

#### 範圍

本報告涵蓋機電工程署由2014年4月1日至2015年3月31日期間在本港的運作情況。報告內提供的數據均為實際數字,涉及機電工程署在全港各區的工作。在合適可行的情況下,各主要事項的數據已整合為可比較的數據。所有金額均以港元為單位。

## 原則

本報告參照《全球報告倡議組織 G3.1指引》的 應用等級B+編寫。指標索引載於本報告最後部 分,以供參考。

本報告的獨立核實聲明亦載於報告的最後部分。

#### **SCOPE**

This report covers the operations of EMSD from 1 April 2014 to 31 March 2015. All data are presented as absolute figures and cover all the regions in which EMSD operates in Hong Kong. Data on priority issues have been normalised into comparable terms where appropriate and practical. All monetary terms are in Hong Kong dollars.

#### **PRINCIPLE**

This report makes reference to the Global Reporting Initiative (GRI) G3.1 Guidelines – Application Level B+. A GRI Content Index is provided at the end of this report for easy reference.

An independent verification statement of this report is also attached at the back.

### **OPPORTUNITIES AND CHALLENGES**

#### 可持續發展對機構的影響

這章闡釋可持續發展與我們機構的動態關係,及 彼此如何互相影響。

作為政府部門,我們明白必須以身作則,在日常 運作的每一層面,向社會示範如何善用可持續發 展帶來的商機與機遇,及面對要走上可持續發展 之路而遇到的挑戰。

#### 對規管服務的影響

經濟增長、人口增加及氣候變化對自然資源造成 的壓力,已促使多國領袖專注研究如何為經濟增 長和發展創造更多可持續的模式,並為此制訂更 嚴格的排放管制規例。我們的規管服務所面對的 挑戰,是掌握當前的國際發展形勢,協助政府完 善一套讓香港可順利轉型為具能源效益及低碳經 濟體的能源效益規管架構。

作為本港的機電安全和能源效益規管機構,規管服務必須面對可持續發展帶來的挑戰,例如協助特區政府履行國際間的可持續發展責任,包括2011年的《亞太經濟合作會議檀香山宣言》,達至在2035年前將能源強度降低45%的承諾。我們也必須以環保及可持續發展的方式,履行我們的規管職責及進行日常工作。最新的挑戰,是協助特區政府根據其於2015年5月推出的香港首份都市節能藍圖《香港都市節能藍圖2015~2025+》,目標是要於2025年將本港的能源強度減少四成。

此外,作為推動本港能源效益和節能的先驅,我們也必須繼續發揮創意,以身作則,啟發及協助 非政府機構、私營企業和市民大眾,在日常工作 和生活中實踐可持續發展的精神。

## IMPACT OF SUSTAINABILITY ON THE ORGANISATION

This section addresses the dynamic relationship between sustainability and our organisation, and how one impacts on the other.

As a government department, we are aware of the need to lead by example how to make the best use of opportunities afforded by sustainable development, and to manage the challenges it poses in every aspect of our operations.

#### **Impact on Regulatory Services**

The strain imposed on natural resources by economic growth, human population and climate change has prompted many leaders around the world to focus on ways to create more sustainable models for economic growth and development, which could lead to more stringent emission control regulations. The challenge for our Regulatory Services is to keep abreast of current international developments and help the Government continuously improve the city's energy efficiency regulatory framework that is conducive to the transformation of Hong Kong into an energy efficient and low carbon economy.

As Hong Kong's regulator in E&M safety and energy efficiency matters, our Regulatory Services must respond to the challenges of sustainable development, such as assisting the HKSAR Government in meeting its international sustainability obligations such as the 2011 Asia-Pacific Economic Cooperation (APEC) Honolulu Declaration which pledges to reduce 45% of energy intensity by 2035. We must also discharge our regulatory duties and daily operations in an environmental and sustainable manner. The latest challenge is to help the HKSAR Government meet its target of reducing Hong Kong's energy intensity by 40% by 2025 per the "Energy Saving Plan for Hong Kong's Built Environment 2015~2025+", the city's first energy-saving blueprint launched in May 2015.

In addition, as the pioneer of energy efficiency and conservation in Hong Kong, we must also continue to innovate and lead by example, so that we can inspire and facilitate non-governmental organisations, the private sector and the public to become more sustainable in how they work and live every day.



#### 對營運服務的影響

隨著社會對可持續發展的意識逐漸提高,客戶部門對我們的能源管理、節約能源和可再生能源等服務項目的需求,近年也與日俱增。我們亦一直積極主動,在可行情況下盡量採用更綠化、我們極主動,在可行情況下盡量採用更綠化、我們政為政府各政策局和部門安裝了能效較佳的工程所的最新挑戰,是要幫助客戶滿足環境局要求量的最新挑戰,是要幫助客戶滿足環境局要求重數的最新挑戰,在2019/20年節省5%用電量均同時,我們也懷續與客戶聯手處理其機電資產日漸老化的問題,包括更換硬件、採用更先進的操作和維修保養技術及更佳實務做法,並協助客戶部門為其重要的工程資產取得ISO 55001認證。

長遠來説,我們的挑戰,是如何協助客戶透過行 為上的改變和其他途徑,實行各種節能措施,從 而進一步提高政府的節能成效。我們會繼續引入 先進節能科技,為客戶的工程系統進行適當的維 修保養,務求系統在整個生命周期的能效表現都 維持在最佳水準,令我們客戶時刻都處於本港綠 色營運先鋒之列。

#### **Impact on Trading Services**

As general awareness of sustainability increases, client demand for our energy management, energy saving and renewable energy project services has risen in recent years. We have also been making proactive efforts to be green, energy efficient and environment-friendly wherever possible. Over the past years, we have helped government bureaux and departments achieve energy savings through the installation of more energy efficient engineering systems and the implementation of energy saving best practices. A new challenge in this regard is to help client departments satisfy the Environment Bureau's requirement for all government buildings to reduce electricity consumption by 5% by 2019/20 from a 2013/14 baseline. At the same time, we also continue to work with clients to tackle the issue of aging engineering assets via replacing hardware, deploying more advanced operation and maintenance technologies and better practices, as well as helping them obtain ISO 55001 certification for critical engineering assets.

In the long run, the challenge will be to help our clients implement best practices through behaviour changes and other means, in order to take Government's energy saving performance to a new height. We shall continue to bring in advanced energy saving technologies and maintain engineering systems at their best energy saving performance level during their life cycle, so that our clients are always at the forefront of green operations in Hong Kong.

#### 機構對可持續發展的影響

#### 規管服務

機電工程署致力為可持續發展帶來正面的影響, 透過執行相關法例及各項宣傳活動和計劃,我們 的規管服務全力支援政府推廣能源效益和可再生 能源的政策。

重點例子包括《建築物能源效益條例》、建築物 能源效益註冊計劃、電氣產品的自願性及強制性 能源效益標籤計劃、空調系統使用淡水冷卻塔計 劃,以及推廣電動車的使用。

年內,我們對業界和公眾進行了廣泛的宣傳和教育工作,包括外展活動、印製刊物、舉辦展覽、 講座和研討會等,以加強市民對節能生活方式的 認識。

#### 營運服務

我們的營運服務為本港各政府部門及公營機構提供機電工程服務,過程中涉及的辦公室運作及相關工程項目,無可避免會對環境造成影響。

為減少這些影響,我們實施了一套綜合管理系統,將品質、環境和職安健管理整合成一個流程框架,並找出未能符合要求的地方以作改善。與此同時,我們為客戶部門的節能及可再生能源計劃提供專業工程服務,協助他們減低能源消耗量和廢物產生量,亦對可持續發展帶來裨益。

此外,我們也為環境局提供專業意見和支援,推 廣《建築物能源效益條例》、「室內溫度節能約章」 和「『不要鎢絲燈泡』節能約章」,也時常為該局 就其他環保與能源計劃和活動,提供技術支援。

#### ORGANISATION'S IMPACT ON SUSTAINABILITY

#### **Regulatory Services**

EMSD strives to make positive impacts on sustainability. Through legislation enforcement and various promotional campaigns and schemes, our Regulatory Services fully support the Government's initiatives to promote energy efficiency and the use of renewable energy.

Key examples include the Buildings Energy Efficiency Ordinance, Energy Efficiency Registration Scheme for Buildings, Voluntary and Mandatory Energy Efficiency Labelling Schemes for electrical appliances, the Fresh Water Cooling Towers Scheme for air-conditioning systems, and encouraging wider adoption of electric vehicles.

Throughout the year, we organised extensive education and promotional programmes, including outreach activities, publications, exhibitions as well as talks for the trades and general public, so as to raise public awareness towards the energy-efficient lifestyle.

#### **Trading Services**

Our Trading Services provide E&M engineering services to government departments and public bodies in Hong Kong, a process which inevitably impacts upon the environment through our office operations and engineering related works.

To mitigate the impact, we have adopted an Integrated Management System that combines quality, environmental, occupational health and safety management systems as an overall process framework and to identify non-compliances for improvement. At the same time, we also make a positive impact through providing professional engineering services in energy efficiency and renewable energy projects to client departments that reduce energy consumption and emissions.

Furthermore, we give professional advice and support to the Environment Bureau to promote the Buildings Energy Efficiency Ordinance, the two Energy Saving Charters on Indoor Temperature and No Incandescent Light Bulbs. We also give technical support to the Environment Bureau on other environment or energy related schemes and initiatives from time to time.

## 環保成效

#### **ENVIRONMENTAL PERFORMANCE**

#### 環保責任

我們相信,在創造公眾價值來提升市民生活質素的同時,我們不應破壞大自然,或以不合乎持續發展的方式去使用自然資源,以免剝削後世代使用這些資源的機會。其實,機電工程營運基金目前的五項策略之一,就是「持續綠色作業」。此外,機電工程營運基金及規管服務也要求所有活動都以保護環境方式進行。

我們的首要任務是避免製造任何環境污染。如環境污染真的無可避免,則會盡量減輕污染的影響。我們致力在業務營運過程中節省資源,減少製造廢物及避免污染。為此,我們已採取一切合理措施,恪守各種環保法例,作為我們營運的基本準則。與此同時,我們也鼓勵承辦商、供應商及其員工關注保護環境。

#### 我們的環境管理歷程

我們為環保工作而推行的環境管理系統,多年來不斷改進。機電工程署的環境管理之旅始於九十年代中期,2000年我們成為首個取得ISO 14001企業認證的政府部門。2002年,營運基金把品質、環保和職業健康及安全管理等各套系統進行簡化,合併成一個綜合管理系統,至2006年更將環境管理系統提升至ISO 14001:2004版。2008年,整個規管服務也全面提升其環境管理系統至ISO 14001:2004版。至於最新進展,是機電工程署總部大樓於2015年2月取得ISO 50001能源管理系統認證,再次突顯了部門對定期檢討及更新環境管理系統、以符合最新標準的決心。

#### 節約能源先驅

機電工程署自九十年代起,一直在本港率先推動 能源效益和鼓勵更廣泛應用可再生能源。

亞太經合組織領導人於2011年11月在美國夏威 夷舉行會議,發表了《檀香山宣言》,成員國決 議在2035年或之前,期望將能源強度進一步降 低45%。作為亞太經合組織的成員,香港已採納 該宣言,並會致力達標。

#### **ENVIRONMENTAL RESPONSIBILITIES**

We believe that in creating public value in order to improve the community's quality of life, we must not damage nature or use natural resources in a way that will deprive future generations the benefit of using them. Indeed, one of EMSTF's current five strategies is to "sustain green operation". Both EMSTF and RS also require all their activities to be conducted in an environmental manner.

Our priority is to avoid creating any environmental pollution. Where pollution is inevitable, we reduce its impact as much as possible. We strive to conserve resources, minimise the generation of waste and prevent pollution in our business operation process. To achieve this goal, we have taken all reasonable measures to comply with green legislations as the baseline of our operation. We also encourage our contractors, suppliers and their staff to be equally friendly to the environment.

## OUR ENVIRONMENTAL MANAGEMENT JOURNEY

Our environmental performance is mainly governed by our Environmental Management System (EMS) which has evolved over the years. EMSD's environmental management journey began in the mid-1990s and in 2000 we became the first government agency to attain the ISO 14001 Corporate Certificate. In 2002, EMSTF streamlined and combined its various management systems in quality, environment and occupational health and safety into an Integrated Management System. In 2006, EMSTF upgraded its EMS to ISO 14001:2004. In 2008, the entire RS also upgraded its EMS to ISO 14001:2004. The latest development took place in February 2015 when the entire EMSD Headquarters Building was certified to the ISO 50001 Energy Management System, a move that demonstrated the Department's commitment to regularly reviewing and upkeeping our management systems to conform to the most current standards.

## **ENERGY EFFICIENCY CONSERVATION INITIATIVES**

Ever since the 1990s, EMSD has been playing a pioneering role in promoting energy efficiency and encouraging the wider use of renewable energy in Hong Kong.

The APEC's Honolulu Declaration was announced at the APEC Leaders' Meeting held in Hawaii, the United States in November 2011. Member Economies decided to raise the APEC-wide aspirational energy intensity reduction target to 45% by 2035. As a member economy of the APEC, Hong Kong has adopted the declaration and has been doing its best to meet the reduction target in energy intensity.

