張經理。	Hello, Miss Cheung (Manager).
主席你找我? 請坐。	Please take a seat.
請問有什麼事?	What's the matter, Chairman?
是這樣的，我剛接任法團主席。	I've just taken up the post of Chairman of the Owners' Corporation.
想了解多些我們大廈的管理事宜，	I want to know more about the management of our building.
近日我看到報章一些關於冷卻塔	I've recently read news about the growth of Legionella bacteria in cooling towers
會滋生退伍軍人桿菌的新聞報導。	.
據我所知，	As what I know,
我們大廈的空調系統	Cooling tower is being used in the air-conditioning system
也是使用冷卻塔的，對嗎?	of our building, isn't it?
主席，你大可以放心。	Yes, Chairman, you can rest assured.
我們大廈的淡水冷卻塔，	For the fresh water cooling tower in our building,
即是平時說的水塔，	or "cooling tower" in short,
	we have already joined the Fresh Water Cooling Towers Scheme for Air Conditioning Systems
已參加了機電工程署管理的	(FWCT Scheme)
《空調系統使用淡水冷卻塔計劃》。	managed by EMSD.
無論是它的設計、安裝、操作及維修等，	Its design, installation, operation and maintenance
都完全依照機電署的實務守則同指引。	have fully complied with EMSD's code of practice and guidelines.
我們身為淡水冷卻塔擁有人，	As the owner of the fresh water cooling tower,
有責任妥善設計、	we have the responsibility to design,

操作及維修冷卻塔，
並按照機電署發出的
《水冷式空調系統實務守則》
為冷卻塔安排定期檢查，
適時維修及定期水質檢測，
以防止退伍軍人桿菌的滋生。

operate and maintain the cooling tower properly.
And we have arranged regular inspections,
timely maintenance and periodic water quality tests of our cooling tower
as per the Code of Practice for Water-cooled Air Conditioning Systems issued by the EMSD
to prevent the proliferation of Legionella bacteria.

另外，
我知道政府當局為回應這些冷卻塔裝置
可能引發退伍軍人病症的潛在風險，
已制定了一籃子的加強管制措施
規管淡水冷卻塔。
其中，
機電署會引用(香港法例第 132 章)
《公眾衞生及市
政條例》內的規定，
規管維修欠妥或受到污染的淡水冷卻塔。

Separately, we know that to address the concern of potential risk
of Legionnaires' disease related to cooling towers,
the Government has formulated
a package of enhancement measures
for regulatory control of cooling towers.
Among others,
EMSD will regulate improperly maintained
or contaminated fresh water cooling towers
under the Public Health and Municipal Services Ordinance, Cap 132 (PHMSO).

冷卻塔擁有人應確保冷卻塔的
妥善操作及維修，
包括水處理
以避免冷卻塔受污染
及對公眾人士構成妨擾。

The tower owners shall ensure proper
operation and maintenance including water treatment
of their cooling towers
so as to prevent contamination
and nuisance to the public.

其實退伍軍人病是什麼病來的?	What's Legionnaires' disease?
其實退伍軍人病症	In fact, it is an infectious disease
是由退伍軍人桿菌引起的傳染病。	caused by a type of bacteria called *Legionella*.
於 1976 年，	It was named after an outbreak of Pneumonia
在美國召開的退伍軍人大會時，	occurred in a Legion Convention in USA in 1976.
曾引致肺炎爆發而命名。	
退伍軍人桿菌存在	Legionella bacteria can be found in natural aqueous environment
於自然水源環境及人工用水系統，	as well as man-made water systems,
例如湖泊、河流、池塘及淡水冷卻塔。	such as lakes, rivers, ponds and fresh water cooling towers.
妥善設計、操作及維修冷卻塔	Proper design, operation and maintenance of cooling towers
是可以防止退伍軍人桿菌滋生。	can prevent the growth of Legionella bacteria.
那我們要怎樣做	How should we do to ensure proper operation
才能妥善操作及維修冷卻塔?	and maintenance of cooling towers?
我們大廈一直都有聘用專業承辦商	Our building has engaged a specialist contractor
為冷卻塔進行定期操作及維修。	to conduct regular operation and maintenance for our cooling tower.
下星期我約了承辦商開會，	I'll have a meeting with the contractor next week.
到時請他們的工程師詳細說明。	We may ask their engineer to elaborate on that at the meeting.
好，就這樣吧。	Okay.
大家到齊了我們可以開會了。	Let's start the meeting.
其實今天這個會議的目的	This meeting is to discuss
是討論我們大廈的冷卻塔來年的操作	the arrangement of operation and

