

香港空調及冷凍商會有限公司 THE HONG KONG AIR CONDITIONING AND REFRIGERATION ASSOCIATION LIMITED





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Message from the **President**

It is my great pleasure and honour to act as the President of The Hong Kong Air Conditioning and Refrigeration Association Ltd. (ACRA) witnessing the historic 60th anniversary. Coming to the end of my term, I would like to express my heartfelt gratitude to the past and current Council Members, Youth Committees Members, and all members for their unwavering support that have nurtured ACRA in becoming a highly reputable association in the industry.



Ir Franklin Lau President

During this two-year term, although Hong Kong was affected by multiple waves of COVID-19 which limited our face-to-face interaction, our monthly council meetings are currently held online by Zoom. Moreover, we managed to work closely with the government in formulating technical guidelines, circulars, and specifications. For instances, ACRA had made recommendations to the Architectural Services Department (ArchSD) on the Mutli-trade integrated Mechanical, electrical and plumbing (MiMEP) specification, the Government General Specification and Guidance Drawings, the Electrical and Mechanical Services Department (EMSD) Building Energy Code 2022 edition, as well as the Fire Services Department (FSD) on pre-insulated air duct and review Part XI of circular letter No.4/1996 in ventilation systems. We had provided sample drawings showing acceptable standards to the Building Department (BD), which is now included in the newly revised Practice Notes for Authorized Person (PNAP) ADM-19 ADV-33 Essential Information in Plan Submission issued in December 2021.

We had been supporting the Government bodies and stakeholders on various activities. To echo HKSAR Government's Climate Action Plan 2030+, together with the Hong Kong Green Building Council (HKGBC), we advocated in organising webinar for various stakeholders on with experience sharing to achieve CIC Green Product Certification through the prudent selection of low carbon and high energy savings HVAC products. Besides, we also presented lecture on water saving solutions for HVAC systems organized by the Water Supplies Department (WSD) during the Enterprises Cherish Water Campaign.





MESSAGE FROM THE PRESIDENT

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..... From cover page

Furthermore, we had arranged numerous activities and training courses to our fellow members throughout the years. Together with VTC and supported by EMSD, we conducted a series of practical trainings to the A/C workers and members on Household Air-conditioner using Mildly Flammable Refrigerant, Revision course on handling HFC & Blended Type Refrigerants etc. Simultaneously, ACRA set up a taskforce and is working closely with The Hong Kong Air-Conditioning and Refrigerating Trades Workers General Union with the target to achieve the voluntary registration scheme for air conditioning workers which can enhance their skills to a recognized standard serving the future construction industry.

Youth Committee is one of the major assets of ACRA, the members are young and energetic, not only support the operation of the council, but also organised a variety of creative online events to our members throughout the year namely Online Beer Competition, Photo Contest, Video Contest, and AR Technical Visit. All of these events can successfully link up the relationship of our members despite Hong Kong was heavily strike by COVID-19 Pandemic.



The ACRA 60th Anniversary Dinner was successfully held under the social distancing measures on 22 November 2021, after being suspended for two years. This special occasion had allowed our members and distinguished guests, including government officials, and industry veterans, etc., to share the pride of collective achievements and recognizing contribution of ACRA as well as relishing the memorable evening together in person.

All of ACRA's activities have been completed in great success on account of the exceptional contribution and support provided by our council and members. Last but not least, it is certainly my privilege to serve you as the President of ACRA for Term Years 2020 - 2022. Thank you.

第五波疫情對冷凍空調工程業界的影響

序言

新冠病毒疫情在今年初爆發第五波,感染人數和死亡率都比以前四波嚴重

百倍,每日感染人數亦連續數日以萬 計,加上各種防疫措施及鄰近地方的 政策都瞬息萬變,對空調及冷凍業造 成前所未見,預計之外的影響。今期 通訊特別邀請具代表性的會員,從多 方面分析疫情對我們業界的影響。



Photo by Ryan Mac (https://unsplash.com/@ryanmc)

疫情下維修保養行業面對的挑戰

撰文: **陳家龍博士工程師**

在建築行業裏面.維修保養從業員是站在抗疫和防疫的最前線,日常工作會比一般建築工人面對較大染疫的 風險。在疫情期間,當客戶有染疫個案,會要求維修保養公司去做清潔消毒,並提交防疫方案。就算不幸有 員工染疫和在物資短缺下,也要繼續調配人手和裝備去滿足工作上的需求,為抗疫和防疫付出很多,值得我 們敬佩。

在疫情爆發初期,連口罩這些基本的防護裝備在市面上都供不應求,小市民要排隊或付出比平常更高的價錢 才能購買得到。維修保養從業員做例行維修保養工作有時需要每日更換口罩兩至三次,使用率比一般人高。 公司只能多方面嘗試尋找貨源,除了大量訂購也要作彈性安排給維修保養從業員當有急切需要時在市面上自 行購買,成本上升了不少,但為了保障他們的安全也在所不計。對於一些高風險的維修保養工作,還要穿上 全套一次性保護衣、保護眼罩、保護面罩和手套,用完後要全部適當地棄置,大大加重了成本和需求。有些 客戶甚至要求維修保養人員只能一天去一個維修保養地方,不能一天做超過一個維修保養項目,去減低感染 機會。到疫情高峰期,有些大客戶要求維修保養人員只能在其項目內工作,不能跨客戶或項目工作,令到人 手調配非常緊張和困難。當有維修保養從業員染上疫症後,要馬上通知公司,公司要馬上通知客戶他們曾經 到過的工作地點並要進行消毒工作。初期次數比較少,消毒工作也可以由自己同事穿上足夠的保護裝備去

進行。但後來情況比較嚴 重,在人手不足情況下, 要安排專業的清潔消毒公 司去進行特別處理。動軌 一次的費用可能要在一萬 元左右(看地方大小),還 要先付款後工作,很多管 理人員為了要確認服務時 間和訂單,要代公司預支 款項。在時間緊迫和供不 應求的情況下,只能勉為 其難配合安排。



在沒有確認接受快速測試安排之前,維修保養從業員要不斷定期地做核酸測試,對於工作安排有非常之大的影 響。在第五波疫情高峰時期,所有維修保養從業員每天早上在進入維修保養工作地點前要先進行快速測試。一 個快速測試劑最初是超過一佰元一個,後來供應增多後才下降至二十元一個,到現在是大約十元一個,前後價 格相差很大,這些特如其來的額外支出,令到很多維修保養公司成本大大提升。維修保養公司會為客戶提供不 同的防疫方案,例如用紫外光燈殺菌、納米塗層、殺菌過濾器及噴劑去提升空氣質素管理。



在全港人口老化的情況下,建築業工人或維修保養從業員 平均的年齡都超過50歲。在初期怕打疫苗的情況下,部 份年紀大的從業員比較容易染病,而染病後都比較多後遺 症,和康復過程都會比較緩慢,令到人手調配雪上加霜。 有些維修保養工作因疫情影響會被延誤了,相關的維修保 養工作未能及時完成。其實這疫情令到很多業主、物業管 理公司、分判商、維修保養公司和供應商都面對很大的挑 戰和壓力,在同舟共濟的大前提下,希望客戶抱着寬鬆的 態度去處理維修保養事宜,不要只用合約精神,大家應該 互相體諒和包容,令到整個建築行業可以共渡時艱。曾經有客戶要求維修保養供應商證明自己已經積極和 盡力去補充人手,才會考慮給予彈性安排或放寬合約條款。但其實在整體市場缺乏人手的客觀情況下,還 需要證明什麼?