以下是我們在 2014/15年度,為配合政府推動能源效益和節約能源政策而進行的主要工作。

#### 強制性能源效益標籤計劃

強制性能源效益標籤計劃第一及第二階段已全面實施,涵蓋五類產品,即空調機、冷凍器具、慳電膽、洗衣機和抽濕機,這五類產品必須附有能源標籤,讓消費者知悉有關能源效益表現。至2015年3月底,計劃已有約6700個表列產品型號。

為進一步鼓勵供應商引進高能效的產品讓消費者 挑選,在《產品能源標籤實務守則2014》內的空 調機、冷凍器具及洗衣機能源效益級別的計算方 法經已修訂,由2015年11月25日起,進口商 供應的該三類訂明產品須貼有新能源效益級別的 標籤。

#### 《建築物能源效益條例》

《建築物能源效益條例》自 2012年9月起已全面實施。條例管制新建築物及進行「主要裝修工程」的現有建築物內的四類主要屋宇裝備裝置,即空調、照明、電力、升降機及自動梯裝置等須符合基本能源效益標準;商業建築物須為建築物內的主要屋宇裝備裝置每十年進行一次能源審核。機電工程署現正積極跟進第三批建築物進行首次能源審核。

#### 建築物能源效益資助計劃

機電工程營運基金自2009年4月起,一直為環境局提供專業技術支援,以實施環境及自然保育基金撥款4.5億元推展建築物能源效益資助計劃,並協助評審有關的撥款申請。計劃旨在資助私人建築物業主為其樓宇進行能源及碳排放綜合審計,制訂能源效益改善方案,並改善大廈的屋宇裝備設施,以提升能源效益表現。計劃已於2012年4月7日結束。機電工程營運基金仍繼續提供支援,協助監察獲撥款項目的進度,直至完工。

Highlighted below are key developments in 2014/15 to support Government's policy to step up energy efficiency and conservation.

#### Mandatory Energy Efficiency Labelling Scheme

The initial and second phases of the Mandatory Energy Efficiency Labelling Scheme have been fully implemented, covering five products types: room air-conditioners, refrigerating appliances, compact fluorescent lamps, washing machines and dehumidifiers. All these five product types are required to bear energy labels to inform consumers of their energy efficiency performance. As at the end of March 2015, around 6 700 product models have been listed under the Scheme.

To further encourage suppliers to provide more energy efficient products for consumers, the calculation methods of the energy efficiency grading of room air-conditioners, refrigerating appliances and washing machines have been revised in the Code of Practice on Energy Labelling of Products 2014. Starting from 25 November 2015, these three prescribed products supplied by importers shall bear the energy labels of new energy efficiency grading.

#### **Buildings Energy Efficiency Ordinance**

The Buildings Energy Efficiency Ordinance has come into full operation since September 2012. The Ordinance governs the minimum energy efficiency standards of four key types of building services installation including air-conditioning, lighting, electrical as well as lift and escalator in newly constructed buildings and "major retrofitting works" of existing buildings; and requires commercial buildings to carry out energy audit for the central building services installation every ten years. EMSD is currently following up the third batch of buildings to carry out the first energy audit.

#### **Buildings Energy Efficiency Funding Schemes**

The EMSTF has been providing professional support to the Environment Bureau since April 2009 on implementing the Buildings Energy Efficiency Funding Schemes of a total sum of \$450 million under the Environment and Conservation Fund. The Schemes aim to help building owners conduct energy-cum-carbon audits of their buildings to identify areas for improvement, and implement projects to upgrade the energy efficiency performance of building services installations. The Schemes closed on 7 April 2012. The EMSTF continued to assist in monitoring progress of approved projects until their completion.

#### 環保成效

#### **Environmental Performance**

#### 區域供冷系統

啟德發展區的區域供冷系統第一及第二期工程已於2013及2014年完成,並開始提供服務,餘下工程亦正在進行。一般而言,區域供冷系統較傳統氣冷式空調系統的用電量,可減省多達35%。據估計,當啟德發展計劃全面完成後,區域供冷系統每年可減省用電量達8500萬千瓦小時,即每年減少排放59500公噸二氧化碳。近期立時,即每年減少排放59500公噸二氧化碳。近期立法的區域供冷服務條例(第624章)已於2015年3月27日起生效,條例明文授權政府向啟德發展區區域供冷服務的用戶收費,並以此收費抵銷機電工程署的相關營運開支。目前於啟德發展區區工程署的相關營運開支。目前於啟德發展區不可以供入服務,包括啟德郵車頭、晴朗商場及工業貿易大樓,預期用戶數量會於未來數年增加。

#### 為主要政府建築物進行能源審核

受環境局的委託,機電工程營運基金會於2015/16財政年度,協助首150座在2013/14財政年度為最高用電量的政府建築物進行能源審核,我們會因應每座建築物在運作上及技術上的特色,發掘能源管理機會。新措施能協助政策局及部門實踐節能目標,即在未來由2015/16至2019/20的五個財政年度,於相若的運作環境下,以2013/14財政年度的操作環境為基礎,為政府建築物節省5%的用電量。我們將於2015年4月進行能源審核服務的採購。

#### 環保採購

環保採購是我們的主要政策之一,以達至減少廢物、鼓勵廢物回收及循環再造。政府早於2000年已修訂採購規定,要求所有政策局與部門在採購物料和服務時必須考慮環保因素。為此,機電工程署已在日常運作中奉行環保採購的原則,根據環境保護署的環保產品規格進行採購,並在產品和服務採購政策中加入環保要求。

我們積極採納了環境局第2/2011號通告(綠色採購通告)內有關103種產品的綠色採購規定,並在部門採購工作中盡量遵循。在2014/15年度,在機電工程署3.6297億元直接採購的貨品中,有3604萬元的貨品是綠色採購單上的貨品。

#### **District Cooling System**

Phases I and II of the District Cooling System (DCS) at the Kai Tak Development (KTD) were completed and began supplying chilled water in 2013 and 2014 while the remaining works are under construction. In general, a DCS will consume up to 35% less electricity than traditional air-cooled air-conditioning systems. It is estimated that upon completion of the Kai Tak Development, the DCS will save up to 85 million kWh of electricity annually, equivalent to a reduction of 59 500 tonnes of carbon dioxide emission per annum. The newly enacted District Cooling Services Ordinance (Cap. 624) has been in effect since 27 March 2015 and the Ordinance bestows the Government with the necessary statutory authority to collect district cooling services charges from users of the district cooling services at KTD, so that the revenue can offset the operating costs incurred by EMSD. At the moment the district cooling services at KTD have three users, namely the Kai Tak Cruise Terminal, Ching Long Shopping Centre and the Trade and Industry Tower. The number of users is expected to increase in the coming years.

#### Conducting Energy Audit at Major Government Buildings

The EMSTF was entrusted by the Environment Bureau to assist in conducting energy audit in 2015/16 for the top 150 government buildings that have the highest level of annual electricity consumption in 2013/14, and to identify energy management opportunities specific to the operational and technical characteristics of individual buildings. The new initiative aims to facilitate bureaux and departments to implement electricity saving measures and projects to achieve the overall target of 5% saving in the electricity consumption of government buildings in the coming five years from 2015/16 to 2019/20 under comparable operating conditions, using 2013/14 as the baseline. Procurement of the energy audit services will be initiated in April 2015.

#### **GREEN PROCUREMENT**

Green procurement is one of our key policies to encourage waste reduction, recovery and recycling. The Government amended its procurement regulations as early as 2000 to require all bureaux and departments to take into account environmental considerations when procuring goods and services. In this regard, we have been doing our part by incorporating green requirements into our procurement policy for products and services, and in accordance with the Environmental Protection Department's "green product specifications".

We play an active role in green procurement by adopting the green product specifications of 103 products provided in the Environment Bureau Circular Memorandum No. 2/2011 (Green Procurement Circular) as far as possible in our purchases. In 2014/15, from the total amount of \$362.97 million for direct purchase of goods in EMSD, \$36.04 million was spent on purchases for the products on the green procurement list.

我們也密切留意供應商提供的綠色產品和服務。如市場可普遍地提供綠色產品,我們會把有關綠色要求列為強制性的採購要求,以鼓勵供應商製造更多綠色產品。在2014/15年度,額外有158家供應商提供環保產品,機電工程署也相應更新了供應商名冊,令該名冊增至有1169個供應商的資料。

同時,我們亦支援客戶落實能源效益及可再生能 源項目,以及採購混合動力車和電動車等環保車 輛。

我們於2010年3月成立環保採購工作小組,目的是為各類機電工程選覓符合環保要求的材料、產品、系統和建造方法。工作小組也審視各項環保新科技,研究能否在機電工程中推廣使用,以令客戶和公眾受惠。

為了使部門同事能更有效地分享環保採購的資訊和項目經驗,我們自2010年7月已在部門內聯網推出環保採購參考庫,收錄了現行各項環保採購指引、實務守則與各種高能效產品和裝置的標準,以及綠色產品的一般規格等。我們更根據2014/15年度部門所有的投標和報價單資料,制訂了「部門綠色產品名單」,並上載至部門內聯網供所有同事參考。

### 客戶的環保工程項目

機電工程署的營運服務一直協助客戶發掘節省能源的機會及推行環保工程項目,以提高節能效益及更多使用可再生能源。我們年內為政府各政策局及部門完成了五個節能項目,例如燈光改善工程及安裝高效能製冷機組等。預計這些新設備可每年減省用電量達19萬千瓦小時。

民航處總部大樓於2014/15年度也開始推出兩項 綠色措施,即改變升降機及照明的操作時間。升 降機方面,我們把部分升降機在非繁忙時段關 掉,以節省能源。照明方面,我們把大樓中庭 75%的照明關掉,採用日光照明。

此外,我們協助建築署為建業中心進行能源管理工作,並於2014年10月取得ISO 50001認證,達至節約能源的目的。

We keep track of the offers from suppliers for the green contents of their products. We shall change the green requirements to mandatory requirements in the related procurement specifications as soon as the green products are commonly available in the market to encourage suppliers to produce more green items. In 2014/15, the updated EMSD Suppliers Lists contained an addition of 158 suppliers who were able to provide environment-friendly products for procurement, making up a total number of 1 169 environment-friendly suppliers on the supplier list.

At the same time, we also supported our clients by helping them to implement energy efficiency and renewable energy projects, as well as procure environment-friendly vehicles such as hybrid vehicles and electric vehicles.

A Working Group on Green Procurement in E&M Works was set up in March 2010 with an objective to oversee the identification of green materials and products, systems and construction methodologies in E&M works. The Working Group also examines the implications of new green technologies with a view to promoting them in E&M works, so as to benefit our clients and the public.

To facilitate effective sharing of green procurement information and project experiences within the Department, a green procurement reference library was launched on EMSD's Intranet in July 2010. The library covers current guidelines, codes of practice and standards relating to energy efficiency products and installations, as well as general specifications for green products. A Departmental Green Products List was compiled, using data from various tender and quotation results in 2014/15. It is available on our Intranet for reference by all colleagues.

### **Green Projects for Clients**

EMSD's Trading Services has been assisting clients in identifying energy saving opportunities and implementing green projects to enhance energy efficiency and the use of renewable energy. During the year, we have planned and executed five energy efficiency projects for government bureaux and departments, such as lighting improvement works and installation of high efficiency chillers. It is expected that these new installations will generate an annual energy saving of around 190 thousand kWh upon completion.

Two green initiatives at the Civil Aviation Department Headquarters Building began implementation in 2014/15, namely, rescheduling of lift and rescheduling of lighting. Rescheduling of lift means that some of the lifts are switched off during off-peak hours to save energy. Rescheduling of lighting means that 75% of lights in the atrium of that building are switched off, to make better use of sunlight for illumination.

Also, we have implemented energy management works in APB Centre for Architectural Services Department to obtain ISO 50001 certification in October 2014 to achieve energy saving.

### 環保成效

### **Environmental Performance**



無油磁浮式製冷機採用最新的無油磁浮軸承壓縮機(上圖)技術・能大幅節省能源耗量。 Oil-free Chiller, using the latest technologies in oil-free magnetic levitation bearing type compressor (above), can reduce energy consumption significantly.



我們的同事在美國DTC Inc. 完成無油磁浮軸承壓縮機的技術培訓。 Our colleagues completed an oil-free compressor technology training at DTC Inc. in the United States.

### 為客戶加強無油磁浮式製冷機支援服務

### REINFORCE SUPPORT FOR OIL-FREE CHILLERS FOR CLIENTS

無油磁浮式製冷機採用最新的無油磁浮軸承壓縮 機技術,能大幅節省能源耗量,是空調技術的發 展趨勢,惟對合資格維修人員和技術支援的需求 亦甚為殷切。

機電工程署全力支持新節能技術的應用以協助客戶邁向更環保作業。為此,我們在2014年9月派出六位同事遠赴無油磁浮軸承壓縮機製造商Danfoss Turbocor Compressor (DTC) Inc. 位於美國的基地學習有關重點技術,並與製造商建立聯繫,為日後的支援和培訓鋪路。

醫院管理局將於2015年冬季開始安裝第一批共 27台全新的無油磁浮式製冷機,故此,我們有需 要加強在保養維修技術方面的技術支援及訓練。

機電署將是本港首個客戶與DTC Inc.合作推出培訓員訓練先導計劃。我們會安排有潛質的同事參加計劃,當他們成為先驅導師後,將會有效加強我們長遠的技術人員培訓,以滿足無油磁浮式製冷機的維修保養服務需求。

無油磁浮軸承壓縮機結合磁浮軸承和內置電腦控制,這項創新設計取代了傳統製冷機使用的潤滑油系統,並可按不同製冷要求調節壓縮機轉速,以達節能之效。

Oil-free Chillers (OFCs), using the latest technologies in oil-free magnetic levitation bearing type compressors, can save significant energy consumption. This trend of air-conditioning is generating high demand for competent servicing personnel and technical support.

EMSD supports the application of new energy saving technologies to facilitate our clients for more environment-friendly operation. As such, we sent a team of six colleagues in September 2014 to Danfoss Turbocor Compressor (DTC) Inc. in the United States, the manufacturer of oil-free compressors, to learn the key technologies as well as to establish connection with the manufacturer to pave the way for future support and training.

The Hospital Authority will be installing the first batch of 27 new OFCs in the winter of 2015. Therefore, it is essential for us to reinforce our servicing skills and training.