及維修的安排。	maintenance of the cooling tower in our building in the coming year.
黃工程師是妥善工程公司的代表，	Engineer Wong is the representative of
一直負責我們大廈的	Proper Engineering Company and is in charge of the operation
冷卻塔的操作及維修。	and maintenance of the cooling tower in our building.
大家好。	Hello, everyone.
主席有什麼問題，	Chairman, you may ask Engineer Wong
現在可以問黃工程師。	questions now.
黃工程師，我想知道冷卻塔	Engineer Wong, I want to know why Legionalla bacteria can proliferate in cooling towers.
為何會滋生退伍軍人桿菌。	
大家首先要了解冷卻塔的構造，	Let us first understand the configuration of a cooling tower.
這個冷卻塔是經過	Cooling tower is to lower water temperature
蒸發式的冷卻作用以降低水溫。	by evaporative cooling.
大家可以看看這個。	Let's look at this.
冷卻塔是透過蒸發式的冷卻作用，	A cooling tower is generally a device
以降低水溫的一種應用於	used in an air-conditioning system
空調系統的裝置。	for lowering water temperature
在裝置內，	by evaporative cooling in which
由抽進外間的空氣	the ambient air is drawn in
與流水接觸以吸收熱量，	to contact with the falling water to absorb heat
再排放出大氣。	before discharge into the atmosphere.
為什麼會容易滋生退伍軍人桿菌呢?	Why can it proliferate Legionallae easily?
因為退伍軍人桿菌	It is because Legionellae can be found in
一般滋長於天然水源裡	natural aqueous environment, such as lakes,

例如湖泊、河流、池塘、溪澗及泥土，	rivers, streams, ponds, mud and soil,
同時也可以在人工的供水系統中存活。	and also survive in man-made water systems as well.
細菌最適合於攝氏 20 至 45 度	The optimum temperature for proliferation
的溫度下繁殖，	of the bacteria is around 20ºC to 45ºC,
尤以攝氏 35 度至 43 度為最理想。	particularly in the range of 35ºC to 43ºC.
所以在冷卻塔內部的冷卻水操作溫度	So, the operating temperature of the cooling water in cooling towers
是十分適合滋生退伍軍人桿菌。	is optimum for the growth of Legionallae.
黃工程師，可以麻煩你詳細向大家講解	Engineer Wong, can you elaborate on how to
應怎樣去降低淡水冷卻塔	reduce the potential risk of spreading
引發退伍軍人病症的潛在風險嗎?	Legionnaires' disease by fresh water cooling towers?
由機電署管理的	The Fresh Water Cooling Towers Scheme for Air Conditioning Systems (FWCT Scheme)
《空調系統使用淡水冷卻塔計劃》	managed by EMSD
早於 2000 年以先行性計劃推行，	was launched as a pilot scheme early in 2000.
該計劃於 2008 年起	It has changed its pilot status
由先行性質改為常設運作。	to a standing one since 2008.
在這計劃之下，	Under this scheme,
有一系列的實務守則同小冊子，	a set of code of practice and brochures
為非住宅樓宇的冷卻塔擁有人、	have been promulgated to provide guidelines for
物業管理人員	owners, property management agencies and relevant engineering personnel
及相關工程人員提供設計、	on the design, installation, operation and
安裝、操作及維修冷卻塔的指引。	maintenance of cooling towers.