第五波疫情對冷凍空調工程業界的影響

冷凍空調工程分判商面對的困境

撰文:**莊國明工程師**

自香港於二零一九年的反修例風波引發暴亂及二零二一年全球爆發的新 冠病毒至今,冷凍空調工程分判商已經歷到各種困難及面對不可預測的 未來。一直以來,所有工程項目包括新建工程、改動或加建及維修保養 等等事項均競爭激烈,加上工程人員及熟練工人人手短缺,一般工程的 凈利潤由過去的風光日子已跌到勉強能維持公司營運的困境。在第五波 疫情及未來可見將增加的營運成本的情況下,估計有不少的中小型工程 公司將會完成他們的歷史任務結束營運。疫情對業界的影響主要如下:



圖片來源: 瑪莫列醫院項目

1) 出入地盤的疫情管理方式及隨時停工

- 地盤進出均以疫情管理模 式運作,每天須花上一定 時間完成所需程序才可以 進入地盤安排工友開工。 完成了安全施工簡報後還 餘下多少工作時間就到午 飯呢?
- 安排午飯及下午(三點三) 小休並要確保遵照地盤疫 情管理要求,正是我們的 另類挑戰。
- 如發現有懷疑個案或確診 員工,有關工作小組及接觸 者均需停工在家隔離及在 指定日子進行檢測事宜。



圖片來源:啟德發展區項目

作為良心僱主,他們的薪金只可以繼續發放。其他按出勤紀錄發放日薪的勞務分包商(Labour Sub-contractor)根本無法運作。

● 地盤如發現懷疑或確診個案會即時按疫情風險評估嚴格執行停工程序,包括關閉部份有關地區或整個 地盤進行幾天或更長時間的徹底消毒。這樣不可預計的施工情況,在人力及物料運輸安排真的無所適 從,所有損失只得一個答案:「明白你們的困難,但愛莫能助,一切必須按合約精神辦理!」

就上述情況,工作效率施工隊的額外費用和停工再組織施工人手等種種困難,都是我們分判商要解決

的問題。更甚者,工程管理人員按申報指引,有需要時可以在家工作(Work From Home),這真是行 得通嗎?

2) 工程延誤及需配合總承包商延長施工

因地盤所有運作需按疫情管理模式進行,所有事宜包括入則及審批、地盤施工及檢查、完工驗樓等所 有程序均有所延誤。一般工程工期可能延長一年或更長時間。按目前情況,在沒有附帶條件下,建築 師將會按實際情況授權接受有關的延長時間。工程延長一年,分判商只能默默承受工程管理隊的額外 費用,但勞務分包商卻不可能同意。結果分判商將按勞務分包商出勤人數依時付款,錢付了但工作進 度卻未如理想,所有損失有苦自知。

除金錢上的損失外,分判商管理工程隊及施工人員因工程延長而將不可能參與新的工程項目,因此公 司將損失承接其他工程的機會,構成雙重損失。

3) 工程物類延誤到港

- 海、陸、空所有運輸皆因疫情 問題引致延誤,令運輸額外成 本倍增。
- 冷凍空調工程大部份物類都是 在國內生產,因疫情關係有些 工廠暫時關閉, 有些地方更是 **實施閉環管理**,所有貨品進出 均受到影響。
- 物類因短缺及國際因素而漲 價,原來一些在國內預製組 裝工序需要在港進行。

要確保工程延長的情況下,

還要配合總承包商的施工要求,分判商需要租用臨時貨倉和工場以便存放有關物類及進行組裝事項。

第五波疫情對冷凍空調工業界確實造成難以修補的傷害,大家清晰可見問題的種種都是涉及額外的工程時間 和費用。有幸得到有關合約管理人的諒解及明白,給予工程延長完成的時間。祈望倖存的分判商可以在疫情 過後繼往開來,在未來的日子裡收復失地,為冷凍空調行業發光發亮。我們真摯感謝香港特別行政區在這困 難的時刻多方面關注香港的各行各業,並再次給予我們「保就業」支援,雪中送炭,鼓勵大家繼續維持正常 運作,迎接香港的美好未來。



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第五波疫情對冷凍空調工程業界的影響

供應商的苦況

撰文:**梁栢泉博士**

發展局在3月14日宣布,鑑於第五波COVID-19疫情對發展及建造業的影響,決定延長政府工程合約的建造期 這可對承包商確實有點幫助;但其實COVID-19至今,已對供應商帶來不少其他困難。

物價不斷漲價

從2020年開始,無論是銅還是鋁 的成本價都大幅上漲,曾經超過2 倍,令到我們建造業的主要成本增 加很多,例如,電機、電線、機械 設備、空調系統等,都漲價了三成 或以上,發展商及承包商都未必願 意支付這多出的成本,供應商唯有 默默地承受了這些損失(如果還能 生存的話)。

運輸成本瘋狂上漲

無獨有偶,運輸成本也瘋狂地上 漲,空運費上升2至5倍,船運更 上升高達10倍,發展商及承包商也 不願意支付這些費用,供應商只能 獨力承擔(如果還未倒閉的話)。





供應鏈瓶頸

因疫情導致人員、機具、材料、設

備有供應不足現象,工廠停工或運輸航班停航、減班或因供應不及致額外成本及工期增加,產生契約爭議糾紛。 財務周轉困難,增加營運風險。

許多國家及地區都鎖國、封城或實施強制、限制人民自由移動措施,導致成品完成不可預期生產,令到本土及 跨國產業的供應鏈斷絕,即使能生產此部分貨品,成本及供貨也芣驚人地增加。機械設備如帶控制的,都因應 芯片或電子板的短缺而受到重大衝擊,很多貨品都因搶購而造成價格不合理地上漲!

再者,國內疫情管控何時解除不得而知,市民不單具感染風險,國內復工進度帶不確定性,帶來市場行情更 不易掌握!

工期延誤 — 額外運輸及倉庫費用

原先因貨期延遲,有些供應可能會用昂貴的空運來追回部分供貨期,但到貨後卻遇上第五波的工期延誤,工地 無法接收貨物,因此這些額外運輸及倉庫費用,供應商都難以全數轉嫁給承包商或發展商!



Since its introduction, the standalone desiccant dehumidifier has seen wide applications in a vast range of sectors, with users spanning the pharmaceutical, food manufacturing, hotel, hospital and luxury housing fields. Its heating, ventilation and air conditioning (HVAC) system precisely controls temperature and humidity, thereby optimising indoor air quality (IAQ). To broaden its commercial, industrial and residential use, Towngas has launched an integrated primary air-handling unit (PAU) with desiccant wheel, which significantly reduces the requisite installation space and equipment costs. With the addition of optional Electrostatic Precipitator (EP) and UV Photocatalytic Oxidation (PCO) components, the system can even filter fine particles and eliminate microbes to meet ever-rising hygiene standards. What's more, the system can be integrated with solar collectors to conserve energy during desiccant wheel regeneration. Collectively, these processes ensure effective climate control, greater comfort, enhanced productivity, efficient energy utilisation and decreased emissions.





IMPROVING IAQ THROUGH



MAKE YOUR BUILDING DATA WORK FOR YOU

In today's age of Big Data and Artificial Intelligence, everyone seeks to collect data and derive insights from them. Yet there are but few success cases where data translates into actual dollar savings.

JEDI makes Predictive Maintenance and AI-based Optimization a reality with our successful use cases delivering strong energy savings for our major customers.

OUR OFFERINGS

UP TO

ENERGY

SAVINGS





Energy Optimization



Minimizing your carbon emission creates more than just

a better world to live in.

sustainable businesses, but also

Predictive Maintenance

Leverage latest technology and get notified of faults before they happen. This is our way of ensuring your tenants have the best experience.

Saving-Sharing

We only take a slice of what we save for you. This means minimal payback period and maximum ROI.



(SVIVES) **DfMA Design for VRF AHU and PAU Panasonic** UV sterilizing system VRF AHU/PAU Combined installed at a Hospital Project Heat pipe coil Capacity: 3,500TR lonizer Panasonic AHU Kit DX cooling and reheating coil control completed with accessories and sensors Features Energy saving - COP-4.56 VRF Outdoor Eurovent certified achieved EN1886 TB1 standard Clean & sterilize DfMA design include all sensors, DDC controllers, LMCP, refrigerant control system Built-in UV-C & Ionizer

Built-in heat pipe for passive humidity control

(SVIVES)

Integrated AHU ITPAC, Chiller & FCU

- DX Heat pump system with COP 5 for winter heating & sensible heating for dehumidification purpose
- Low installation cost and low power consumption which is better than chiller plant
- 75% or 100% redundancy design for fan and outdoor unit

Ventilating Fan & Filter

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High voltage is able to kill virus and allow the pollution particles charged



High Efficiency Kill Virus And Adsorb Smaller Harmful Particles (eg. H1N1)

Remove 99% of particles in the air, and adsorb pollution particles of 0.01 µm; kill influenza virus in an electrostatic way.