EMSD will be the first user client to cooperate with DTC Inc. to launch a pilot Train-the-Trainer programme in Hong Kong. We will train up potential colleagues to become pioneer mentor and they will effectively enhance our long term training to meet the servicing demand of OFC in near future.

The OFC compressor is made use of a magnetic levitation bearing and built-in computerised control. Such design can eliminate the oil lubricating circuit in conventional refrigeration systems. The built-in control can also operate the compressor at variable speeds so as to suit different cooling demand, thereby saving significant energy.

### 國際交流活動

作為香港推動能源效益的先鋒,我們積極參與國際交流活動,以掌握世界各地的節能新趨勢和發展。 2014/15 年度,機電工程署派員參加了多個地區性和國際性會議,其中比較重要的會議包括:

- 2014年4月在美國夏威夷檀香山舉行「亞太 經合組織新能源及可再生能源技術專家小組 第42次會議」及「亞太經合組織能源及節能 專家小組第43次會議」。
- 2014年5月在中國昆明舉行的「亞太經合組織能源工作小組第47次會議」。
- 2014年9月在中國北京舉行的「亞太經合組 織第十一次能源部長會議」。
- 2015年3月在新加坡舉行的「亞太經合組織 能源效益及節能專家小組第45次會議」。

As a pioneer in promoting energy efficiency in Hong Kong, we have been active in international exchange work so as to keep ourselves abreast of the latest trends and developments worldwide. During 2014/15, EMSD representatives attended a variety of regional and international conferences and meetings, with key ones as follow:

INTERNATIONAL EXCHANGE

- The 42nd Meeting of APEC Expert Group on New and Renewable Energy Technologies and the 43rd Meeting of APEC Expert Group, April 2014, Honolulu, Hawaii, USA.
- The 47th Meeting of APEC Energy Working Group, May 2014, Kunming, China.
- The 11th APEC Energy Ministerial Meeting, September 2014, Beijing, China.
- The 45th Meeting of APEC Expert Group on Energy Efficiency and Conservation, March 2015, Singapore.

### 節約營運資源

### 公用事業

下頁用量表載列機電工程署的電、水和煤氣使用情況。2014/15年度的總用電量較2013/14年度上升1.1%,主要因為數據中心客戶的用電量增加。至於用水量,則較2013/14年度大幅減少55.5%,原因是年內在機電工程署總部大樓進行的活動減少以及九龍汽車服務站和加路連山工場關閉。此外,由於加路連山工場關閉,故此年內煤氣用量大幅減少。

### **CONSERVATION OF OPERATIONAL RESOURCES**

### **Public Utilities**

Electricity, water and towngas consumption at EMSD is shown in the table on next page. Total electricity consumption in 2014/15 increased by 1.1% compared to 2013/14 due to increased consumption of clients in Data Centre. Water consumption decreased significantly by 55.5% compared to 2013/14 due to the decrease in activities in EMSD Headquarters, and the closure of vehicle services station in Kowloon and Caroline Hill workshop. There was a significant reduction in towngas consumption in 2014/15 due to the closure of Caroline Hill workshop.



### 環保成效

### **Environmental Performance**

### 機電工程署的電力、水及煤氣用量

### **Electricity, Water and Towngas Consumption at EMSD**

	12/13	13/14	14/15
電力 ('000 千瓦小時) <sup>#</sup> Electricity ('000 kWh) <sup>#</sup>	14 533 <sup>∆</sup>	14 785	14 974
水 (立方米) Water (m³)	46 168	49 912	22 215
煤氣 (兆焦耳) Towngas (MJ)	131 760	223 728	19 392

<sup>#</sup> 總用電量包括建築物(例如:總部、工場、租用辦公室和數據中心)及基建(例如:總部行人天橋和無線電站),但不包括第三者營運的員工食堂。
Total electricity consumption includes buildings (e.g. the headquarters, depots, rented offices and data centres) and infrastructure (e.g. the footbridge connecting to headquarters, and radio stations) but excludes the staff canteen operated by the third party.

### 節省政府建築物用電

2013/14及2014/15年度我們的政府建築物用電量表列如下:

### **Electricity Saving in Government Buildings**

Electricity consumption of our government buildings in 2013/14 and 2014/15 is tabulated below:

### 用電量 (百萬千瓦小時) Electricity consumption (million kWh)

### 在相若運作情況下的用電量 (百萬千瓦小時) Electricity consumption under comparable operating conditions (million kWh)

2013/14 (基準 baseline)	14.738	不適用 Not Applicable
2014/15	14.920 (+1.2%)	14.578 (-1.1%)

根據上表所述,我們的政府建築物用電量由 2013/14至2014/15年度增加了1.2%,主要因企 業數據中心新增的伺服器及工場新增的設備等。

實施了各種內務節能措施後,包括使用LED照明設備及檢討空調系統的運作時間等項目,在2013/14年度相若的運作情況下,2014/15年度的用電量節省了1.1%。

As set out above, the electricity consumption of our government buildings increased by 1.2% from 2013/14 to 2014/15 due to additional servers in the Corporate Data Centre and additional equipment in the workshops, etc.

Under comparable operating conditions of 2013/14, the saving in electricity consumption in 2014/15 was 1.1% after implementing the housekeeping electricity saving measures including the use of LED lightings, review of operation schedule of the air-conditioning system, etc.

Δ 不包括小蠔灣數據中心的用電量。
 Electricity consumption of Siu Ho Wan Data Centre is not included.

### 水

主要用於空調、園藝灌溉、飲用和清潔等。年內 用水量較2013/14年度大幅減少55.5%,原因是 機電工程署總部大樓進行的活動減少以及九龍汽 車服務站和加路連山工場關閉,導致用水量下 降。

### 煤氣

加路連山工場是使用煤氣供應熱水的主要場地。由於工場關閉,故此年內煤氣用量大幅減少。

### 物料

### 辦公室使用的物料

紙張及碳粉盒是辦公室使用的主要耗材,我們已盡量減少用紙量。2014/15年度的用紙量較原定上限少3.3%。由2001年起,我們已廣泛採用由循環再造纖維製成的環保紙。2014/15年度,環保紙佔部門總用紙量99.8%。原木紙只用於對外文件,而且盡量少用。我們在2014/15年度採購了3300個碳粉盒,並且自2005/06年度,我們已遵循政府措施,將用過的碳粉盒回收循環再用。

### 工場使用的物料

我們在日常運作中使用的物料、部件和產品,在 其生產、使用和最終棄置的過程中,都會對環境 造成不同的影響。因此,機電工程署致力減少物 料的使用量,並盡量翻新和循環再用這些物料, 讓我們在長遠的將來仍能享用天然資源。

### 廢氣、污水及廢物

### 減少廢物及循環再用

我們的廢物管理策略是盡量減少或避免產生廢物,並盡可能回收可再造物料。廢物主要來自兩大源頭:辦公室和工場。辦公室廢物主要是紙張及碳粉盒,而工場廢物則以舊水銀燈、舊充電池、金屬廢料、舊車胎及光管為主。

### Water

Water is mainly consumed for air-conditioning, gardening, drinking and cleaning. Water consumption decreased significantly by 55.5% compared to 2013/14, which was due to decreased activities in EMSD Headquarters in the year, the closure of vehicle services station in Kowloon and Caroline Hill workshop.

### **Towngas**

Towngas is mainly consumed in the Caroline Hill workshop for water heating. Since the Caroline Hill workshop was closed, there was a significant reduction in towngas consumption in 2014/15.

### **MATERIALS**

### **Materials Used in Offices**

Paper and toner cartridges are the main consumables used in offices. We make every effort to reduce our paper consumption. In 2014/15, paper consumption was 3.3% below the set quota. Since 2001, we have adopted the extensive use of environment-friendly recycled paper made from recycled fibre. In 2014/15, 99.8% of our total paper consumed was recycled paper. Use of virgin paper was limited to external documents only and is avoided as far as practicable. We purchased some 3 300 toner cartridges in 2014/15 and have followed government initiatives to recycle used toner cartridges since 2005/06.

### **Materials Used in Workshops**

We recognise that materials, parts and products used in our everyday operations impact the environment in different ways through their production, use and ultimate disposal. EMSD endeavours to reduce the consumption of materials wherever possible, and to recondition and reuse them whenever practical in order to sustain natural resources in the long run.

### **EMISSIONS, EFFLUENTS AND WASTES**

### **Reducing and Recycling of Waste**

Our waste management strategy is to minimise unavoidable waste generation and maximise material recycling. Wastes are primarily generated in two streams – from our offices and from our workshops. Major wastes from offices include paper and toner cartridges, while spent mercury lamps, rechargeable batteries, metal scraps, vehicle tyres and spent fluorescent tubes are major wastes from workshops.

### 環保成效

### **Environmental Performance**

### 廢氣

### 溫室氣體排放

溫室氣體排放已公認為導致全球暖化和氣候改變的原因。因此,減少排放溫室氣體,例如二氧化碳,是我們其中一項最大的挑戰。機電工程署排放的溫室氣體,主要由辦公室和工場的用電及運輸工具產生。2014/15年度,我們的運輸工具直接產生的二氧化碳約為1091公噸,而使用電力間接排放的二氧化碳則約為9554公噸。

### 運輸

機電工程署日常營運所使用的運輸工具耗用不能 再生的化石燃料,並排放溫室氣體。截至2015 年3月31日,我們用作執行職務的車隊有220部 車輛,包括貨車、客貨車、大型房車和電單車。 此外,我們也為客戶部門的5590部政府車輛提 供維修服務。為確保車輛在運作及維修過程中的 廢氣排放減至最少,我們實行良好的內務管理措 施、妥善保養車輛、減少使用運輸工具,部別 用混合動力或電動車輛等。我們現有六部軍動力車,消耗的燃料比體積相近的傳統車輛少 40%。我們還有六部電動車。在未來數年,電動 車和混合動力車的數量將會增加。

其他資源耗用詳情及廢氣、排放物及廢物的數字,請參考「統計資料摘要」。

### 機電工程署總部大樓太陽能光伏系統

機電工程署總部大樓的太陽能光伏系統是大樓的 示範項目,利用天然能源可生產高達350千瓦電 量。自2005年完成裝置以來,一直為總部大樓 提供清潔的可再生能源。至2015年3月底,該 系統已累積生產196萬千瓦小時的能源。

### **EMISSIONS**

### **Greenhouse Gas Emissions**

Greenhouse gas (GHG) emissions are widely acknowledged as a cause of global warming and climate change. Reducing emissions such as CO<sub>2</sub> is one of our biggest challenges. EMSD's GHG emissions are mainly attributed to the consumption of electricity in our offices, workshops and transport. In 2014/15, direct emissions from our transport activities amounted to about 1 091 tonnes of CO<sub>2</sub> and our electricity consumption gave rise to about 9 554 tonnes of CO<sub>2</sub>.

### **Transport**

The use of vehicles in EMSD operations consumes non-renewable fossil fuels and generates GHG emissions. As of 31 March 2015, we have a fleet of 220 vehicles including lorries, vans, saloon cars and motorcycles to deliver our services, and at the same time maintain 5 590 government vehicles for our client departments. We have to ensure that emissions from such activities are reduced to a minimum by good housekeeping, proper vehicle maintenance, and reduced use of vehicles or switching to hybrid or electric vehicles. We now have six hybrid vehicles, which consume 40% less fuel than conventional cars of similar size, and six electric vehicles. The number of hybrid vehicles and electric vehicles will be increased in the next few years.

For details of our performance in other resources consumption, as well as emissions, effluents and wastes, please refer to the section "Summary of Statistics".

### **Photovoltaic System at EMSD Headquarters**

The photovoltaic system is the signature feature of energy generated from nature in the EMSD Headquarters, with a maximum output of 350kW. Since its inception in 2005, it has been generating clean renewable energy for use at our headquarters. The total output of the system up to end March 2015 was 1.96 million kWh.

### 重點與前瞻

### **HIGHLIGHTS AND WAY FORWARD**

### 重點

- 為推動全民節能,環境局及機電工程署推出 「室內溫度節能約章」,鼓勵社會減少空調用 電量。
- 於2014/15年度推出第四及第五期《能源標籤快訊》,宣傳強制性與自願性能源效益標籤計劃的最新資訊。
- 於2014年12月18日推出為微波爐而設的自願性能源效益標籤計劃。
- 截至2014/15年度,自淡水冷卻塔計劃於2000年推出以來,一共收到916宗申請。當中1912座淡水冷卻塔經已完成安裝並已投入運作。估計這些裝置每年可節省用電量3億8千1百萬千瓦小時,相當於每年減少二氧化碳排放量約26萬6千公噸。
- 機電工程署由2011/12年度起,根據《公眾 衞生及市政條例》授予的權力,就受污染的 淡水冷卻塔作出規管。我們於2014/15年度 抽取共910個淡水冷卻塔的水樣本,並要求 淡水冷卻塔擁有人採取防治措施,以減低退 伍軍人病對公眾衞生潛在的風險。

### 前瞻

- 檢討《建築物能源效益守則》及《能源審核守則》。
- 根據《公眾衞生及市政條例》,於2015/16年 度繼續抽驗約800個淡水冷卻塔的水樣本作 檢驗,就受污染的淡水冷卻塔作出規管。

### **Highlights**

- Launched with the Environment Bureau the Energy Saving Charter on Indoor Temperature, aiming to reduce electricity consumption for airconditioning.
- Published the forth and the fifth issues of the Energy Label Newsletter in 2014/15 to update readers about the Voluntary Energy Efficiency Labelling Scheme and Mandatory Energy Efficiency Labelling Scheme.
- Launched a new Voluntary Energy Efficiency Labelling Scheme for Mircowave Oven on 18 December 2014.
- Up to 2014/15, 916 applications have been received since the launch
  of the Fresh Water Cooling Towers Scheme in 2000. Among them,
  1 912 fresh water cooling towers (FWCTs) have been completed and
  put in operation. It is estimated that these completed installations
  could save up to 381 million kWh electricity consumption annually,
  which is equivalent to the reduction of carbon dioxide emission by
  around 266 000 tonnes annually.
- EMSD has begun implementing measures since 2011/12 to regulate contaminated FWCTs, with delegated powers under the Public Health and Municipal Services Ordinance (PHMSO). In 2014/15, 910 water samples were taken from FWCTs, and the owners of the FWCTs were requested to carry out abatement action to reduce the potential public health risk of spread of Legionnaires' disease.