冷卻塔的擁有人，	Owners are advised
應在擬建冷卻塔裝置的	to apply early in the planning or design stage
規劃設計階段時候，	of the proposed cooling tower installations
盡早申請參加機電署管理的	for joining the Fresh Water Cooling Towers Scheme
《淡水冷卻塔計劃》，	managed by EMSD.
確保擬建冷卻塔的安裝地點合適	They should ensure that their proposed cooling towers are
和設計及安裝妥善，	suitably located, with proper design and installation provisions
以預防退伍軍人病症。	for prevention of Legionnaires' disease.
那在設計及安裝方面有什麼要求?	Then, what are the requirements for the design and installation?
在實務守則第一部裏，	The design and installation guidelines
載有詳盡的設計及安裝指引，	are detailed in Part 1 of the Code of Practice.
讓我跟大家講述當中的重點。	Let me explain to you the main points.
要求一	Requirement 1
冷卻塔應與最近的室外進風口、排氣口、	Cooling towers shall be sited away from surrounding
可開啓窗戶及公眾通道，	air intakes and exhausts, operable windows and
保持至少 7.5 米水平距離，	public thoroughfare with minimum 7.5 m horizontal separation
以減低冷卻塔飄水及排氣從室外進風口	to minimize the drift and air emitted from the cooling towers
和可開啓窗戶進入樓宇	to enter a building through outdoor air intakes
及對其他公眾人士造成滋擾的風險，	and operable windows as well as nuisance to the public.
同時亦減低樓宇的通風排氣	It also prevents the exhaust air from a building from
對冷卻塔水質的影響。	affecting the water quality of the cooling towers.

如果冷卻塔
距離本身建築物外牆少於 7.5 米，
則冷卻塔與
對下垂直建築物外牆的進氣口、
排氣口和可開啟窗戶，
距離最少 7 . 5 米。
如位於冷卻塔對上者，
則垂直距離最少為 20 米。

For a cooling tower within 7.5m
from its own building facade boundary,
it shall be sited away from
air intakes and exhausts
and operable windows
on its vertical building facade
by minimum 7.5 m below
or 20 m above.

要求二
冷卻塔應安裝有效的水處理裝置，
以控制細菌滋生，
及安裝水管及裝置
把泄放水排放至沖廁水箱作沖廁用途。

Requirement 2
Cooling towers shall be installed with effective
water treatment equipment to control bacterial growth.
Pipeworks and equipment should be installed to discharge
bleed-off water to a flushing tank for flushing purpose.

要求三
冷卻塔應裝置有效的收水器，
以減少飄水的形成和排放。
而飄水即是經由冷卻塔排出
的水液滴或微粒，
但不包括受冷凝的水霧。

Requirement 3
Cooling towers shall be provided with effective drift eliminators
to minimize the formation and release of drift.
Drift means water lost from the cooling tower
as liquid, droplets or aerosols
entrained in the exhaust air, excluding condensation.

要求四

Requirement 4

冷卻塔系統的冷卻水管
應避免死角位出現，
以免積存死水
導致細菌滋生及積淤而污染系統。
如一些死角位無可避免，
應於水管死角位安裝排水閥，
以作定期排放。

Dead-legs shall be minimized to avoid stagnant water
in the cooling water circulation pipeworks
for the cooling tower which promotes
bacterial growth and contamination of the system.
Where unavoidable,
purge valves should be provided to the dead-legs
for regular draining.

要求五
冷卻塔應有合適的通道，
以便進行維修、
檢查和抽取水樣本。

Requirement 5
Cooling towers shall be provided with
suitable access to allow for maintenance,
inspection and water sampling.

此外，
冷卻塔擁有人亦應確保其冷卻塔裝置
符合有關法例規定，
例如《水務設施條例》下接駁供水
及《建築物條例》下支撐結構的規定。

Separately, tower owners should also ensure
compliance of their installations
with relevant statutory requirements,
such as water connection under Waterworks Ordinance
and supporting structures under Buildings Ordinance.

明白了，那麼冷卻塔操作
及維修方面有什麼要求?

I see. Then what are the requirements
for the operation and maintenance of cooling towers?

在妥善的操作及維修下，

With proper operation and maintenance,

淡水冷卻塔可以	fresh water cooling towers can achieve
達致較佳的能源效益及運作性能，	better energy efficiency and operational performance,
確保公共衞生及安全，	assure public health and safety as well as
減低對公眾造成的滋擾。	minimize nuisance to the public.
而操作及維修方面，	For operation and maintenance,
冷卻塔擁有人應聘用專業承辦商，	tower owners should engage a specialist contractor
依照實務守則第二部	
為冷卻塔進行操作及維修。	to operate and maintain their cooling towers according to Part 2 of the Code of Practice.
另外，	In addition,
機電署亦都製作了一本	EMSD has published a leaflet titled
<空調系統使用淡水冷卻塔操作	“Good Operation and Maintenance Practice of
及維修的良好作業>小冊子。	Fresh Water Cooling Towers for Air-conditioning Systems”
裡面就提供了簡要的指引。	in which concise guidelines are provided.
首先是操作方面，	Firstly, on the operational aspect,
冷卻塔及水處理設施應由	cooling towers and water treatment facilities should be
空調裝置專門承建商定期維修。	regularly maintained by a specialist contractor.
冷卻水應持續不斷或	Cooling water should be continuously or
間歇過濾及經化學處理，	intermittently filtered and treated with chemicals,
或其他驗證的物理方法來控制腐蝕	or other proven physical methods to control
積垢同微生物的生長。	corrosion, scaling and microbial growth.