Low Pressre Drop

Reduce Energy Consumption Air resistance is less than 10Pa (FFC), which can save more energy, protect fan coil or AHU surface air cooler, and prevent filth blockage of coil from damaging effect of heat exchange and temperature control

COVID19 Test Report



Other Job reference





Harbour North



Manifold International Limited G/F, 409 JAFFE ROAD, WAN CHAI, HONG KONG

Information about AirQuality





Washable Filter

"Micro-electrostatic" Technology And Repeated Washing In 10 Years Adsorb over 99% of PM2.5 0 material consumption, repeated washing of Micro-Electrostatic filter, large adsorption area and high dust holding capacity.



Achieve MERV14 Standard

by ASHRAE um Efficiency Reporting Value) Typical controlled contaminant : Bacteria, droplet nuclei (sneeze), smoke and insecticide dust, face powder, paint pigments

Job References

Central Plaza

Adoption

Killing 99.99% COVID-19 virus Fan Coil Unit (90mm thickness)









*Adopted projects will be qualified for

WELL and LEED Certification.







人物特寫 - 黃宣平先生

相信大部份會員對在60週年晚宴中播出由12位會長的表演片段都載有深刻印象,有 很多會員都問:「誰是ACRA的第一任會長?」但由於紀錄不全,只能靠業界老行尊 依稀的記憶,推斷是1961年四間創會會員之一的北極冷氣東主黃宣平先生。今期通 訊人物特寫就為大家介紹這位已辭世四十年的業界翹楚-黃宣平先生。



背境

黃宣平先生(Wilfred Wong Sien-bing, 1910-1981)在1910年12月19日出生於上海,

是兄弟姊妹中最年幼的。祖父黃光彩是美國聖公會(American Episcopal Church)的第一個華藉牧師。聖公會 在上海創立聖約翰書院及後來的聖約翰大學(約大),人材輩出,校友盡是政商界精英,而約大亦與黃家幾代結 下不解緣。父親黃佐庭在美國大學畢業後回國,後來從政,協助清廷處理庚子賠款資助學生出國留學事宜, 1919年不幸在美國遭殺害。黃宣平先生當時僅八歲,由母親撫養成人,於1927年約大中學部畢業,赴笈加拿 大多倫多大學深造,在校時他是運動健將,曾參與英式足球隊及田徑賽,並利用三年的暑假在加拿大通用汽車 公司實習。黃宣平於1931年畢業獲文學士,加入美國底特律的通用汽車總部工程科研部工作,1932年轉去位 於俄亥俄州戴頓,為通用旗下的北極牌電冰箱工廠(Frigidaire)工作。

十里洋場

黃宣平在轉到北極後不久便返回中國,加入在上海代理 北極牌的美商北極公司(American Engineering Corporation)任職工程師。北極公司於1921年由康奈爾 畢業的美軍工程師漢布敦(Roscoe L Hambleton)創立, 引進美國北極牌電冰箱,又建立中國第一個雪藏庫。 黃宣平先生加入公司後事業平步青雲,兩年間晉升為 經理,1938年獲擢升副總裁,1940年,年僅三十歲的黃 先生更出任執事董事一職,打造公司的成長發展,在冷 藏空調業享譽盛名,僱員達四百多人。黃宣平先生二十 九歲時獲國際租界工部局委任為董事,踴躍為社會公益 事務貢獻的他同時擔任了眾多要職,包括中國麻瘋病患 者使團會長、宏仁醫院和同仁醫院總監,及上海青年會 董事。1938年,熱心愛國的黃宣平在上海戰亂時期為



1939年家庭照,後排右三為黃宣平

傷兵施以援手,提供協助,並與同事開始與遷往重慶的中央政府維持聯絡,秘密為國府在當時被敵佔領的上海 從事一系列地下工作。1940年10月初,他的同事及公司要員陳三才先生(Sarcey T. Chen)因為策動行刺汪精衛 被殺。一星期後的10月12日,黃宣平在赫德路住所門外被四名匪徒持槍綁架。當年上海發生多宗綁架案件,有 頭面的工商界人士人人自危。據黃宣平先生在劫後以英文寫成的《上海黑洞》(The Black Hole of Shanghai,另 有一譯為《上海牢獄之災》)所述,他被收禁於黑暗的斗室達二十四天,匪徒勒索他五百萬元法幣,當時約值 5,000両黃金。他作為一間企業的受薪員工,供養一家多口,根本無法負擔五百萬的贖金。經過多番斡旋,他 終於獲釋,二十四天內消瘦了十二磅,頭髮亦開始脱落,劫後餘生的他對人生觀重新審視,寫下了一本心理自 傳式的文學作品-《別爾·李,心靈上的自傳》(The Mental Autobiography of Bill Lee),自此更積極參與慈善工 作。在上海淪陷期間,他曾被日本憲兵營傳喚或關押達五次之多,可幸最後都安然無恙。抗戰對北極公司打擊 嚴重,陳三才被殺,漢布敦上校於1942年8月在緬甸森林戰死。隨著主要股東漢氏及陳氏的離世,黃宣平漸漸 成為北極公司的大股東。除了北極公司以外,黃宣平先生在進口煤、蔗糖、糖漿的通惠公司、化學製藥廠和酒 廠都持有股權,又在上海靜安寺路一帶持有房地產。他在抗戰勝利後加入約大出任校董,服務教育界。

遷業香港,傳承二代

1947年,黃宣平見國內政局不穩,決定獨自到香港成立分公司,並出任董事長,翌年11月其家人亦到香港定 居。事業亦從新開始,例如北極牌當時在港由英商天祥洋行代理,黃宣平先生唯有改為代理Crosley冰箱。經 兩年努力建立香港市場,終獲得北極牌總代理權,在告羅士打行(即今置地廣場)開設有陳列室。其後黃先生更 代理開利冷氣(Carrier)並重新開始冷氣安裝工程,生意逐漸起飛。黃宣平在上海時期代理Frick牌冷氣,當年 的大光明戲院、美琪戲院等地方的中央空調安裝工程都由他包辦。他在香港的的第一單主要工程是高可寧家族

所持有的灣仔菲林明道東方戲院(現大有大廈位置),隨後又接了中環娛樂戲院的生意,帶領香港戲院業走進冷 氣時代。開利原本是黃宣平先生業務上的競敵,但由於韓戰爆發後遠東政局不穩,開利決定改行代理制,有一 次在飛機上機緣巧合下認識到坐在旁邊的大通銀行大班,這位大班撮合了黃宣平與開利的合作。五、六十年 代香港經濟開始起飛,一棟棟的商廈、廠房及旅館的興建落成為黃宣平先生帶來無限商機,其代表作包括尖 沙咀的總統酒店(現iSQUARE國際廣場位置)、中環的聯邦大廈(現永安集團大廈)、龍子行(現豐盛創建大廈 位置)、香港紗廠以及中央紗廠。他一直培育跟他英文同名的獨子黃翊民(Wilfred Wong Jr.)接班。五十年代 黃翊民先生入讀美國麻省理工,期界曾在紐約開利做暑期工,畢業後旋即加入該公司,後來回港加入父親的公 司。黃宣平先生在上海已相熟的建築師如甘洺(Eric Cumine)及基泰等介紹了很多生意給他們,而當年大部份 新落成的大廈,都是由開利包辦冷氣工程,最令他們驕傲的,可算是在60年代初接到文華酒店(後易名文華東 方)的冷氣工程,在激烈競爭下突圍而出,勇奪該五百萬元的合約。黃宣平先生的業務不局限於香港,在1954 年,兩位退役美軍邀請他到日本沖繩島(Okinawa)成立分公司。當時美軍在太平洋涉獵廣闊,1964年以後因 越戰關係,有萬名美軍駐守沖繩島,美軍在島上建立基地,造就北極牌更多的生意。為答謝兒子及副手陶學祁 (Edwin Tao),黃宣平亦分了一些公司股份給他們。1978年,北極總營業額達一億港元,但黃宣平先生卻毅然 賣盤,與其兒子及副手的控制權售予森那美(Sime Darby)旗下的信昌集團(China Engineers)。黃翊民先生後 來解釋,七十年代初日資冷氣廠商如大金、三菱等進入市場,競爭開始白熱化,於是在1972年透過一位朋友 跟森那美磋商賣盤。黃翊民先生賣盤後留在公司五年後退出,轉至經營柴油機生意及獲胡法光先生邀請他出任 公司菱電集團的顧問,直至1990年在他六十五歲時退休並移居加拿大。