### **Way Forward**

- Review the Building Energy Code and Energy Audit Code.
- Continue to conduct annual water sampling for testing of about 800 FWCTs in 2015/16 and implement regulatory control of contaminated FWCTs under the PHMSO.

### 社會成效

### **SOCIAL PERFORMANCE**

### 社會責任

我們透過關懷員工與服務社群,去履行部門的社會責任。具體來說,我們竭力為員工及承辦商提供安全及健康的工作環境,並符合一切相關的法例要求和規定。作為優秀的企業公民,我們也緊遵公務員事務局的行為守則規範,並確保提供平等就業機會。至於服務社群方面,部門鼓勵員工參加各種慈善活動和社會服務項目,以及多參與專業工程學會的活動,為提升本地工程專業的水準及發展作出貢獻。

我們於2015年3月榮獲由香港社會服務聯會所頒發的2014/15年度「同心展關懷」標誌,以嘉許我們持續履行企業社會責任。我們未來將會繼續致力關懷我們的社會、員工和環境。

### **SOCIAL RESPONSIBILITIES**

We discharge our social responsibilities via caring for staff and the community. Specifically, we strive to ensure that we provide a safe and healthy environment for our employees and contractors, and to comply with the relevant laws and regulations. As a good corporate citizen, we also abide by the Civil Service Bureau's codes of conduct and see to it that we provide equal employment opportunities. As to caring for the community, we encourage our staff to participate in charitable and social service activities, as well as taking part in activities of professional engineering bodies to help contribute to the standards and development of the engineering profession.

We are proud to be awarded the 2014/15 Caring Organisation Logo by the Hong Kong Council of Social Service in March 2015, in recognition of our continuous commitment in corporate social responsibility. We will step up our efforts to care for our community, employees and the environment in the coming years.

### 員工之僱用和發展

### 僱用

截至2014/15年底,我們共有5 103名僱員。我們承諾維護平等就業政策,目前有208名員工為輕度殘疾人士,佔員工總人數約4.08%。

年內,我們繼續參與《有能者·聘之約章》及共 融機構嘉許計劃,成為推動殘疾人士就業的僱主 機構。

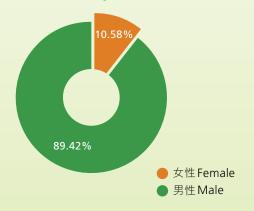
### STAFF EMPLOYMENT AND DEVELOPMENT

### **Employment**

At the end of 2014/15, we have 5 103 employees. As a commitment to upholding the equal opportunity employment policy, we currently have 208 employees with minor disabilities, representing about 4.08% of our total workforce.

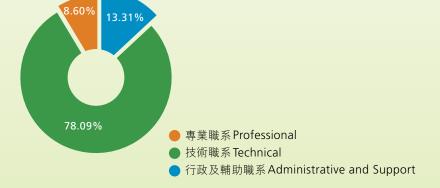
During the year, we continue to take part in the Talent-Wise Employment Charter and Inclusive Organisations Recognition Scheme as an Employer Organisation to promote the employment of persons with disabilities.

### 按性別劃分 Breakdown by Gender



僱用人員 Strength: 5 103名 \* 截至2015年3月31日 As at 31 March 2015

按職級劃分 Breakdown by Grade



### 員工病假

在2014/15年度,部門因員工放取病假而失去的工作天共19 852.5天,即相等於每名員工失去約3.89工作天。

### 學習及發展

機電工程署深知,要維持一支能幹及與時並進的 團隊,就必須不斷提升員工的能力和競爭力。 因此,我們全力支持員工不斷學習,發展技能, 為部門作出更大貢獻及個人有所成長。我們於 2014/15年度檢視了「知識管理網站」,並計劃於 明年推出優化版本,讓員工在網上分享知識的經 驗變得更有趣更互動。未來兩年,我們也會就各 種專門的工程知識及管理軟技巧範疇,進一步發 展部門「知識群體」,讓同事有更多機會深入分 享和積累知識。

我們也通過有效管理和不斷改進人力資源工作, 致力建立一支勤奮向上、才識技能兼備的員工隊 伍。我們的人力資源管理委員會由機電工程署署 長擔任主席,並由各職系的首長及一般和共通職 系的高級管理人員組成。委員會定期舉行會議, 檢討部門的培訓計劃及活動。

### 見習工程師訓練計劃

我們的見習工程師訓練計劃自六十年代推行以來,已培訓了700多位見習工程師。這計劃一向公認為香港工程界的最佳在職培訓計劃之一,多年來已為本地工程專業培訓了不少工程師,滿足業界需要。在2014/15年度,我們在電機、機械、電子、屋宇裝備、資訊科技和生物醫學等範疇共招募了21位見習工程師。

### Sick Leave

In 2014/15, a total of 19 852.5 working days were lost due to sick leave. This is equivalent to around 3.89 working days lost per employee.

### **Learning and Development**

At EMSD, we recognise the need to continually enhance the capabilities and competitive strengths of our staff in order to build a capable and progressive workforce. As such, we fully support our employees in pursuing learning and development opportunities that will eventually enhance their contribution to the organisation and personal growth. During 2014/15, we reviewed our Knowledge Management Portal and planned to launch an enhanced portal in the coming year to make online knowledge sharing more fun and interactive. We shall further develop departmental "Knowledge Communities" in the next two years in specialised areas of engineering knowledge and management soft skills, so as to facilitate in-depth sharing and development of knowledge.

We are also committed to developing a motivated and competent workforce through effective management and continuous development of our human resources. Our Human Resources Management Committee, chaired by the Director of Electrical and Mechanical Services, and comprising Heads of Departmental Grades as well as senior managers of General and Common Grades, meets regularly to review our training programmes and initiatives.

### **Graduate Training Scheme**

Since its inception in the 1960s, our Engineering Graduate Training Programme has attracted more than 700 graduate participants. The programme has long been considered one of the best on-the-job training schemes in the engineering profession in Hong Kong and has contributed to the provision of trained engineers to meet the needs of the local profession. In 2014/15, we recruited 21 engineering graduates from the field of electrical, mechanical, electronics, building services, information technology and biomedical engineering.

### 社會成效

### Social Performance

### 技術員訓練計劃

技術員訓練計劃是我們另一項主要培訓計劃,目的是提供有系統及高水準的訓練,以滿足機電工程署和社會目前及未來對技術員的需求。計劃推行已有60年,為業界培訓了接近6000名學徒。為了提高訓練計劃的形象、吸引更多年青人報讀,我們於2012/13年將學徒這職位名稱改為見習技術員,並推出長期進行的外展宣傳活動,以學校、業界及公眾為對象,務求配合每年的技術員訓練計劃招聘活動。

在2014/15年度,我們招募了62名見習二級技術員(三年訓練制)、50名見習二級技術員(四年訓練制)和52名見習一級技術員。除提供在職訓練外,我們亦資助見習技術員修讀香港專業教育學院的工藝證書課程和高級文憑課程。

### 培訓目標

在2014/15年度,每名員工的每年平均受訓日數 為4.72天,高於原定4.5天的目標。我們會繼續 鼓勵員工進修及提供所需的培訓,以改善服務、 開拓新業務,以及促進員工的個人發展。

### **Technician Training Scheme**

Another key training programme is our Technician Training Scheme which aims to provide systematic and high standard training to satisfy the present and future needs of EMSD as well as the community. The long-standing scheme has been running for 60 years, successfully trained close to 6 000 apprentices for the profession. To enhance the image of the Scheme and attract more young people to join it, the "apprentice" post title changed to "technician trainee" in 2012/13. We also launched an ongoing outreach publicity programme targeting schools, the trades and the public to step up annual recruitment for the Scheme.

In 2014/15, we recruited 62 technician trainees II (three-year training programme), 50 technician trainees II (four-year training programme) and 52 technician trainees I. Besides on-the-job training, we sponsored the trainees to attend craft certificate courses and higher diploma courses in the Hong Kong Institute of Vocational Education.

### **Training Targets**

In 2014/15, we achieved 4.72 training days per staff member per year on average, exceeding the 4.5 days target set for the year. We will continue to encourage and provide relevant training to enhance our services and develop new services, and to facilitate employees' career development.

### 每名員工每年平均受訓日數

Training Days Per Staff Per Year on Average





### 健康安全的工作環境

### 職業健康及安全

機電工程署對職業安全及健康(職安健)十分重視,並承諾部門在提供機電服務的過程中,會達至及維持高的職安健水平。我們於2014年11月修訂了部門的「職安健政策」文件,強調員工在提供服務時必須以工作安全為首要考慮,而對承辦商也有同樣要求。部門也會在可行的情況下盡量採取最佳的職安健實務做法,務求在工作安全方面做到持續改善。

# A HEALTHY AND SAFE WORKING ENVIRONMENT

### **Occupational Health and Safety**

EMSD accords the utmost importance to Occupational Safety and Health (OSH) and commits to achieving and maintaining a high standard of OSH in our E&M services. We revised our Safety and Health Policy in November 2014, stressing that work safety is of first priority in the course of delivering our services and that equally applies to work carried out by our contractors. We also adopt best OSH practices where practicable to achieve continual improvement in work safety.

由 2001年起,機電工程署已建立了 OHSAS 18001安全管理系統,以支援部門對維持工作環境安全健康的承諾。我們的「職業安全及健康策導委員會」,由高層管理人員組成,持續督導及監察部門在職安健方面的表現,並制訂持續改善的策略。至於「部門職業安全及健康委員會」,則由管理層及來自各科/部別及部門協商委員會的員工代表組成。委員會定期開會,落實部門的職安健宣傳活動和措施,例如定期進行各種職安健比賽、安全培訓、巡查工地及員工簡介會等。

Ever since 2001, EMSD has established OHSAS 18001 safety management systems to support our commitment to maintaining a safe and healthy working environment. The Steering Committee on Occupational Safety and Health, which comprises senior management staff, continues to steer and monitor the Department's performance in safety and health and formulates strategies for continuous improvement. As to our Departmental Occupational Safety and Health Committee which comprises management and staff representatives from branches/divisions as well as departmental consultative committees, it meets regularly and implements our departmental OSH promotional activities and initiatives. Examples are various occupational safety and health competitions, safety trainings, site inspections and staff briefings that are regularly arranged.

### 年內新猷

2014/15 年度,我們豐富了現有的「綠咭」重溫課程,並把本來半天的課程延長至一天,以加強員工的安全知識和提高安全意識。年內我們也就在高處工作及相關的電力工作,推出全新的指引;並推出一個新的「團隊工作安全」比賽,以鼓勵員工在日常工作中更多使用「指差呼稱」方法,以提高安全意識。

年內另一新猷,是為每天早操引入氣功,給同事多一個強身健體的活動選項,並提供氣功培訓班,及於部門內聯網提供示範圖片和短片。至於合約安全方面,我們現已要求承辦商在假天花內進行工程時,必須實施工作許可證制度,以更有效管理相關的風險。每年一次的「科技週」,則已於2015年1月舉行,強調透過科技應用以實踐最佳職安健實務做法。

### **New Initiatives**

During 2014/15, we enriched our existing "green card" revalidation course and extended the half-day course to full day, so as to enhance staff safety knowledge and awareness. New guidelines on undertaking work at height and related electrical work were also issued and a new safety competition "Work Safety in Teamwork" launched. The competition promoted the use of "pointing and calling" in daily work to raise staff awareness of safety.

Another new measure in the past year was introducing "Qigong" as a new option for staff morning exercise to promote their health and wellbeing. "Qigong" training sessions were offered, together with pictorial and video demos on the departmental Intranet. As far as contract safety is concerned, we now require contractors to set up a permitto-work system for ceiling void works to more effectively manage the associated hazards. The annual Technology Week was held in January 2015 to promote best OSH practices in E&M works through technology applications.



### 社會成效 Social Performance



「科技週」的「工作安全科技研討會」・強調透過科技應用 以實踐最佳職安健實務做法的重要性。

The Work Safety Technology Seminar of the Technology Week emphasised the importance of best OSH practices in E&M work safety through the application of technology.

# 「科技週」研討機電工作安全

### **TECHNOLOGY WEEK ON E&M WORK SAFETY**

部門的「科技週」已於2015年1月20至23日舉行,主題為機電工作安全,並得香港機電工程商聯會全力支持。活動的亮點,是「工作安全科技研討會」,同場並舉辦安全裝備展覽,展出最新的機電安全裝備。研討會的講者均強調,採取最佳職安健實務做法,對持續改善機電工作的安全至為重要。「科技週」維期四天,吸引了很多業界人士及部門同事出席參與。

The Technology Week on E&M Work Safety was held from 20 to 23 January 2015, with full support from the Hong Kong Federation of Electrical and Mechanical Contractors. Highlights included a Work Safety Technology Seminar and a safety equipment exhibition that showcased the latest E&M safety equipment. Seminar speakers emphasised the critical importance of adopting best OSH practices in continual improvement of E&M work safety. The four-day event was well attended by participants from the trade and our staff.





與「科技週」同時舉行的安全裝備展覽・展出了為高處 工作而設的安全平台、防跌裝置、電力安全裝備及個人 保護裝備和工具。

The safety equipment exhibition held in conjunction with Technology Week showcased safety platforms for working-at-height, fall protection devices, electrical safety equipment as well as personal protection equipment and tools.