水處理化學劑應以自動投藥裝置投入，
該裝置可以視乎應用的需要
而選用計量器式
或連續比例式的投藥裝置。

Water treatment chemicals should be added by
automatic dosing devices which may either be
of metered dosing or proportional dosing type
to suit the application.

化學劑的處理方面，
於定期時間交替使用
兩種不同的化學殺菌劑、
混合使用兩種相容的化學劑，
以達致更有效的控制。
或間中大量投藥
以保持較高的殺菌劑濃度。

In the aspect of chemical treatment,
use two different biocides
alternatively at periodic intervals,
use combination of two compatible chemicals
for better control,
or conduct occasional slug dosing
to maintain higher biocide concentration.

冷卻水應定期泄放及以補給水替換，
以限制冷卻水中的溶解物濃度。
建議泄放應透過導電率計控制，
進行連續不斷的排放。
而間歇性的泄放則可用於小型冷卻塔
以手動或時間制操作的泄放閥進行泄放。

Cooling water should be regularly bled off and replaced with make-up water
to limit the concentration of dissolved solids left behind in the cooling water.
Continuous bleed-off is recommended
with control by a conductivity meter.
Intermittent discharge may be adopted for small-sized
cooling towers by a manually or timer-operated drain valve.

例行檢查及預防性維修方面，

As to routine inspection and preventive maintenance,

冷卻塔裝置應定期檢查及妥善維修。	cooling tower installations should be regularly inspected and properly maintained.
檢查應包括冷卻塔 相關機械設備、 水處理設施及水箱。	Inspection should include cooling towers and their associated mechanical equipment, water treatment facilities and water tanks.
首先是每星期的例行檢查。 檢查冷卻水的清晰度、 水面雜物、水藻及溫度。	Firstly, for weekly routines, check cooling water for clarity, surface debris, algae and temperature.
檢查水盤水面高度及冷卻塔泡沫情況。	Check water level of basin and foaming condition of the cooling tower.
檢查放閥、隔濾器、 去水位及浮球閥確保妥善操作。	Check bleed-off valves, strainers, drains and float valves for proper operation.
檢查水處理投藥設備的運作情況 及檢查水處理化學劑 或物料確保足夠存量和安全。	Check operation condition of water treatment dosing equipment, and check water treatment chemicals or materials for adequacy and safety.
檢查冷卻塔風扇、 電動機水處理投藥設備 及水泵運行情況。	Check operation conditions of cooling tower fan and drive, water treatment dosing facilities as well as water pumps.
如果水管有死角，	Drain stagnant water in dead-legs

每個死角用人手閥放， 以沖洗死角滯水最少 15 分鐘。	by manual purging for at least 15 minutes each.
運行所有備用冷凝水設備 至少運作一個小時。	Run all standby condensing water-side equipment for at least 1 hour.
之後是每個月的例行檢查。 每月要安排冷卻塔冷卻水樣本測試。 操作資料和水樣本測試結果 都應記錄在表格 CT3。	Then, for monthly routines, monthly water sampling and testing should be carried out. The operation details and water test results should all be recorded in Form CT3.
檢查冷卻塔內部表面狀況。	Check internal surface condition of cooling towers.
檢查水盤、冷卻塔結構、填料及收水器。	Check water basin, tower framework, fills and drift eliminators.
至於每一季的例行檢查， 調較和潤滑風扇、 電動機的軸承及水泵。	For quarterly routines, adjust and lubricate fans, motors bearings and pumps.
調較和潤滑閥門可移動的部件。	Adjust and lubricate all moving parts of valves.
清洗配水管道包括噴嘴。	Clean water distribution pipeworks including nozzles.