商而優則政

在上海租界時期已熱心公職的黃宣平先生,來港後受港英政府重用,在1960至1968年 他被委任為市政局議員,1965至1973年又獲委任為香港立法局,期間於1961年獲封非 官方太平紳士,並分別於1967年及1974年獲頒OBE勳章及CBE勳銜。出任立法局議員 期間,黃宣平先生對土地工商及金融發展作出不少貢獻,當年興建海底隧道的重要議 案,就由工程師出身的黃宣平投下決定性的一票,最後以八票贊成七票反對下通過議 案,有關決定迅速加快香港的發展步伐,迄今海底隧道仍是這個國際大都會的重要基 建樞紐。

百年樹人

黃宣平先生在本港教育方面亦建樹良多,他1962年起出任崇基書院校董,1976至1981年他更出任校董會主 席。1971年,黃宣平先生獲邀出任首屆樹仁書院(現在的樹仁大學)校董會主席。樹仁最初的校址在跑馬地成 和道一幢別墅內,經黃宣平先生主動向政府遊説下,終於1978年獲批出北角寶馬山上的一塊地皮建校,沿用 至今。除了崇基及樹仁外,黃翊民先生憶述父親曾協助不少學子到美國留學。

捐血助人

教育及政治以外,黃宣平先生曾是紅十字會香港分會會長,落力向本港居民募捐,一改當年只依賴外來水兵為 捐血來源的情況。他曾向記者解釋,自己其實自少怕血,所以幼年時家人叫他學醫,他都借故推搪,惟戰時蒙 難,令他感受到助人救命的重要性,因此熱心紅十字會工作。

孜孜不倦

黃宣平先生愛好運動,每天在位於淺水灣的住所附近跑步,下雨天就在家圍著餐檯跑,更風雨不改到鄰近的淺水灣游泳;他又與立法局同事、地產商利銘澤及怡和大班Hugh Barton等組成香港鄉村俱樂部(HK Country Club),耍樂之餘更提倡種族平等。他六十歲後更開始鑽研柔道,堪稱柔道高手,保持健康體魄。據由出生到 十二歲都跟他一起居住的孫女黃珍蕙女士回憶,祖父對工作十分認真,一次撞車受傷後沒有休養便如常開會; 由於他在上海長大,廣東話不太流利,為了應付晚年各方演講的要求,他很努力跟秘書及孫女練習廣東話。雖 然他為人表面嚴肅,但心地非常慈祥,百忙中亦不忘給孫女讀經及講故事。

驟然離世

1981年6月28日,只有七十歲的黃宣平先生在淺水灣家中看電視時卻突然心臟病發,與世長辭,結束傳奇一生。

以上資料來自三聯書局在2012年出版由羅元旭著"東成西就:七個華人基督教家族與中西交流百年"。



黃宣平受勳



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A. EMSD - Best Practices for Operation and Maintenance Service of HVAC Ixnstallations

Best Practices for Operation and Maintenance Service of HEATING, VENTILATION AND AIR CONDITIONING INSTALLATIONS EMSD



The Booklet recommends a basic framework for 15 key attributes important to users such as facility management professionals and relevant stakeholders involved in the design, construction, operation, maintenance, alteration, addition and replacement of HVAC installation in buildings. Under each key attribute, it outlines the general, good and best practices for operation and maintenance service of HVAC installation based on the best knowledge exchange with trade stakeholders, regardless of size, complexity or location.

With the dedicated collaboration and commitment with the trade practitioners, it is intended to develop the guiding practices that are professional, reliable, up-to-date and widely applicable for the assets management of most of the relevant electrical and mechanical assets in Hong Kong.



B. EMSD New Refrigerant Newsletter



The latest issue of New Refrigerant Newsletter, has been published by Electrical and Mechanical Services Department in March 2022. The newsletter gives a brief discussion of R-417A, a next generation non-flammable refrigerant. Please visit the EMSD website: https://www.emsd.gov.hk/frsafety/chi/newsletter/index.html for the past newsletters.



INDUSTRIAL NEWS

C. FSD - Code of Practice for Control of **Dangerous Goods on Land**

2022 年第 9 期志報第 4 號特別副刊 S. S. NO. 4 TO GAZETTE NO. 9/2022 D1795 G.N. (S.) 7 of 2022 FIRE SERVICES DEPARTMENT DANGEROUS GOODS ORDINANCE (Chapter 295) Pursuant to section 5A(4) of the Dangerous Goods Ordinance, the following is the Code of Practice prescribed by me under section 5A(2):---



CODE OF PRACTICE FOR CONTROL OF DANGEROUS GOODS ON LAND

March 2022

[Published under Section 5A of the Dangerous Goods Ordinance (Cap. 295)]

Fire Services Department website : http://www.hkfsd.gov.hk/dg/ Published by Fire Services Department

The new edition of the Code of Practice for Control of Dangerous Goods on Land, has been published by Fire Services Department in March 2022.

The Code is providing practical guidance in respect of any one of the requirements of Cap.295 or of regulations made under Cap.295. It shall be red in conjunction with the Dangerous Goods Ordinance and its subsidiary legislation and shall be effective from March 31st 2022.

The Code is an important technical resource to help the Dangerous Goods (DG) practitioners in Hong Kong to comply with the legal requirements of the Dangerous Goods Ordinance. It is important that all DG practitioners understand and comply with the requirements of the Code, including the consignors, packers, drivers and users, along with DG professionals and trainers.



Due to the inherent hazardous nature of DG, special care should be taken in handling these DG so as to minimize any danger to life and property.

Occupational Safety & Health Council held a webinar in November 2021 for the new Ordinance. Video of the webinar is available on YouTube https://bit.ly/31YIYgZ or scan QR Code:



D. EMSD – Code of Practice for Energy Efficiency of BS Installation and Building Energy Audit



The 2021 edition of Code of Practice for Energy Efficiency of Building Service Installation (BEC) and Building Energy Audit (EAC), have been published in December 2021.

Code of Practice for Building Energy Audit

E. Professor Francis W.H. Yik – **Fundamentals, Design and Control of** Air-Conditioning Systems, 2nd Edition



and equipment.





The building services installations should comply with the BEC 2021 and the energy audit should be carried out in accordnace with the EAC 2021 with the effective dates stipulated in Building Energy Efficiency Ordinance Technical Circular No.1/2021.



The 2nd Edition of Fundamentals, Design and Control of Air-Conditioning Systems has been published by Professor Francis Yik in March 2022. This book is dedicated to students and practicing engineers in the field of building services engineering. It focuses on the range of central air-conditioning systems that are common or emerging in modern buildings. Nevertheless, adequate coverage is given to the fundamentals underpinning air-conditioning engineering, especially on psychrometric principles, heat transfer in buildings related to cooling load calculation and thermal comfort of building occupants and on air and water flows in air-conditioning system



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The Importance of Indoor Air **Quality (IAQ) in Driving Workplace Wellbeing and Productivity**

Workplace wellbeing is one of the important consideration factors in today's business operations, especially since the COVID-19 pandemic. The pandemic has certainly increased people's awareness and interest in IAQ. With that, one in two Hong Kong office workers are reluctant to return to their offices. Creating effective practices to ensure good IAQ reassures them that it is safe and productive to return to the workplace. Improving indoor ventilation not only creates safe and healthier workspaces for employees, it also increases employee productivity.