得獎團隊 | 哥連臣一號 ] 憑 | 遙控剷灰車 ] 項目・以創意和 安全措施獲得嘉許。

Award-winning project team "Collinson No. 1" is credited for its creativity and safety measures in its remote-control bone ash collector.

### 「品質及安全日」誘發無窮創意

# QUALITY AND SAFETY DAY LURES INNOVATION AND CREATIVITY

我們的「品質及安全日2014」獲獎項目再次印證了同事在應用科技方面的無窮創意,為協助客戶部門提供更佳服務,發揮「多走一步」的精神。這些創新項目充分表現出同事精益求精和追求優質服務的熱誠。

得獎團隊「哥連臣一號」為哥連臣角火葬場而研發的「遙控剷灰車」就是一個好例子。剷灰車能清理火化爐煙道內的爐灰,大量減少人手清理的工作。「遙控剷灰車」大幅度減低我們的同事在狹窄、高溫的煙道內逗留的時間,改善了工作環境。這項發明更榮獲部門的「最佳改善個案比賽(營運服務)」冠軍和「最佳增值個案金獎」。

部門的高層管理在「品質及安全日2014」開幕禮上,鼓勵所有與會者在工作安全和優質工作方面繼續發揮創意,實現工地「零意外」的長遠目標。另一講者為昂坪360有限公司安全及品質經理謝福財先生,在會上分享了他在品質和安全管理方面的寶貴經驗。

The award-winning projects of our Quality and Safety Day 2014 once again demonstrated our colleagues' creativity in applied technology and their eagerness to go that extra mile to help client departments better serve the general public. Their commitment to striving for improvement and quality work was well reflected in their innovative projects.

A notable example is the remote-control bone ash collector, invented by the project team "Collinson No. 1" for the Cape Collinson Crematorium. The new machine can collect bone ashes in the cremator flue, with minimal effort of manual collection. The Collector has greatly reduced the time our staff members have to stay inside the cramped and hot flue, thus improving their working environment. This invention won the championship of the Best Improvement Project Award for Trading Fund and the Best Service Delivery Enhancement Award.

Officiating the opening ceremony of the Quality and Safety Day 2014, EMSD senior management encouraged all participants to continue with their innovative work in safety and excellence, in order to achieve the long-term goal of "zero accident" in work sites. Also addressing participants was guest speaker Mr Joey Tse, Safety and Quality Manager of Ngong Ping 360 who shared his valuable experiences in quality management and work safety.

### 社會成效 Social Performance

也是我們同事的作品





獲機管局高度讚賞

Our award-winning colleagues at the AA prize presentation ceremony. Their good performance

### 機場團隊獲機場安全運動比賽多個獎項

### **AIRPORT TEAM WINS AIRPORT SAFETY CAMPAIGN AWARDS**

機場管理局(機管局)每年均舉辦「飛行區及行 李處理大堂安全運動」,包含多項安全比賽。該 運動的宗旨,是提高行李處理大堂工作人員的安 全意識,從而達至零意外。作為機管局的長期機 電工程伙伴,我們的機場工程分部多年來都十分 支持這運動,並曾贏得多個獎項,最新的例子, 是我們行李處理組同事孫瑋泰先生和何漢輝先 生,均獲頒「模範安全員工」獎,而另一位同事 余文廣先生,則在安全海報設計比賽中奪冠。機 管局已於2015年1月8日舉行頒獎禮,嘉許所有 得獎者。

香港國際機場去年又刷新客運紀錄,錄得6 340 萬人次的新高,因此,維持機場高度安全的工作 文化更形重要。我們一直都積極參與機管局各種 安全措施和運動,未來也會繼續大力支持。

The Airport Authority (AA) holds an annual Airfield and Baggage Hall Safety Campaign comprising various award competitions. The Campaign aims to promote a safety culture among baggage handling staff in order to achieve zero incident. As AA's long-standing E&M engineering partner, our Airport Engineering Services Sub-division has always been highly supportive of the Campaign and has won various awards. The latest examples were Mr Suen Wai-tai and Mr Ho Hon-fai, both from our baggage handling system team, who were awarded the Safety Role Model Award in the Campaign. Mr Yu Man-kwong, also from EMSD, won the championship of the Safety Poster Design Competition. All winners were honoured at AA's prize presentation ceremony held on 8 January 2015.

The Hong Kong International Airport handled a record passenger traffic of 63.4 million passengers last year, highlighting the importance of a strong safety culture at the airport. We have always been supportive of AA's safety measures and campaigns and shall continue to do so in future.

### 員工

### 員工滿意度調查

我們認為,定期量度及了解員工的滿意度極為重要。掌握員工的滿意程度以便進行架構改善,是我們關顧員工其中的一項承擔。我們委託獨立專業調查公司定期進行員工滿意度調查。在最近的2014/15年度調查,所有高級工程師及以下職級的員工,均獲邀透過問卷表達他們的意見。調查顯示,員工整體滿意度平均分數,以10分為滿分,得分是6.4(上次調查: 6.5),這個指數在過去數年一直維持在6.3至6.6分之間,可見員工整體滿意度穩定。下一次調查將於2016/17年度進行。

### 員工諮詢途徑

我們設有四個部門協商委員會和五個部別協商委員會,以促進管理層與個別員工組別的溝通。員工也可自由參加部門11個員工協會和一般政府人員工會組織。我們定期與員工協會會面和舉行會議,商討員工關注的事項。

### 承辦商及供應商

### 承辦商及供應商管理

我們致力為客戶和市民提供優質可靠的服務,而承辦商、顧問公司和供應商是我們達成這目標的重要伙伴。我們不時邀請這些工作伙伴競投公共工程合約。在挑選承辦商時,我們堅守公開和公平的基本原則,並按照政府的指引,在合適情況下盡量採用競爭性投標。我們與承辦商、顧問和供應商建立和保持緊密聯繫,確保他們清楚知悉各項重要資訊,例如客戶關注的事項及工作安全,使問題及時得到妥善處理。

為了監察承辦商的工作,我們定期舉行會議和進行實地視察,跟進工程的進度,並盡量避免工程對公眾及客戶造成不便或滋擾。在工程進行時,我們會定期評估及檢討承辦商的表現,直到工程竣工。此外,我們定期為負責合約管理的員工安排有關合約管理、承辦商管理、合約安全及誠信管理的簡介會。

### **STAFF**

### **Staff Satisfaction Survey**

We believe that it is important to measure and track staff satisfaction regularly. To gauge staff perception in order to facilitate organisational improvement is part of our commitment to caring for staff. Independent research specialists are appointed to conduct staff satisfaction surveys on a regular basis. In the latest 2014/15 survey, every employee at senior engineer rank or below was invited to express his/her views through a survey questionnaire. The overall staff satisfaction rating from the survey was 6.4 on a scale of 10 (previous survey: 6.5). This index has held steady within a range of about 6.3 to 6.6 for the past few years. Overall satisfaction levels have shown a steady trend. The next survey will be conducted in 2016/17.

### **Staff Consultation Channels**

There are four departmental consultative committees and five divisional consultative committees to facilitate communication between particular groups of staff and management within EMSD. Staff members are also free to join the 11 staff unions of EMSD, as well as the general government staff unions. Regular gatherings and meetings are held with the EMSD staff unions to discuss issues of staff concern.

### **CONTRACTORS AND SUPPLIERS**

### **Contractor and Supplier Management**

Our contractors, consultants and suppliers are our important partners in the provision of reliable and quality services to our clients and the community. We invite these working partners to tender for public works contracts from time to time. In selecting contractors, we adhere to the basic principles of openness and fairness, and adopt competitive tendering wherever applicable in compliance with government guidelines. We have established and maintained close communication with our contractors, consultants and suppliers to ensure that critical information, such as client concerns and work safety, is clearly conveyed to them and relevant issues are addressed properly and in a timely manner.

To monitor the work of contractors, we conduct regular meetings and site visits to keep track of project progress as well as to minimise any inconvenience or disturbance caused to the public and our client. Regular reviews on contractors' performance are carried out to assess contractor performance throughout the project. Also, briefings on contract management, contractor management, contract safety and integrity management were arranged for staff responsible for contract management.

### 社會成效 Social Performance

### 客戶

我們的營運服務,為客戶提供優質服務之餘,同 時致力以微利營運,讓客戶保留更多資源優化社 會服務。

我們致力吸取客戶意見。為了更全面了解客戶的需要及期望,我們每兩年委託一家獨立的市場研究公司進行一次客戶意見調查。於2014年的調查當中,我們的客戶滿意度指數達到了6.22分(8分為滿分),是自營運基金成立以來的最高分數。透過是次客戶意見調查,我們收集了很多寶貴的客戶意見。我們已根據客戶的回應制訂出優化客戶服務的計劃,務求令客戶更稱心滿意。

### 社區

我們的員工一向積極服務社會。他們除執行職務,透過客戶部門提供機電服務及向市民傳達機電安全和能源效益的資訊外,還在公餘時間參與義工服務,回饋社會。我們的義工隊在多方面服務社會已超過十年。部門許多專業工程師也積極參與本地和國際的專業工程學會,為業界的發展出力,維持業界的高專業水準。

### 公眾教育活動

我們一直與其他政府部門和社會各界緊密協作,致力向市民推廣機電安全和節約能源。這是機電工程署規管服務的重要一環。我們通過不同渠道進行公眾教育工作,包括傳媒、互聯網、刊物、推廣及廣告宣傳活動、海報及郵件、嘉年華會、巡迴展覽、表演、遊戲、問答比賽、講座及研討會,以滿足不同社會群組的需要。

### **CLIENTS**

Our Trading Services continue to strive to operate with sustainable profit in delivering quality services, hence taking less and allowing our clients to retain more to better their services for the community.

We endeavor to listen to and learn from our clients. With a view to fully appreciating our clients' needs and expectation, we commissioned an independent market research company to conduct a Customer Opinion Survey (COS) every two years. In the COS conducted in 2014, the Customer Satisfaction Index has increased to 6.22 (on an eight-point scale), which is a record high since the establishment of EMSTF. Much valuable opinions have also been solicited from our clients through the survey. We have formulated customer service enhancement plans according to our clients' feedback, aiming to further enhance customer satisfaction.

As for Regulatory Services, our Customer Liaison Group and various safety advisory committees meet regularly with representatives from the general public to exchange views and obtain face-to-face feedback on our regulatory and safety promotion activities, and how they can be improved. Public opinion surveys to gauge public awareness of E&M safety and energy efficiency, as well as trade surveys to measure the trade's views of Regulatory Services, are also conducted regularly to identify improvement areas for Regulatory Services. Pro-active communication with the trades via seminars and discussions are also frequent. Where appropriate, Regulatory Services also works jointly with other government departments, the trades and utility companies to promptly restore electricity supply and gas supply to citizens affected by major incidents.

### **COMMUNITY**

Our staff have long been active in serving the community, both in their work duties to provide E&M services for client departments and to reach out to the public to disseminate E&M safety and energy efficiency messages, and in voluntary service beyond their work duties to give back to the community. Our Staff Voluntary Service Team, for example, has served the community in numerous initiatives for more than a decade. Many of our professional engineers also play active roles in local and international professional engineering institutes to contribute to the growth of the profession and help maintain its high standards.

### **Public Education Activities**

We work closely with other government departments and the community to promote E&M safety and energy efficiency to the public, an important aspect of the work of our Regulatory Services. Public education is conducted through a variety of channels, including mass media and the Internet, publications, promotional and advertising campaigns, posters and mail-outs, carnivals, roadshows, performances, games, quizzes, talks and seminars tailored to meet the needs of different segments of the public.

### 「創新科技嘉年華2014」醫學工程研討會

### **BIOMEDICAL ENGINEERING SEMINAR AT INNOCARNIVAL 2014**

「創新科技嘉年華」是由創新科技署主辦的年度 大型活動,主旨是讓市民能親身體驗創新科技對 人類生活所帶來的方便與樂趣。總工程師/衞生 工程潘國英先生獲邀在11月8日的「創新科技嘉 年華2014」活動中,就「醫學工程的創新成果及 應用」作出專題演講。

潘先生向與會者展示工程技術與醫學應用的無縫 結合,並介紹尖端醫療技術如何為治療、診斷及 其他醫學範疇帶來革命性的發展。潘先生除扼要 剖析物理現象在醫療儀器上的應用外,亦闡述了 三維打印技術、遙距生理監控及仿生技術等嶄新 醫療科技,如何改善我們的生活質素。此外,潘 先生也向與會者簡介了生物醫學工程師的工作範 疇與職業前景。

當天的觀眾反應熱烈,在答問環節中踴躍提問。 他們表示從這次研討會得到不少啟發,不但對工 程技術如何惠及醫療行業有更深了解,而對醫療 科技及香港生物醫學工程行業的發展,亦提高了 認識。

InnoCarnival is an annual event organised by the Innovation and Technology Commission that aims to enable members of the public to experience for themselves the convenience and fun innovation and technology brought to their daily lives. Mr Raymond Poon, Chief Engineer/Health Sector, was invited to deliver a speech at InnoCarnival 2014 on "Engineering Excellence for Medical Technology Innovation and Application" on 8 November 2014.

Mr Poon demonstrated to the audience the seamless integration of engineering know-how and medical applications, and the revolution brought on by cutting-edge medical technologies to therapy, diagnosis and other aspects of medicine. He introduced the application of physical phenomena to medical devices and illustrated how novel medical technologies such as 3D printing, tele-medicine and bionics could improve our quality of life. Mr Poon also briefed the audience on the work and prospects of a professional biomedical engineer.

The audience responded enthusiastically to his talk with a lively Q&A session. They felt that they had gained more insights into the contribution of engineering in healthcare services, as well as advancements in medical technologies and the biomedical engineering industry in Hong Kong.