Did you know that IAQ impacts worker health and performance?

Ventilation, CO² levels and particulate matter like PM2.5 can affect workers' cognitive functioning such as decision-making, focus and innovation. Good IAQ can increase response times on cognitive-function tests and improve workers' ability to pay

According to US researchers, an estimated return-on-investment of improving office air quality is at least 160x, delivering substantial productivity growth and economic benefit².

Impact of IAQ on Worker Cognitive Performance



per million. Green office spaces have 10L/s/person of ventilation and a maximum CO' concentration of 743 parts per millio in once spaces have autors person of ventualizin and a maximum COC concentration of res pars per minimum. The "office spaces have autors person of ventualizion and a maximum COC concentration of a 55 parts per million million and a maximum concentration of a 55 parts per solution and a maximum COC concentration of a 55 parts per million. The point Exposures in Office Where: A Contract Bid Exposure Study of Green and Conventional Office

Besides that, the COVID-19 pandemic has also shown us that IAQ is more important than ever before. Ventilation and filtration have emerged as powerful weapons against the spread of respiratory diseases indoors.

In the US alone, more than 20 million days of productivity was directly lost due to the 2018 seasonal influenza³. The number of lost workdays caused by respiratory infections other than influenza has been estimated to be at least five times higher

Improving workplace IAO can also potentially improve staff retention. A mainland ese survey found that more than half of the respondents considered poor workplace health as a primary reason to change jobs5.

Ventilation's Impact on Sick Leave in Commercial Offices



ource: REHVA Guidebook No. 6 - Indoor Climate and Productivity in Offices - How to Integrate Productivity in Life-Cycle Cost Analysis of Building Services

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7. Characteristics of Fine Particulate Matter (PM2.5) over Urban, Suburban, and Rural Areas of Hong Kong





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What factors affect IAQ?

- 1. Outside air (OA) ventilation rate
- 2. CO² levels 3. PM2.5 levels
- 4. Volatile organic compound (VOC) levels

The most straightforward approach to improve IAQ is by boosting OA rates and managing CO² levels with ventilation. It is also important to clean OA before using it for ventilation. Increasing the particulate filtration to remove PM2.5 and VOCs with HVAC systems can dramatically improve IAQ.

In a climate like Hong Kong, the HVAC systems installed needs to be able to prevent pollutant infiltration info office buildings as well as handle the surges in cooling and dehumidifying loads. This is because OA in Hong Kong averages three times higher⁶ than the World Health Organization's annual limit of 10ug/m3. In the winter, PM2.5 concentrations can average more than five times the limit?



How can Hitachi HVAC systems elevate your office IAQ for fresher and cleaner air?

Hitachi's ventilation solutions like Total Heat Exchanger (Energy Recovery Ventilation) or All Fresh Air Unit (Outside Air Process Unit) can help you maximize and optimize your indoor air quality without sacrificing on energy efficiency.

If you choose the THE/ERV, indoor ventilation can be fully achieved and if you choose the FAU/OAPU, more energy saving can be achieved while ventilation can be cleared.

Energy-recovery ventilation units like Hitachi's fresh air units' range can be a powerful way to improve the ventilation of office spaces while maintaining or increasing energy efficiency. Hitachi heat recovery ventilation system (KPI) adjusts the temperature and humidity of incoming fresh air to match the indoor environment. Together with ventilation and air renewal, Hitachi air conditioning systems are now equipped with filters to help remove or deactivate allergens, bacteria and viruses.

For residential air conditioning, our RAC DX-HNK series have the ZPT filters (Zinc pyrithione) while in our commercial series, Hitachi recently launched the ION pure filter which can be integrated into the Silent iconic model, 1, 2 and 4 Way cassettes and ceiling suspended models in VRF solutions. The ION pure filter, help reduce the risk of pollutants and viruses present in the air. With up to 99% virus inhibition, it also greatly reduces the amount of airborne dust particles, contributing to a healthier indoor

To find out more about Hitachi Cooling and Heating's innovative HVAC solutions and how your commercial spaces can benefit from them, please visit http://hitachiaircon.com/hk/en

"Anti-winus 99% or more suppression of one type of vinus attached on the filter in 2 hours. Test method is based on ISO 18184/2019. Anti-bactoria: Antibactoria (attributor) is more than 20 (- more than 99% of bacterial depth ratio). Test method is based on JIS Z 2821/2010. Anti-modi: Anti-modi grade 0 (no mold growth is observed by the naked eye or microscope). Test method is based on JIS Z 2911:2018 A Test: Product Haures may avacording to model.

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PROJECT HIGHLIGHT

Beijing 2022 Winter Olympic Games – "Ice Ribbon" Carbon Dioxide Transcritical Refrigeration System

Background

Beijing 2022 Winter Olympic Games joined the United Nations (UN) Sports for Climate Action framework

agreement, which was launched in December 2018. The main objective is to set a distinct trajectory for the sports community to fight against the global climate change. Besides Beijing 2022, over 40 sports organizations including Organizing Committees of the Olympic Games Tokyo 2020 and Paris 2024 have assented to this framework.



"Ice Ribbon" - The National Speed Skating Stadium

Provided the requirement for meeting the low-carbon footprint from the agreement, Carbon Dioxide (CO_2) transcritical system with natural refrigerant of low Greenhouse Warming Potential (GWP) was selected to be used in the Beijing 2022 speed skating venue and some of the training venues.

The National Speed Skating Stadium, also known as the "Ice Ribbon", is the only new ice competition venue in the Beijing Winter Olympics Park. The main stadium covers an area of about 80,000m² which can accommodate 12,000 spectators. The total ice surface covers up to 12,000m², nearly reach to the size of a standard track and field. The National Speed Skating Oval's interior adopted an all-ice surface that can make provision for the sports—speed skating (競速滑冰), short track skating (短道競速滑冰), figure skating (花式滑冰), curling (冰壺) and ice hockey (冰上曲棍球) as well as public skating and special on-the-ice events and performances. This is the first multi-purpose design concept in the world where the same configuration and capability could not be found from any other speed oval. The reason is that every sport requires a different level of temperatures for the ice. e.g. Curling ice operates at two degrees higher than hockey ice. The ice for Figure skating is different from speed skating because of the blades. For speed skating, the ice must be as hard as hockey ice but not much harder because the blades are so long that the player would not be able to make any turns whilst they may struggle if the ice is too soft.



Developing the Refrigeration Systems

CIMCO Refrigeration, a Canadian Company was contracted to provide the ice rink consulting services for the project.

The CO₂ transcritical system being used consists of a CO₂ system with a nominal capacity of 4,000kW (1,140 TR) at -18°C SST and 38°C SCT. The transcritical CO₂ includes six packages with each six compressors, six adiabatic gas coolers one for each system, and four CO₂ recirculation vessel packages each with 2 CO₂ pumps together connected to common suction and liquid supply manifolds. The oil recovery on the CO₂ system is unique, each skid has individual oil recovery system.

The floor design consists of 10 separate refrigerated floor zones, including two speed skating tracks, one warm-up track and two ice rinks each with dedicated pumping systems. The other six zones are connected into two separate pumping systems, but with individual zone valves and temperature control. The floor networks are constructed of stainless pipes of different size with stainless headers all sized to maintain uniform temperature all over the ice surfaces.



Carbon Dioxide Chiller in the plant room (Source Harier Carrier)

In October 2021, the first Beijing Winter Olympic Test Match "Meet in Beijing" Speed Skating China Open was held in the "Ice Ribbon". (Source: Visual China)

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Carrier supplied the CO₂ pre-fabricated refrigeration systems, manufactured by their Green & Cool division and imported from France.

 CO_2 transcritical technology can control ice temperature variances within 0.5 degrees allowing the oval with the most possible even temperature across the ice. Indirect refrigeration was used in the past Winter Olympic Games, i.e. Freon as refrigerant and glycol as secondary refrigerant, the ice surface temperature difference was generally as high as $1.5^{\circ}C$ to $2^{\circ}C$. inconsistent ice temperature will cause uneven hardness of ice to affect the player's performance in competition. In CO_2 system, refrigerant evaporate directly at the stainless-steel pipe below ice surface, which not only has higher efficiency, but also can keep ice temperature difference within $0.5^{\circ}C$. It is estimated that 2kWh of electricity could be saved in operation yearly after the Olympic Game.

The refrigeration system has an advantage to fully recycle waste heat generated during the process to use for the stadium ambient heating, hot water for ice making process and showers, ice melting, and the efficient control of temperature and humidity all year around. The heat recovery system will save 2 million kWh of electricity every year.

Some unique design requirements by the organizing committee and operation team had issues to be addressed. For example, the Ice Ribbon has a fourth speed skating track that caused some piping design challenges. The final design allows for the whole surface of 12,000m² to be covered with ice, independently as

needed, which is the first time to have a speed oval with this layout design globally.

Siemens Electric provided hardware for the automation, those involved are working on the operational aspect. The automatic system has to synchronize 48 compressors, 30 temperature sensors as well as heat recovery systems. Everything is computerized and can be completely operated and coordinated for high-quality ice with the system from the control room.



Ice making on National Speed Skating Hall

Commissioning

Haier Carrier participated in the commissioning of the system. Prior to the first ice making task, vacuumizing during commissioning process was a challenge, the coils are about 120km long, this is the first large-scale transcritical CO_2 system in China, no reference case for the vacuumizing. According to domestic practice, a vacuum degree of 200 Pa is requirement of CO_2 cascade refrigeration, but is it applicable to the "Ice Ribbon" with the 120km of pipelines and more than 8,900 welds on the ice surface? The commissioning team adopted a zoning vacuumizing method to divid the large systems into small systems and units to vacuum in batches, and integrated the small systems to a whole system. The final acceptance criterion was 45 Pa, although it is lower the domestic practice, it is much demanding than using neither Freon nor Ammonia. The vacuumizing took about 20 days to complete the first ice making task.

The IOC mandates that the ice surface to be ready for international competition the winter before the Olympics Games. Ultimately, the speed skating oval was completed on 22 Jan 2021 with making of the first ice sheet, and from April 2021 the ice has been used and started to host pre-Olympic games competitions.



In September 2020, during the construction of the "Ice Ribbon", refrigeration pipeline system (Source: Visual China)

PROJECT HIGHLIGHT

Safeguard of Ice Marking System

In addition to the site work, the commissioning team was responsible to set up a 24-hour schedule for the technical members for safeguarding work during the competition in order to ensure the ice making system was working at high quality and efficiency. The core equipment must be safeguarded at all times until the end of competitions. During the Olympics Games, if the external network of the core equipment was disconnected, there was no way to know the operation status of the equipment through remote monitoring, hence they relied on the on-site personnel to maintain the system in normal operation.



In January 2021, the "Ice Ribbon" completed the first ice making (Source: Visual China)

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ACRA ACTIVITIES

ACRA 60th Anniversary Dinner

The most significant ACRA 60th Anniversary Dinner has been held at Kerry Hotel Hong Kong on 22 November 2021 to witness the success of ACRA throughout the years for the contribution to the air conditioning industry. It is our honor to have invited Ir LAU Chun Kit, Ricky, JP, Permanent Secretary for Development (Works) of Development Bureau to be our Guest of Honour to express his invaluable perspectives on our trade with his eminent experience at the government. Although this event was held during the COVID-19 pandemic, it can never cease the enthusiasm of our respected members and practitioners to support this occasion similar to the devotion of ACRA in enhancing the air conditioning industry to a flourishing future ahead.





ACRA Council Members



President -Ir Franklin Lau (JEC) Jardine Engineering Corporation



Guest of Honour -Ir LAU Chun Kit, Ricky, JP [Permanent Secretary for Development (Works), Development Bureau]



Chairman -Ir MT Law (China State) **China State Mechanical & Electrical Engineering Limited**



Singing Artist -Andrea So

Next Generation Refrigerant Development Course (Webinar)

Hosted by ACRA, EMSD and VTC, another two classes of the Next Generation Refrigerants Development has been conducted via Webinar on 3 August 2021 and 10 November 2021. Due to the serious concern regarding global warming in addition to the relevant regulations, this course intends to encourage the HVAC industry to shift the application from the old refrigerants to the next generation and more eco-friendly refrigerants for every project in Hong Kong by providing specialized details on different options of refrigerants regarding their efficiency, flammability, handling and risk management while considering environmental and safety impact.

Practical Training Course on Household Air-Conditioners using Mildly Flammable Refrigerant

From August 2021 to January 2022, five sections of the Practical Training Course on Household Air-Conditioners using Mildly Flammable Refrigerant co-organized by ACRA, EMSD and Pro-Act by VTC were held at Pokfulam Training Centre Complex allowing the participants to acquire the information on features, relevant OSH legislations, safe handling and technical requirements on various types of mildly flammable refrigerants as well as providing them the opportunity to practice the works of R32 refrigerant in a safe manner.

空調管道隔熱材料安裝技術及知識研討會



Visit to VTC ProAct Training and Development Centre

Being the representing organization of the air conditioning industry, ACRA and our council members are honored to be invited to visit the VTC ProAct Training and Development Centre at Pokfulam on 12 July 2021 for exchanging our views regarding their training programmes and facilities in order to cope with the latest development of the trade.





Emcee -Sammi Cheung

根據政府規定,承判政府工 程之隔熱保溫安裝,承判商 必須提供不少於一成(10%) 安裝技術人員持有本會或同 等認可機構發出合資格証書 的技術人員指導施工。有見 及此,本會於2021年10月22 日舉辦了技術研討會解説一 些有關「發泡橡塑保溫(豬腸 膠)及玻璃棉」和「泡沫酚醛及 PID直接風管系統」的資訊及 經驗分享。

ACRA ACTIVITIES

Visit to Sun Ying Prefab Products Ltd.

Traditional method for implementing construction works will be gradually phased out, it is the matter of time that new technology will replace to achieve a more efficient outcome. On 23 October 2021, ACRA made a visit to Sun Ying Prefab Products Ltd., a one-stop integrated building services provider specialized in design, procurement, production and site installation. Information on the technology in adopting MiC, BIM, MiMEP and DfMA via overviewing the highlights on plant facilities and semi-automation production line with the aim of improving the quality of services/equipment as well as generating higher cost saving for our air conditioning industry was exemplified.



E&M Expo 2021

Organized by EMSD and Hong Kong E&M Trade Promotion Working Group, the E&M Expo 2021 with the theme of "Serving for City, Surfing for Life" was held on 16 July 2021. This is one of the foremost events which ACRA provides all-embracing support for the promotion of the E&M industry to the young people so that they could better understand the career development in the air conditioning industry from the experience and knowledge sharing by our proficient council members.



E&M Go 2021

E&M Go! is the annual signature event to connect the government and E&M trade leaders, the public and private E&M organizations. For five consecutive years on 22 November 2021, ACRA participated in the E&M Go! to welcome the new youngsters for joining the E&M industry offering positive energy for the young engineers to assure their career choice whilst creating the opportunity for them to unlock, develop and stretch their talents and capabilities, innovate with technological knowhow, and contribute to the development of our city.



Caring Event – Happy Bags Delivery to Elderly 關懷社區行動2021 - 開心福袋贈長者

ACRA is dedicated to pursue corporate social responsibility for our society in Hong Kong. It is especially precious to pay close attention to the elders during the COVID-19 epidemic. Jointly organized by ACRA, HKFEMC and Open Door Ministries, we have successfully distributed happy bags to 100 households with senior citizens in need at Lam Tin on 6 November 2021. Taking this opportunity, we would like to express our great appreciation to all of the participated parties including council members, youth committee members, sponsors and volunteers.