「醫學工程的創新成果及應用」作專題演講。 Our colleague Mr Raymond Poon speaking on the topic of

Engine

我們在「創新科技嘉年華 2014」為香港工程師學會生物醫學分部架設展覽攤位。

### 社會成效 Social Performance





機電工程署代表與嘉賓講者,於2014年12月的淡水 冷卻塔和建築物能源效益周年技術研討會上合照。 Guest speakers and EMSD representatives at the annual technical forum on Fresh Water Cooling Towers and Buildings Energy Efficiency, held in December 2014.

研討會吸引了約700名人士參加,反應熱烈。 The forum met with enthusiastic response and attracted about 700 participants.

### 淡水冷卻塔和建築物能源效益的技術研討會

# TECHNICAL FORUM ON FRESH WATER COOLING TOWERS AND BUILDINGS ENERGY EFFICIENCY

能源效益事務處於2014年12月12日舉辦了一年一度的「淡水冷卻塔和建築物能源效益的規管及實務」技術研討會。是次活動反應十分熱烈,兩場研討會共吸引了約700位人士。

有關淡水冷卻塔的規管工作,講者除了介紹淡水 冷卻塔的正確設計、操作、維修及水處理科技應 用等事宜,亦闡述了《水務設施規例》有關供水 予淡水冷卻塔的要求,並呼籲業界不要以違規的 淡水冷卻塔,取代舊的淡水冷卻塔。

至於建築物能源效益的規管工作,講者闡述了《建築物能源效益條例》的要求及須要注意的事項,並簡介全港首宗根據該條例作出的檢控個案。個案是基於被告拖延進行能源審核,被告一方已被判罪名成立及判處罰款。這案例提醒所有建築物業主,必須在法例規定的時限內進行能源審核,以免犯法。

The Energy Efficiency Office held its annual technical forum "Control and Practice of Fresh Water Cooling Towers and Buildings Energy Efficiency" on 12 December 2014. Two sessions of the forum attracted a total of about 700 participants.

On the topic of regulatory control of fresh water cooling towers (FWCTs), speakers not only shared good practices on design, operation, maintenance and water treatment technologies, but also stressed the importance of proper water supply to FWCTs under the Waterworks Regulations. They also appealed to the trades that they should never install or replace FWCTs with unauthorised hardware.

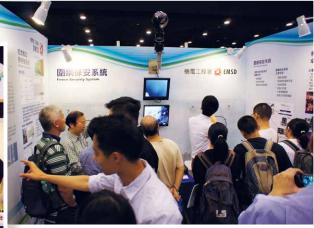
As to regulating energy efficiency in buildings, the speaker explained the requirements of the Buildings Energy Efficiency Ordinance and briefed participants on the first prosecution case under the Ordinance, which was related to a belated energy audit. The accused was convicted of contravening the relevant requirements and fined. The case sent a strong message to remind all building owners that they must conduct energy audits within the statutory timeframe.

# 社 题 没動 Community Activities

### 展示創新工程方案

**Showcasing Innovative Engineering Solutions** 





2014年6月·我們於由香港工程師學會舉辦的「創意嘉年華2014」·展示了我們為客戶發展的最新電子和資訊及通訊科技項目·包括邊境圍網保安系統、流動X光車輛掃描系統、衝紅燈攝影機系統、偵察平均車速攝影機系統、爆炸及毒品痕量檢測器等技術。展品吸引了不少對高科技有興趣的市民參觀。

We showcased our latest electronic and Information and Communications Technology projects for client departments at the Hi-Tech Fiesta 2014, organised by the Hong Kong Institution of Engineers in June 2014. The projects included a border fence protection system, X-ray vehicular scanning system, red light camera system, speed enforcement camera system, explosives and narcotics trace detector. The booth attracted many hi-tech enthusiasts from the public.

### 參與環保博覽 2014 彰顯能源效益

### **Booth Highlights Energy Efficiency at Eco Expo Asia 2014**



一如往年,能源效益事務處參加了由香港貿易發展局主辦、環境局協辦的「國際環保博覽2014」。博覽會已於2014年10月29日至11月1日舉行,機電工程署的展館內容,涵蓋部門在可持續發展方面的工作,如推廣電動車及中速充電器,及部門就推動《建築物能源效益條例》,強制性能源效益標籤計劃和自願性能源效益標籤計劃的各種活動,還有節能小貼士等。環境局局長黃錦星先生亦親臨參觀我們的展覽攤位。

As in past years, our Energy Efficiency Office participated again in the Eco Expo Asia 2014, held from 29 October to 1 November 2014 organised by the Hong Kong Trade Council and supported by the Environment Bureau. The EMSD booth showcased its sustainability work in promoting electric vehicles and medium chargers, and various initiatives under the Buildings Energy Efficiency Ordinance, Mandatory Energy Efficiency Labelling Scheme, Voluntary Energy Efficiency Labelling Scheme as well as energy saving tips. Secretary for the Environment, Mr Wong Kam-sing, also visited our booth.

### 機電工程署開放日 2014 吸引數千訪客 EMSD Open Day 2014 Attracts Thousands of Visitors





我們於2014年11月1日及2日在機電工程署總部舉辦了「機電工程署開放日2014」,讓市民在輕鬆的氣氛中了解部門的服務,和增進對機電安全與能源效益的知識。活動吸引了逾五千位市民參加,他們最感興趣的,就是參觀教育徑和毗鄰的啟德區域供冷系統,和於現場展出的電動車。開放日開幕禮由部門高層管理主持,並有不同年齡的學童表演。

We held the EMSD Open Day 2014 at our headquarters building on 1 and 2 November 2014, so that the public could know more about our services, E&M safety and energy efficiency in a relaxed atmosphere. The event attracted more than 5 000 participants who were particularly interested in our Education Path, the nearby Kai Tak District Cooling System and the electric vehicles on display. The opening ceremony was officiated by EMSD senior management, with stage performances by school children of different ages



# 支持樂施毅行者 2014 Supporting Oxfam Trailwalker 2014



機電工程署員工多年來都積極支持「樂施毅行者」,而於去年11月14日舉行的「樂施毅行者2014」, 我們也有同事組隊參加,其中一隊更以20小時39分的佳績完成全程。「樂施毅行者」活動,是為樂 施會各項扶貧救災和緊急救援工作籌募經費。

Our staff members have always been enthusiastic about the Oxfam Trailwalker. Various teams from EMSD took part in Oxfam Trailwalker 2014 held on 14 November, with one team completing the journey in only 20 hours 39 minutes. The event raises funds for Oxfam's poverty alleviation and emergency relief projects.

## 同心參與東區醫院日 Taking Part in PYNEH Day



一年一度的「東區醫院日」,讓我們有機會參與東區尤德夫人那打素醫院籌集善款,以改善病人服務、促進醫院和社區的伙伴合作並提升團隊精神。「東區醫院日」於2014年11月29日舉行,同事當天踴躍參與了慈善步行及正内生活嘉軒較支持。2004年11月2日,1000年11月,

The annual PYNEH Day gives us a good opportunity to participate in the charitable events of Pamela Youde Nethersole Eastern Hospital (PYNEH) by helping it raise funds to improve services, promote community partnerships and boost team spirit. PYNEH Day 2014 was held on 29 November 2014, when our colleagues participated enthusiastically in the Charity Walkathon and Positive Living Carnival. Our team was presented with the Best Participatory (Others) Award by PYNEH in acknowledgment of our support to the event.

# 機電安全健步嘉年華 2014 E&M Safety Walk and Carnival Fair 2014





「機電安全健步嘉年華」由香港機電工程商聯會及香港機電業工會聯合會合辦,於2014年11月30日在大業有機生態 園舉行,機電工程署60多位員工及家屬齊齊參與。這周年活動的目的,是團結及加強業界的伙伴關係。署長陳帆先生在開步禮致辭時,呼籲業界攜手面對機電業未來挑戰,並努力吸引更多年輕新血入行。

Jointly organised by the Hong Kong Federation of Electrical and Mechanical Contractors and the Federation of Hong Kong Electrical and Mechanical Industries Trade Unions, the E&M Safety Walk and Carnival Fair 2014 was held on 30 November at Tai Tong Organic EcoPark and more than 60 EMSD staff and family members participated. The annual event aims to unite and strengthen partnership within the industry. Speaking on the occasion, the Director of Electrical and Mechanical Services Mr Frank Chan also urged the industry to work together to overcome challenges and attract new young blood to the trade.

### 見習工程師為傷殘人士安排遊園活動

**Engineer Trainees Organised Garden Outing for People with Disabilities** 



機電工程署見習工程師於2014年12月,為路向四肢傷殘人士協會的成員, 義務安排了往鑽石山南蓮園池遊玩的半天活動。事前的籌備工作包括悉心 安排交通及物資運輸、準備小組遊戲和小禮物等。參加者既觀賞了園內的 恬靜美景,更通過小組遊戲增進了機電安全和能源效益知識,並於園內餐 廳享用齋菜午膳。

EMSD's engineer trainees volunteered to organise a half-day visit to Nan Lian Garden in Diamond Hill in December 2014 for members of the Direction Association for the Handicapped. Preparation work included careful planning of transportation and logistics, group games and souvenirs. Participants enjoyed the serene beauty of the Garden, gained more knowledge about E&M safety and energy efficiency via the group games, and were treated to a vegetarian lunch at the Garden restaurant.



# 樓宇安全週 2015 Building Safety Week 2015



我們於2015年3月14日在屋宇署舉辦的「樓宇安全週2015」擺設了攤位, 以遊戲及展板,向公眾介紹如何選擇合適的註冊升降機及自動梯承辦商,並 提倡優化舊式升降機。

We set up a booth at the Building Safety Week 2015 organised by the Buildings Department on 14 March 2015. Our aim was to educate the public via games and exhibit boards on how to choose appropriate registered lift and escalator contractors, and promote the modernisation of aging lifts.

### 與持份者溝通

持份者的鼎力支持,對我們的工作十分重要。我們的持份者包括部門的直接服務對象,即客戶部門、被規管的行業及市民大眾,此外也包括供應商、承辦商、培訓機構、專業團體、行業公會及傳媒。而各個政策局及我們部門的員工,也是重要的持份者。

一直以來,我們都採取雙管齊下的方法去維繫持份者。首先是以策略性的全盤溝通計劃,與客戶及業界這兩類持份者維持強健的工作關係。同時,我們也以豐富多元的宣傳內容和渠道,去維繫市民,讓市民充分掌握機電安全和能源效益知識,使社會大眾感到安全安心。

此外,我們也主動與傳媒合作,並提高部門的透明度,同時積極爭取專業團體、學會及學術界的支持,建立信任和尊重。而我們與政策局和機電工程署的員工也保持緊密溝通,建立互信友好的關係。

此外,我們支持和鼓勵同事加入香港工程師學會 的理事會、各個委員會和工作小組,及參與國際 性的工程組織,維護本港工程專業的高水準。

我們於2014/15年度為下列主要持份者舉行了多項活動:

### STAKEHOLDER ENGAGEMENT

Strong support and cooperation from stakeholders is essential to our work. They include the recipients of our services such as client departments, the regulated trades and the general public, as well as suppliers, contractors, training institutes, professional and trade associations and the media. Policy bureaux and our own staff are also key stakeholders.

All along, we have used a two-pronged approach towards engaging these varied stakeholders. First is a strategic and comprehensive client and trade engagement programme, so that we may continue to foster strong relations with these two stakeholder groups. At the same time we also deploy a rich variety of communication contents and channels to engage with the general public, so that the community at large is well informed in E&M safety and energy efficiency matters, which enables them to feel safe and enjoy peace of mind.

Supporting this two-pronged approach is our proactive effort to work with the media at a high level of transparency, and to solicit the support of professional bodies, learned societies and the academia so as to build trust and respect. There is also close communication with policy bureaux and our own staff to foster trust and good will.

Furthermore, we support and encourage colleagues to join the Council and various Boards and Committees of the Hong Kong Institution of Engineers, and participating in international engineering organisations, as part of the effort to uphold the high standards of the engineering profession in Hong Kong.

The following major stakeholder engagement activities were held in 2014/15:

### 公眾人士

- 共有35家發展商及管理公司簽署了2014年的「室內溫度節能約章」,承諾在2014年6月至9月期間,在他們旗下145家商場的公用地方,維持平均室內溫度在攝氏24至26度之間。此外,亦有超過510家商舖、250座辦公室大樓、970家機構辦公室、80幢住宅樓宇和150個屋苑也簽署了約章,作出相同承諾。
- 為各類機構/學校舉行146場講座或探訪,宣傳能源效益及節能。
- 為多個機構舉行32場簡報會,宣傳《建築物 能源效益條例》及有關《建築物能源實務守 則》與能源審核的強制執行事宜。

### **Public at Large**

- A total of 35 developers and property management companies signed up for the Energy Saving Charter on Indoor Temperature in 2014. They pledged to maintain an average indoor temperature of between 24 and 26 degrees Celsius at 145 shopping malls from June to September 2014. In addition, more than 510 retail shops, 250 office buildings, the offices of 970 organisations, 80 residential buildings and 150 housing estates also signed up the Charter and pledged to do the same.
- Delivered/Organised 146 talks and visits to organisations/schools to promote energy efficiency and conservation.
- Delivered 32 presentations to various organisations to promote the Buildings Energy Efficiency Ordinance on the mandatory implementation of the Building Energy Code and energy audits.