EMSTF 25th Anniversary Commemorative Ceremony

ACRA has joined the Electrical & Mechanical Services Trading Fund (EMSTF) 25th Anniversary Commemorative Ceremony on 11 August 2021 with the focus on the growing use of innovation and technology in EMSTF's continuous endeavor towards excellence in serving the government bureax and departments, public organisations and the community.

中華人民共和國成立七十二周年國慶典禮

香港空調及冷凍商會很榮幸於2021年9月27日參與了香港建造界慶祝中華人民共和國成立七十二周年國慶典禮。 我們會持續堅定的決心為香港空調業界創造更繁榮及穩定發展的未來。





ACRA ACTIVITIES

E&M Safety Walk

ACRA joined the E&M Safety Walk organized by EMF and HKFEMC to Tin Shui Wai Greenfield on 5 December 2021. In spite of the activity is limited to a small tour due to COVID-19, our council members along with other industry representatives had a pleasant time at this relaxing location.



CIC Sustainable Finance Certification Scheme

With the development of "Sustainable Finance Certification Scheme" from CIC for the construction industry in Hong Kong to achieve carbon neutrality before 2050, ACRA is strived to advocate the Scheme which will be broadly promoted to all of our members so that there will be a common framework and user-friendly assessment system for entities implementing good practices of sustainable construction. On 5 November 2021, our President, Ir Franklin Lau, has attended the Launching Ceremony of this Scheme.



Visit to 香港建造業總工會「吳家村工藝交流中心」

ACRA Training Committee visited HKCIEGU Yuen Long Training Centre on 24 May 2022 to exchange views and explore the collaboration opportunities to organize more training courses for the air conditioning industry.



New Members

From June 2021 to March 2022

1	Associate Member	Wilco Engineering Limited	June 2021
2	Associate Member	WinTech Century Company Limited	September 2021
3	Associate Member	Sun Ying Prefab Products Limited	October 2021
4	Associate Member	Jetford Engineering & Trading Company Ltd.	November 2021
5	Associate Member	Pekko Engineers Limited	November 2021
6	Associate Member	Associated HVAC Contracting Company Limited	March 2022



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ACRA Youth Committee







The activities held by the youth committee provide an ideal platform for the youth to communicate with the air-conditioning industry. ACRA Youth

Committee inspires the younger generations by organising technical and social activities all along, including technical site visits, seminars, and video contests.

Video Contest 2021

The video contest of ACRA, the theme 'Celebrating the 60th Anniversary of ACRA Together!', sponsored by McQuay Air-conditioning Limited was held from 1 Oct. 2021 to 31 Oct. 2021. Numerous videos had been received and the election is carried out through the voting by Executive Committee Members of ACRA. After intense competition, the results are as follows.

Result of Video Contest

Position	Participant Name	Company	Prize
Winner Grace Cheung		York Choi	\$5,000
1 st Runner Up	Karen Ho	ATAL	\$3,000
2 nd Runner Up	Hayley Yau	JEC	\$1,000



Lifewire run 2021

The theme of this year's Lifewire run was "In 2021, let us embrace challenges with renewed hop!". The Youth committee of the ACRA had great honor to have participated in this annual fund-raising activity, which is sponsor by HKFEMC. All committee members, including other associations, contributed their energy as donors and/or volunteers in the event. With the ongoing challenge of Covid-19, participants can choose to register for either the virtual run or physical run to take part in the race. Finally, our youth committees joyfully completed their event.

ACRA Youth Committee would participate in more public welfare activities of this kind in future.

Upcoming Events

Even we are facing an unprecedented and challenging COVID-19 epidemic situation, ACRA Youth committee keep trying different activities while staying safe, such as on-line technical visit and latte art, to keep the interaction between members.

We look forward to your responsive participation for advocating our innovation events.



MEMBERSHIP LIST

						No	•	•
	Company Name	С	ontact Number	Website / Email	Trad	le		
	ATAL Engineering Limited	安樂工程有限公司	2561 8278	www.atal.com	•	•	•	•
	Carrier Hong Kong Limited	開利(香港)有限公司	2694 5618	www.carrier.com.hk	•	•	•	•
	Krueger Engineering (Asia) Limited	高雅機電工程有限公司	2860 7333	www.krueger.com.hk	•			
	Newland Engineering Limited	新陸工程有限公司	2967 8620	moshiu@newland.com.hk	•			
	REC Engineering Company Limited	盈電工程有限公司	2619 8888	www.rec-eng.com	•		•	
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D	The Jardine Engineering Corporation Limited	怡和機器有限公司	2807 4511	www.jec.com	•		•	•
	Trane Hong Kong	特靈香港	3128 4756	www.tranehk.com		•	•	•
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	Aniance Contracting Company Limited	哪种承担有限公司	2091 9003	www.aicc.com.nk	•			
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	Siemens Limited	西門子有限公司	2107 6506	andy.wong@siemens.com				•
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	Southa Technical Limited	南龍機電工程有限公司	2963 7175	www.southa.com				٠
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	2393 1448	www.ckmetal.com				•	
	3078 9984	canny@acmv-cy.com	•			•	
	3521 1589	www.chintat.com.hk				•	
	2529 8888	chittat@yahoo.com.hk	•	•	•		
、司	2307 5159	www.chongkinaircon.biz.com.hk	•			•	
	2799 9797	cjwish@cjwish.com.hk				•	
	2678 7350	www.clpgroup.com	•		•	•	
			Elec	tricit	y Su	pply	
	2332 3591	daniel@clydeman.com	٠		•	٠	
	2698 8198	www.cmatesting.org	Labo	rator	y Tes	sting	
	8202 0830	clchoy@crowntingrp.com.hk	٠			•	
	2511 2118	www.deltapyramax.hk				•	
	2891 8070	lui@dictson.com.hk	٠		•		
	3955 0203	www.di-technology.com	٠		•	•	
	3590 4656	gamescheung@eaxon.hk		•	•	•	
]	2145 8678	info@hk.ebmpapst.com		•		•	
	2573 7211	info@electrodrive-eng.com				•	
	2827 0688	steveli@envirotech.com.hk				•	
[]	2356 8598	info@evercoolhk.com		•		•	
	2562 3331	www.evergreen-environmental.com	۱			•	
	2889 1681	www.extensive.com.hk				•	
	2898 7331	www.fareast.com.hk	•		•		
	2562 9399	into@tortunelinks.com.hk	_	•	•	•	
设公司	2123 0888	www.gtechservices.com.hk	•				
	2919 8383	hq@gelec.com.hk	_			•	
	2890 2622	geforce@hknet.com	•				
	2893 3600	getwick@getwick.com	•			_	
7	3487 9092	gloryacitd@gmail.com	•		•	•	
1	2040 1000		•	-	•		
7	2405 0888	www.goodwaygrille.com	-	•		•	
]	2459 3038	golopco@yanoo.com.nk					
	2345 2219	general@greattop.com.nk					
7	2110 3128	www.nk-greentecn.com	•				
1	3040 0300	www.grunulos.com					
	21210129	www.nangji.com					
	2004 9001	cecil@nensen.com.nk				•	
	21134105	www.niiu.com.nk		•			