### 公眾人士

- 於2014年12月走訪第三批須進行首次能源 審核的商業建築物,宣傳《建築物能源效益 條例》,並提醒建築物擁有人有關能源審核的 規定。
- 舉行57次外展講座,而機電工程署教育徑也接待了259個參觀團,共約10800位訪客,向各機構和學校宣傳能源效益和節能。
- 往全港幼稚園、小學及老人中心進行285次外 展講座,向約40 000位參加者宣傳電力安全。
- 往全港幼稚園、青年中心及老人中心進行391次外展講座,向27000多名參加者講解機動遊戲機、升降機和自動梯的安全使用方法。
- 舉行54次學校展覽,宣傳強制性能源效益標 籤計劃。
- 於2015年2月全面走訪全港有關的零售商, 宣傳強制性能源效益標籤計劃。
- 於2014年11月,就強制性能源效益標籤計 劃的新能源效益級別舉行簡介會。
- 為業界人士就《供電電纜(保護)規例》的要求,舉行38場安全講座及研討會,參加者包括政府工務部門、顧問公司、承辦商、合資格人士、一般工地員工等。
- 為業界代表、升降機/自動梯擁有人、業主立 案法團成員和物業管理公司員工舉辦16場簡 介會、技術及安全講座與研討會。
- 於2014年7月及9月與車輛維修業界就車輛 維修技工自願註冊計劃及車輛維修工場約章 計劃,舉行兩場研討會。
- 推行註冊電業工程人員持續進修計劃,為註 冊電業工程人員舉行162場講座及研討會。
- 我們透過食物環境衞生署舉辦了六場講座, 讓食物業牌照申請人,了解食肆及食物製備 場所內作供應飲食用途石油氣裝置的規定。 我們也探訪了18個寮屋和村屋區的居民,講 解家居氣體安全,並為氣體業界及不同的工 程承辦商舉辦了22場氣體安全講座。

### **Public at Large**

- Visited the third batch of commercial buildings, which are required to carry out the first energy audits, in December 2014 to promote the Buildings Energy Efficiency Ordinance and to remind building owners of the relevant energy audit requirements.
- Organised 57 outreach talks and 259 visits to the Education Path of EMSD Headquarters for about 10 800 visitors from different organisations and schools to promote energy efficiency and conservation.
- Visited 285 kindergartens, primary schools and elderly centres, reaching about 40 000 participants to promote electrical safety.
- Visited 391 kindergartens, youth centres and elderly centres, reaching over 27 000 participants to promote the safe use of amusement rides, lifts and escalators.
- Conducted 54 school exhibitions on the Mandatory Energy Efficiency Labelling Scheme (MEELS).
- Conducted a full-scale publicity visit to relevant retailers in February 2015 to promote the MEELS.
- Conducted briefing sessions in November 2014 on the new energy efficiency grading of MEELS.
- Delivered 38 safety talks and seminars on the requirements of Electricity Supply Lines (Protection) Regulation to the trades, inclusive of government works departments, consultants, contractors, competent persons, general site staff, etc.
- Conducted 16 briefing sessions, technical and safety talks and seminars for trade representatives, lift/escalator owners, members of incorporated owners and building management staff.
- Conducted two seminars in July and September 2014 with the vehicle maintenance trade on the Voluntary Registration Scheme for Vehicle Mechanics and Vehicle Maintenance Workshops Charter Scheme.
- Conducted 162 talks and seminars on the implementation of the Continuing Professional Development Scheme for Registered Electrical Workers.
- We organised through the Food and Environmental Hygiene
  Department six seminars for applicants of food business licences to
  understand more about the requirements of LPG installations for
  catering purposes in restaurants and food preparation establishments.
  We also conducted visits to 18 squatter areas and villages to promote
  domestic gas safety to the residents. We also organised 22 gas safety
  seminars for gas traders and different contractors.

### 我們的員工

- 規管服務於2014年12月16日及2015年2月 9日舉行了管理工作坊。
- 機電工程營運基金於2014年9月1日及10月 13日舉行了策略工作坊。
- 於2014年12月舉行三場署長簡報會。
- 首長級人員到訪了184個場地,進行員工親善養探訪。
- 於2014年11月27日與部門11個工會舉行 聯席會議。
- 於2015年2月至3月為部門外調的督察級、 技術級及初級員工舉行了四次周年論壇。
- 員工福利組為抱恙或住院員工進行了18次家 訪、33次醫院探訪、52次工作間探訪、411 次電話問候及49次吊唁探訪。

### Our Staff

- Held the Regulatory Services' annual Management Workshops on 16 December 2014 and 9 February 2015.
- Held the EMSTF's annual Strategy Formulation Workshops on 1 September and 13 October 2014.
- Held three sessions of Director's Briefing in December 2014.
- Conducted 184 ambassador visits by directorate officers at various venues.
- Conducted a joint meeting with 11 staff unions of EMSD on 27 November 2014.
- Held four sessions of the Yearly Forums for seconded inspectorate, technical and junior staff from February to March 2015.
- Conducted 18 home visits, 33 hospital visits, 52 workplace visits, 411 goodwill phone calls and 49 condolence visits to sick or hospitalised staff, by the Staff Welfare Unit.

### 客戶

- 與香港警務處於2014年5月及12月舉行高層會議,檢討我們的服務表現。
- 與香港天文台於2014年5月、8月、11月及 2015年2月舉行工作層會議,檢討我們的服 務表現。
- 與民航處於2014年7月及2015年1月舉行 工作層會議,檢討我們的服務表現。
- 與渠務署於2014年10月舉行高層會議,檢 討我們的服務表現。
- 與食物環境衛生署於2014年11月舉行有關 火葬場和骨灰龕的工作層會議,檢討我們的 服務表現。
- 與懲教署於2014年12月舉行工作層會議, 檢討我們的服務表現。
- 與路政署就港珠澳大橋工程項目,於2015年 3月進行服務水平協議檢討會議。
- 與土木工程拓展署就將軍澳一藍田隧道工程項目,於2015年3月進行服務水平協議檢討會議。
- 安排往醫院管理局進行多次親善探訪,並舉 行高層座談會及工作層座談會等。

### **Our Clients**

- Held high level meetings with the Hong Kong Police Force in May and December 2014 to review our service performance.
- Held working level meetings with the Hong Kong Observatory in May, August and November 2014 and February 2015 to review our service performance.
- Held working level meetings with the Civil Aviation Department in July 2014 and January 2015 to review our service performance.
- Held high level meetings with the Drainage Services Department in October 2014 to review our service performance.
- Held a working level meeting with the Food and Environmental Hygiene Department in November 2014 to review our service performance on crematoria and columbaria.
- Held a working level meeting with the Correctional Services Department in December 2014 to review our service performance.
- Attended a Service Level Agreement (SLA) review meeting for the Hong Kong-Zhuhai-Macao Bridge project with the Highways Department in March 2015.
- Attended a SLA review meeting on the Tseung Kwan O-Lam Tin Tunnel project with the Civil Engineering and Development Department in March 2015.
- Conducted various courtesy visits, high level seminars and working level seminars for the Hospital Authority.

### 獎項及嘉許

獎項及嘉許能提升士氣,並激勵員工有更卓越的 表現。我們鼓勵員工適當地參與各項活動、比賽 和認證工作,以拓展眼界,並掌握本港、區內以 至國際間的最新科技發展和最佳做法。

### **AWARDS AND RECOGNITION**

Awards and recognition boost morale and motivate staff to perform with excellence. We encourage staff to take part in external events, competitions and certification exercises where appropriate to broaden their horizons, and to keep pace with the latest technologies and best practices locally as well as on a regional or international level.

### 機電工程署見習技術員奪得職訓局獎項 EMSD Technician Trainees Win VTC Awards

部門兩位見習技術員,在由職業訓練局舉辦的2014年度「傑出學徒/見習員獎勵計劃」贏得殊榮。見習一級技術員布永俊先生(中間) 榮獲「傑出學徒」獎項,而見習一級技術員溫從智先生則獲「優異學 徒」獎項。比賽共有200多人參加,競爭相當激烈。布先生與其他優 勝者,更贏得前往新加坡進行交流學習的機會,了解當地的空調行 業情況。

Two of our technician trainees won recognition at the 2014 Outstanding Apprentice/Trainee Awards organised by the Vocational Training Council (VTC). Mr Po Wing-chun, Technician Trainee I (middle), won the Outstanding Apprentice award while Mr Wan Chung-chi, Technician Trainee I won the Apprentice of Excellent Performance award. Competition was keen, with over 200 participants taking part. Mr Po and other winners won a study trip to Singapore to learn about the airconditioning trade there.



# BIM EXCELLENCE AWARDS 2014 CONSTRUCTION INNOVATOR BY BIM 我們在建造 一項先導計 導地位。先 台與電子系 We have w at our hea Awards 20 demonstra

### 建築信息模擬先導項目贏得業界獎項 BIM Pilot Project Wins Industry Award

我們在建造業議會舉辦的「2014卓越建築信息模擬獎」中,以在部門總部大樓推行的一項先導計劃贏得「BIM創新建造獎」,再次證明我們在創新思維和應用技術方面的領導地位。先導計劃的目的,是測試如何以BIM技術,把資產管理 (AM) 系統、流動平台與電子系統結合應用的可行性。這計劃是發展局委託我們的任務,藉以研究BIM-AM模型在建築物管理和維修保養方面的應用和潛在優點。 We have won the Construction Innovator by BIM award for a pilot project

We have won the Construction Innovator by BIM award for a pilot project at our headquarters in the Building Information Modelling (BIM) Excellence Awards 2014, organised by the Construction Industry Council. The win demonstrates once again EMSD's leadership in innovative thinking and technology application. The pilot aimed to test the feasibility of integrating our asset management (AM) system, mobile platform and electronic system using BIM. The pilot was carried out as Development Bureau's commission for EMSD to study the feasibility and potential benefits of applying a BIM-AM model to the operation and maintenance of buildings.

### 公德地盤獲嘉許

### **Considerate Contractor Sites Win Awards**



機電工程署五項合約,在由發展局及建造業議會聯合主辦的「第20屆公德地盤嘉許計劃」,獲得了一個銅獎和四個優異獎。 其中一個獎項屬新建工程合約,其餘則屬維修、保養、改建及加建工程合約。獲銅獎的合約,是為不同的政府場地的升降機 及自動梯,提供全面保養和維修服務。我們衷心恭賀各得獎承辦商,也感謝他們在工地作業時高度注重公德的態度。

Five EMSD contracts won a Bronze Award and four Merit Awards in the 20th Considerate Contractors Site Award Scheme, jointly organised by the Development Bureau and the Construction Industry Council. One of the five awards was for new works contracts while the rest were for repair, maintenance, alteration and addition works contracts. The Bronze Award went to a contract for the comprehensive maintenance and repair of lift and escalator installations at various government premises. We congratulate our contractors for the highly considerate attitude in their work site practices and for winning the awards.

### 同事獲選為「2014年亞太區能源管理經理」

Our Colleague Elected Energy Manager of the Year 2014 for Asia Pacific Rim





前運輸、保安及中央工程部工程師張敏婕女士(現為衞生工程部署理高級工程師),於2014年9月30日在美國華盛頓的「世界能源工程大會」,榮獲能源工程師協會頒發「2014年亞太區能源管理經理」獎項。張女士近年一直致力與多個客戶建立伙伴關係,推廣「高效率」、「高價值」、「低排放」及「低投資」二高二低的能源管理工作。她在能源管理方面的出色表現,廣獲認同。 Ms Jovian Cheung, former Engineer of our Transport, Security and Central

Ms Jovian Cheung, former Engineer of our Transport, Security and Central Services Division (now Acting Senior Engineer of Health Sector Division) was elected Energy Manager of the Year 2014 (Asian Pacific Rim Region) by the Association of Energy Engineers at the World Energy Engineering Congress held in Washington D C on 30 September 2014. In recent years Ms Cheung has helped build close partnerships with clients to promote "high efficiency", "high-value", "low emission" and "low investment" in energy management, and is well recognised for her outstanding performance in such work.

### 「牢」不可破:無匙控出入項目獲獎

# Award-winning Keyless Access Project Steps Up Security



機電工程署與懲教署共同設計了一套無匙「電鎖保安系統」,系統集監控、記錄和身份認證等多項功能於一身,且無需使用鎖匙。「電鎖保安系統」由2014年2月起於羅湖懲教所開始使用,大大提升了該懲教所的運作效率,並加強出入院所的監控工作。該系統更榮獲由政府資訊科技總監辦公室和香港工程師學會合辦的「2014香港資訊及通訊科技獎」之「最佳創新(企業創新)特別嘉許」獎。 EMSD and the Correctional Services Department have jointly designed an Electric Locks Security System (ELSS), a keyless

EMSD and the Correctional Services Department have jointly designed an Electric Locks Security System (ELSS), a keyless security system integrating different functions of monitoring, operation, recording and personnel authentication and eliminates the use of keys. Since its operation began in February 2014 at the Lo Wu Correctional Institution, ELSS has greatly improved operation efficiency and strengthened access control there. The system has also won the Best Innovation (Entrepreneurial Innovation) Special Mention of the Hong Kong ICT Awards 2014, organised by the Office of the Government Chief Information Officer and the Hong Kong Institution of Engineers.

### 工程快捷順暢 贏得醫院嘉許

### **Prompt and Smooth Works Win Hospital Award**



衛生工程服務(香港西)分部於2014年6月,榮獲瑪麗 醫院頒發「即時嘉許獎勵計劃」獎項,以表揚相關同事為 該院手術室更換消防喉管時的出色表現。手術室的服務 需求很大,但由於工程進行得快捷順暢,手術室因工程 引致的停用時間也減至最低。今次獲獎,更鞏固了我們 作為該院可靠伙伴的位置。

Our Health Sector Services (Hong Kong West) Subdivision won the Queen Mary Hospital Spot Award in June 2014 for its prompt and smooth replacement of fire services pipes in its operating theatres, thus reducing down time significantly for the operating theatres which were in great demand. The award reinforced our role as the hospital's trusted partner.

### 香港品質保證局表揚品質管理系統加強工作

# **HKQAA Recognises Quality System Improvement Efforts**

香港品質保證局於2014年11月的25周年論壇暨慶祝酒會上,嘉許機電工程署為「多元體系管理機構」和「整全體系管理機構」。是次嘉許再次肯定了我們追求優質服務、愛護環境和注重安全工作的努力,並矢志精益求精及推動可持續發展。

EMSD was commended as the Outstanding Organisation with Comprehensive Management Systems and the Outstanding Organisation with Holistic Management Systems at the Hong Kong Quality Assurance Agency (HKQAA) 25th Anniversary Forum and Celebration Cocktail Reception in November 2014. The recognition reconfirms our commitment to quality service, care for the environment and safe operation, as well as service excellence and sustainable development.