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					Contracting uning on the	Supplies
	Company Name	Co	ontact Number	Website / Email	Trade	
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	Hofmann Construction Material Ltd.	香港好夫曼建材有限公司	3157 1841	www.hofmannha.com	•	
	Honest Air Conditioning Limited	明發冷氣有限公司	2396 8108	www.achonest.com	•	
	H W International Air-Conditioning Limited	豪華國際空調有限公司	2796 8888	info@hooair.com		
	IES Engineering (Hong Kong) Limited	恒豐工程(香港)有限公司	2992 0830	www.ieshk.com.hk		
	InnoTec Engineering Ltd.	科技工程有限公司	3706 6333	info@innotecena.com	•	
	Intelligent Technologies Limited	毅智科技發展有限公司	2301 4868	info@intelligent-net.com	•	
	Jade Star Engineering Limited	捷陞工程有限公司	3998 3256	iadestarhk@vahoo.com.hk	•	
	JC (HK) Engineering Limited	悦峰工程有限公司	2898 9885	jc.hk.eng@gmail.com	• • • •	
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	J & J Network Engineering Company Limited	信卓網絡工程有限公司	3579 5263	www.jjnetwork.com.hk	•	
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	Kingsfield Engineering Ltd.	堅輝工程有限公司	2815 9560	www.kelhk.com	•	
	Kings View Airconditioning Engineering Co., Ltd	景匯空調工程維修有限公司	2796 2417	admin@kingsview.com.hk	•	
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	KSB Limited	凱士比有限公司	2147 1226	philip.chow@ksb.com.hk	•	
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	Lap Kei Engineering Company Limited	立基冷氣工程有限公司	2798 8210	www.lapkeieng.com	• •	
	LeBlanc Water Treatment & Chemicals Limited	利邦化工水處埋有限公司 本体工程在1910月	2408 2000	www.leblanc.com.hk	•	
	Lee Tack Engineering Company Limited	学德	2305 3111	Itec@leetack.com.hk	•	
	Lee Yip Metal Products Compnay Limited	利美金燭有限公司	3651 2698	www.leekeegroup.com	•	
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	Line Air IAQ Limited	応力空釈加良科仅有限公司 必惑(希滞) 右四公司	3527 0106	winston@iieainaq.com		
	Link The Best Company Limited	必殺(省心)有限公司 職務公告(隹圃)密日工程	2008 4092	sales@iinktnebest.com.nk		
	Engineering Co., Ltd.	研設に来し、 有限公司 戦闘機会エロナロ 2 コ	2345 0280	www.iueniai.com	•	
	Luen Ming E & M Engineering Ltd.	「「「「「「「「」」」です。「「」」「「」」「「」」「「」」「」」「」」「「」」「」」「」」「」」「」」「	3619 9186	Info@luenmingem.nk	•	
	Luen Ming Pengshan Air Conditioning Factory Ltd.	「「「「「「「「「」」」 「「」」 「「」」 「「」」 「」」 「」」 「」」	2/9/ 2168	www.iuenming.com	•	
	Man Tung Air-Conditioning E & M Ltd.	禹 通	3105 8098	www.mansnungroup.com.nk	•	
	Mason Industries (HK) Limited	(2907 9039	www.mason-nk.com	•••	
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	New Way Engineering Company Limited	新法機械有限公司	2325 6892	www.newway.com.hk		
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	Oxprime (International) Limited	鑫輝(國際)有限公司	2590 8088	info@oxprime.com		
	Pacific Sense Enterprises Limited	栢昇企業有限公司	3749 5272	www.pacificsense.com.hk	•	
	Paul Y. (E&M) Contractors Limited	保華機電工程有限公司	2831 8338	www.pyengineering.com	•	
	Pekko Engineers Limited	柏高工程有限公司	3973 0698	www.leightonasia.com	•	
	PowerTech IPC Company Limited	科力發展有限公司	3105 3928	www.powertechipc.com	• •	
	Powers Technical Services Limited	寶華技術服務有限公司	2770 2110	powers.pts@gmail.com	•	
	Practical Engineering (Hong Kong) Company Limited	百利高工程(香港)有限公司	2402 2772	practical@practical.hk	• •	

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San Yik Air Conditioning Engineering	新益冷氣;工程有限公司	3565 5812	www.sanvikgroup.com	•	
Company Limited		0000 0012		-	
Sanby Trading Company Limited	聖備貿易有限公司	2573 4219	www.sanby.com		•
Samsung Electronics H.K. Company Limited	三星電子香港有限公司	2862 6300	www.samsung.com.hk	•	
Savills Engineering Limited	第一太平戴維斯設備工程 有限公司	2508 4668	chytsang@savills.com.hk	•	•
Shenling Environmental Systems (Hong Kong) Ltd.	申菱環境系統(香港)有限公司	2603 0002	www.shenling.com		•
Shun Hing E & M Engineering Limited	順興機電工程有限公司	2387 2882	project@shunhingeng.com	•	•
Shun Hing Electric Service Centre Limited	信興電器服務中心有限公司	2406 5333	www.shunhing-service.com		•
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Shun Tung Engineering Company Limited	順通冷氣電機工程有限公司	2633 6866	gabriel@shun-tung.com	•	
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Smartech HVAC & Engineering Limited	智能空調工程有限公司	2521 9768	info@smartech-hvac.com.hk		•
Southa Engineering Limited	南龍工程有限公司	2963 7241	www.southa.com	•	
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Sun Yu Chau Engineering Company Limited	新宇宙工程有限公司	2345 9355	www.sycengg.com.hk	•	
Sunny Fire Engineering Ltd.	華輝建材有限公司	2395 6766	sunnyfireenaltd@amail.com	•	
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Sustainable Energy Limited	恆澤節能有限公司	2332 3077	www.sustaine.com.hk	•	
Target Energy Solutions Limited	達標能源管理有限公司	2345 0298	www.targetensol.com		
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TICA-SMARDT Hong Kong Limited	天加思茂特香港有限公司	2772 8448	bk info@smardt.com		
Tin Sing Chemical Engineers Ltd	天成化工有限公司	2619 8858	tsc@rec-eng.com		
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Wei Luen Air Conditioning Limited	去住作阪ムリ 倍脳応知い供方四八回	2017 2770	www.viicon.com.nk		•
Wai Let F & M Engineering Company Limited	ぼ 卵 二 响 改 伸 有 恢 ム り 倍 法 機 重 工 担 方 阻 八 司	2090 9321	garychan@wanuennk.com		
Warlau E & W Engineering Company Limited	単建筬电上性有限公司 	2082 7200	iungscww@netvigator.com		
Wardson Engineering Limited	ギ県上任何限公司 白河田の世友四の司	2329 8268	wsengltd@yanoo.com.nk	•	
Wiles Engineering Limited	日川両企耒有限公司	2303 1318	www.ksnop310.nk		•
Wilco Engineering Limited	脳内上任有限公司	2344 7725	Info@wilcoengnk.com	•	
Wing Shing Air-Flow Company Limited	水盛風咀穀品廠有限公司	2792 6331	accounting@wingshing-hvac.com	•	•
wo Lee Steel Company	和利姆鐵有限公司	2393 0131	www.wolee.com		•
woiter Asia Limited	# 保空 が 月限 公司	2456 0198	Into@wolter.com.hk	٠	•
Wysermann Company Limited	威士文有限公司	2614 2213	wysermann@wysermann.com.hk	•	•
Yin On Trading Limited	資安建材質易有限公司	2572 7110	ottice@yinon.com.hk		•
Yordland Engineering Limited	日島上程有限公司	2362 2186	www.yordland.com	•	
York Choi Industrial Limited	旭彩實業有限公司	2795 8286	www.yorkchoi.com	•	
Yuen Fong Air-Condition Products (HK) Limited	圓方空調設備製品(香港)有限公司	2880 5880	yuenfongaircondition@hotmail.com		•
Zenith International Enterprise Ltd.	盛豐國際企業有限公司	2815 5852	www.ebara.com.hk		•

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The Hong Kong Palace Museum, West-Kowloon Year of Completion : 2021



(PSI) C-type



2022 onward * Major Job Reference



CUHK Medical Centre, Year of Completion : 2020

General Cancer Centre,

Prince of Wales Hospital



MTR Express Rail Link, West Kowloon Terminus Year of Completion : 2017







Central Mail Centre Year of Completion : 2013



International Financial Centre

Phase I (IFC-I)

Year of Completion : 1998

Year of Completion : 2020

M+ Museum.

West-Kowloon



Liantang / Heung Yuen Wai Boundary Control Point Year of Completion : 2020



Court of Final Appeal, Central Year of Completion : 1996