### 重點與前瞻

### **HIGHLIGHTS AND WAY FORWARD**

### 重點

- 每名員工年內平均接受4.72日培訓。
- 為所有監工同事安排安全監工訓練,以加強 工場安全。

### 前瞻

- 通過舉行各種促進職業安全及健康的活動, 持續提高員工的安全意識。
- 努力達至每名員工平均每年接受最少4.5日 培訓的目標。
- 爭取於2016/17年度的新一輪員工滿意度調查,進一步提高員工滿意度。

### **Highlights**

- Achieved an average of 4.72 annual training days per staff member.
- Arranged safety supervisor training for all works supervisors to improve safety performance.

### **Way Forward**

- Continue to improve staff safety awareness through various occupational safety and health promotional programmes.
- Aim to accomplish at least 4.5 training days per staff member per year on average.
- Strive to raise the Staff Satisfaction Index in the next Staff Satisfaction Survey, to be conducted in 2016/17.

# 全球報告倡議組織指標索引

### **GRI INDICATOR INDEX**

指標 INDICATORS		全球報告倡議組織指標編號 GRI REFERENCE	頁數 PAGE REFERENCE	
策略及分析 Strategy and Analysis		1.1, 1.2	02 – 07	
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	nmitments to External Initiatives	4.11 – 4.13	☆	
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	- 社區 Community	SO1	104 – 109, 122 – 128	
	- 遵守法規 Compliance	\$08	☆	
	產品責任 Product Responsibility			
	– 產品及服務標籤 Product & Service Labelling	PR5	105	

<sup>🕒</sup> 請參閱《機電工程營運基金二零一四至一五年報告》單行本內之財務報告,該報告已上載至機電工程署網站。 Please refer to the Financial Report in the separately published Electrical and Mechanical Services Trading Fund Report 2014/15 which is available on EMSD website.

<sup>☆</sup> 請參閱《二零一四至一五年社會及環保報告》的附加文件,該資料已上載至機電工程署網站。 Please refer to the Supplementary Information of the Social and Environmental Report 2014/15 which is available on EMSD website.

本報告是參照《全球報告倡議組織 G3.1 指引》的應用等級 B+編寫。

This report makes reference to the Global Reporting Initiative (GRI) G3.1 Guidelines – Application Level B+.

如欲取得更多關於全球報告倡議組織指標的資料,請瀏覽網站www.globalreporting.org

For more information about the GRI indicators, please visit the website www.globalreporting.org

### **SUMMARY OF STATISTICS**

資源 RESOURCE	2012/13	2013/14	2014/15
電力 ('000 千瓦小時) <sup>#</sup> Electricity ('000 kWh) <sup>#</sup>	14 533 <sup>Δ</sup>	14 785	14 974
煤氣 (兆焦耳) Towngas (MJ)	131 760	223 728	19 392
水 (立方米) Water (m³)	46 168	49 912	22 215
柴油 (升) Diesel (I)	106 298	285 444	131 762
汽油(升) Gasoline (I)	437 780	370 354	373 451
紙張 — A3、A4(令) Paper – A3, A4 (ream)	27 245	26 992	26 344
油漆及溶劑(升) Paint & Solvent (I)	20 273	20 057	17 289
潤滑油 (升) Lubrication Oil (l)	81 384	100 169	66 339
油脂(公斤) Grease (kg)	1 464	1 708	1 457
製冷劑 (公斤) (例如 R22 及 R134a) Refrigerant (kg) (e.g. R22 & R134a)	14 993	13 302	14 988
工業用氣體 (立方米) (例如氧、氬及乙炔) Industrial Gas (m³) (e.g. Oxygen, Argon & Acetylene)	844	751	418
蓄電池電解液(升) Battery Electrolyte (I)	165	201	219
原子車胎 (條) Tubeless Tyre (no.)	10 361	10 656	10 982
外車胎(條) Outer Cover Tyre (no.)	2 760	3 108	2 435
車胎內膽 (條) Inner Tube (no.)	1 663	1 975	1 773
廢氣、污水及廢物 <sup>®</sup> EMISSIONS, EFFLUENTS AND WASTES <sup>®</sup>			
廢紙 (公斤) Waste Paper (kg)	24 475	18 365	25 589
碳粉盒 (個) Toner Cartridges (no.)	3 446	3 121	3 174
用罄電池 (公斤) Batteries (kg)	2 631	16 040	18 697
金屬廢料 (公斤) Metal Scraps (kg)	24 180	27 484	22 974
廢油 (升) Waste Oil (I)	94 576	93 216	99 876
舊車胎(條) Used Vehicle Tyre (no.)	4 847	11 862	13 323
含水銀照明燈 (盞) Spent Mercury Lamp (no.)	119 359	126 146	136 535
員I STAFF			
每千名員工的須予呈報意外宗數 Number of Accidents per 1 000 Staff (reportable)	4.77	5.59	4.5
員工滿意度(以10分為滿分) Staff Satisfaction (out of a score of 10)	不適用 Not Applicable	不適用 Not Applicable	6.4
培訓 (平均培訓日數目標:4.5日/每名員工) Training (average training targets: 4.5 days/staff)	5.44	4.74	4.72

<sup>#</sup> 總用電量包括建築物(例如:總部、工場、租用辦公室和數據中心)及基建(例如:總部行人天橋和無線電站)・但不包括第三者營運的員工食堂。
Total electricity consumption includes buildings (e.g. the headquarters, depots, rented offices and data centres) and infrastructure (e.g. the footbridge connecting to headquarters, and radio stations) but excludes the staff canteen operated by the third party.

Δ 不包括小蠔灣數據中心的用電量。
Electricity consumption of Siu Ho Wan Data Centre is not included.

② 有關的廢物由持牌承辦商收集・供物料循環再造或棄置。
The concerned wastes are collected by the licensed contractor for material recycling or disposal.

### 核實聲明

### VERIFICATION STATEMENT





### 獨立保證意見聲明書

聲明書編號: SRA-HK-639857

### 2014/15年度機電工程署社會及環保報告

英國標準協會與機電工程署為相互獨立的公司及組織,英國標準協會除了針對機電工程署2014/15年度社會及環保報告進行評估和核查外,與機電工程署並無任何財務上的關係。

本獨立保證意見聲明書的目的,僅作為對下列有關機電工程署社會及環保報告所界定範圍內的相關事項進行保證之結論,而不作為其他之 用途。除對核查事實提出獨立保證意見聲明書外,對於關於其他目的之使用,或閱讀此獨立保證意見聲明書的任何人,英國標準協會並不 自有或承擔任何有關法律或其他之責任。

本獨立保證意見聲明書基於機電工程署提供予英國標準協會之相關信息審查所作成之結論,因此審查範圍乃基於並局限在這些提供的信息內容之內,英國標準協會認為這些信息內容都是完整且準確的。

對於這份獨立保證意見聲明書所載內容或相關事項之任何疑問,將全部由機電工程署回覆。

### 核杳範圍

機電工程署與英國標準協會協議的核查範圍包括:

- 1. 整份機電工程署2014/15年度社會及環保報告內容及機電工程署在2014年4月1日至2015年3月31日期間的所有業務及活動。
- 2. 依照包容性、重大性和回應性這三個原則對機電工程署進行本質和程度的評估。及對指定可持續性的信息/數據之可信賴程度作出核查。 本聲明書以英文作成並已翻譯為中文以供參考。

### 意見聲明

我們總結機電工程署2014/15年度社會及環保報告內容,對於機電工程署的相關運作與績效提供了一個公平的觀點。我們相信有關機電工程署2014/15年的經濟、社會及環境等績效指標是正確無誤地展現。報告所披露的績效指標展現了機電工程署對識別利益相關方的努力。

我們的工作是由一組具有可持續報告核查能力之團隊執行,以包容性、重大性和回應性作為原則。透過策劃和進行核查時所獲得的信息及 説明,我們認為機電工程署已提供足夠證據表明他們的自我聲明符合 GRI G3.1 報告綱領是屬公允的。

### 核查方法

為了收集與作成結論有關的證據,我們執行了以下工作:

- 對來自外部團體的議題相關於機電工程署政策,進行高階管理層的審查,以確認本報告中聲明書的合適性
- 與機電工程署管理者討論有關利益相關方參與的方式,然而,我們並無直接接觸外部利益相關方
- 訪問與可持續發展管理、報告編制及信息提供有關的員工
- 審查有關組織的關鍵性發展
- 審查報告中所作宣告的支持性證據,及
- 針對公司報告及其有關包容性、實質性及回應性原則的流程管理進行審查

### GRI報告綱領

機電工程署提供有關符合 GRI G3.1報告綱領 (應用等級 B+) 的自我宣告。從審查的結果,我們確認報告中參照 GRI 的可持續發展的相關指標已被報告。

### 責任

對於這份社會及環保報告內容及所提供予英國標準協會作審查用的信息之所屬責任,為機電工程署負責人所有。我們的責任為基於所描述的範圍與方法,提供專業意見並提供利益相關方一個獨立的保證意見聲明書。

### 能力與獨立性

英國標準協會於1901年成立,為全球標準與驗證的領導者。本核查團隊係由具專業背景,且接受過如GRI G3.1、GRI G4、ISO 14001、OHSAS 18001及ISO 9001之一系列可持續發展、環境及社會等管理標準的訓練,具有主導擔保核查員與碳足跡核查員資格之成員組成。本保證係依據BSI公平交易準則執行。

英國標準協會代表:

高毅民博士 BSI 亞太區可持續發展副總裁 XIII -

陳肇雄 BSI亞太區可持續發展 策劃經理 暨

香港區營運總監

2015年11月2日



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### INDEPENDENT ASSURANCE OPINION STATEMENT

Statement No.: SRA-HK-639857

# Electrical & Mechanical Services Department, HKSAR Social & Environmental Report 2014/15

The British Standards Institution is independent to Electrical & Mechanical Services Department, HKSAR (hereafter referred to as EMSD in this statement) and has no financial interest in the operation of EMSD other than for the assessment and assurance of this report.

This Independent assurance opinion statement has been prepared for EMSD only for the purposes of assuring its statements relating to its sustainability report, more particularly described in the Scope, below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the Independent assurance opinion statement may be read.

This Independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by EMSD. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to EMSD only.

### Scope

The scope of engagement agreed upon with EMSD includes the followings:

- 1. The assurance covers the whole S&E Report 2014/15 of EMSD's and foci on systems and activities during the period from 1st April 2014 to 31st March 2015
- 2. The evaluation of the nature and extent of the EMSD's adherence to three principles Inclusivity, Materiality and Responsiveness. The specified sustainability performance information/data disclosed in the report has been evaluated.

This statement was prepared in English and translated into Chinese for reference only.

### **Opinion Statement**

We conclude that the EMSD Social & Environmental Report 2014/15 Review provides a fair view of the EMSD CSR programmes and performances during 2014-15. We believe that the 2014-15 economic, social and environment performance indicators are fairly represented. The sustainability performance indicators disclosed in the report demonstrate EMSD's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurors in accordance with the principles of inclusivity, materiality and responsiveness. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that EMSD's description of their self-declaration of compliance with the GRI guidelines were fairly stated.

### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to EMSD's policies to provide a check on the appropriateness of statements made in the report
- Discussion with senior executives on EMSD's approach to stakeholder engagement. We had no direct contact with external stakeholders
- Interview with staff involved in sustainability management, report preparation and provision of report information were carried out
- Review of key organizational developments
- Review of supporting evidence for claims made in the reports
- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality and Responsiveness

### **GRI-reporting**

EMSD provided us with their self-declaration of compliance GRI G3.1 Guidelines and the classification to align with 'Application Level B+'.

Based on our verification review, we are able to confirm that social responsibility and sustainable development indicators are reported with reference to the GRI G3.1 Guidelines.

### Responsibility

It is the responsibility of EMSD's senior management to ensure the information being present in the Social & Environmental Report being accurate. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

### **Competency and Independence**

The assurance team was composed of Lead auditors and Carbon Footprint Verifiers experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3.1, GRI G4, ISO 14001, OHSAS 18001, and ISO 9001, etc. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Dr. Yi-Min Gao

Vice-President, Sustainability, BSI Asia Pacific

Xin -

Mr. Wilfred Chan Sustainability Portfolio Manager, BSI Asia Pacific Operations Director, BSI Hong Kong

2 November 2015

### 鳴謝

### **ACKNOWLEDGMENTS**

在年報製作過程中,承蒙下列部門及機構提供協助,機電工程署特此鳴謝。

The EMSD would like to express its sincere thanks to the following departments and organisations for their support and cooperation in the course of preparing this annual report (list in alphabetical order).

香港機場管理局 Airport Authority Hong Kong

建築署 Architectural Services Department

 懲教署
 Correctional Services Department

 香港海關
 Customs and Excise Department

食物環境衞生署 Food and Environmental Hygiene Department

政府飛行服務隊 Government Flying Service

路政署 Highways Department

香港消防處 Hong Kong Fire Services Department

香港警務處 Hong Kong Police Force

醫院管理局 Hospital Authority

司法機構 Judiciary

康樂及文化事務署 Leisure and Cultural Services Department

北大嶼山醫院North Lantau Hospital威爾斯親王醫院Prince of Wales Hospital伊利沙伯醫院Queen Elizabeth Hospital

旅遊事務署 Tourism Commission

工業貿易署 Trade and Industry Department

運輸署 Transport Department

將軍澳醫院 Tseung Kwan O Hospital





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### **Electrical and Mechanical Services Department**

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