而每半年的例行檢查就包括有	Half yearly routines are as follows:
水盤和冷卻塔內部表面	Water basin and internal surfaces of
應至少每六個月清洗，	cooling towers should be cleaned,
除去淤泥及消毒一次。	desludged and disinfected at least every 6 months.
先投入生物分散劑於冷卻塔中循環，	Circulate first biodispersant in the system.
再加入氯水，每公升 5 毫克，	Chlorinate the water by 5 milligrams per liter,
循環 4 小時，然後排走。	circulate for 4 hours and then drain.
在整個過程其間，	A minimum level of free residual chlorine at 5 ppm
游離殘餘氯的含量應維持不低於	should be maintained throughout
百萬分之五的水平。	the entire cooling tower water circuit.
用人手清潔和除去內部表面淤泥。	Manually clean and desludge internal surfaces.
重新注氯水	Refill and recirculate chlorinated water
並再次循環至少 6 小時，	for 6 hours and then drain.
然後排走。	A minimum level of free residual chlorine at 5ppm
其間，游離殘餘氯的含量同樣要維持	should also be maintained throughout
不低於百萬分之五的水平。	the entire cooling tower water circuit.
清洗收水器和填料。	Clean fills and drift eliminators.
拆除及清洗各水管末端端蓋。	Remove end cap in each header for cleaning.

那怎知道現在冷卻塔
有沒有退伍軍人桿菌?
那就要定期監察冷卻水的水質。
要按排由香港實驗所認可計劃認可的
實驗室進行冷卻塔冷卻水樣本測試，
包括
每個月進行一次
異養菌含菌量測試。

Then, how can we ensure there is no Legionella bacteria
in the fresh water cooling towers?
This can be done by regular monitoring of water quality.
Regular water sampling and testing of cooling water
should be carried out and tested by laboratories
accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS),
including,
monthly testing of heterotrophic colony count (HCC)

每季進行一次
退伍軍人桿菌含菌量測試。

as well as quarterly testing of
Legionella bacteria count (LBC).

如含菌量等於或超出控制上或下限，
就要檢討及改善水處理程序，
同須依照實務守則進行補救措施。

If bacterial level is at or above the control thresholds,
the water treatment programme should be reviewed and
remedial actions should be taken according to the Code of Practice.

如果含菌量等於或超出控制下限(但低於上限)，
即是退伍軍人桿菌含菌量
每毫升十菌落
或異養菌含菌量每毫升十萬菌落，
就要為冷卻塔進行在綫消毒，

If bacterial level is at or above
the lower control threshold (but below the upper one),
i.e. LBC at or above 10 cfu/ml
or HCC at or above 100,000 cfu/ml,
online disinfection shall be carried out for cooling towers.

在綫消毒其間是無需要停機。	Cooling towers can be kept in operation during online disinfection
如果含菌量等於或超出控制上限， 即是伍軍人桿菌菌量每毫升一千菌落 或異養菌含菌量每毫升五百萬菌落， 就要立即停機為冷卻塔進行緊急消毒。	If bacterial level is at or above the upper control threshold, i.e. LBC is detected to be at 1,000 cfu/mL or more, or HCC is at 5,000,000 cfu/mL or more, emergency decontamination shall be carried out at once.
完成在綫消毒同緊急消毒之後， 都要再化驗水樣本， 以確認補救措施的成效， 直至水樣本組菌含量回覆正常。	After completion of online disinfection and emergency decontamination, water samples should be tested until bacterial level resumes normal to ensure the efficacy of the remedial actions.
在綫消毒同緊急消毒的詳細步驟 都可以在實務守則第二部內找到。	Detailed procedures of online disinfection and emergency decontamination can be found in Part 2 of the Code of Practice.
而冷卻塔系統擁有人或 物業管理公司可要求冷卻塔專門承辦商 安排抽取水樣本交予認可實驗室化驗。	Owners or property management agencies may ask the cooling tower specialist contractors to arrange water sampling for testing by an accredited laboratory.
另外，為了監察冷卻塔系統擁有人 有否合當的理行責任， 妥善操作及維修冷卻塔。 機電署會抽樣巡查冷卻塔，	Besides, to monitor if owners of cooling towers have properly discharged their responsibility to properly operate and maintain cooling towers, EMSD will carry out random sampling inspections of cooling towers

收集水樣本進行細菌檢測， 以監察冷卻塔整體的水質狀況。	and collect water samples for bacterial testing for surveillance monitoring of the overall water quality conditions.
機電署會根據水樣本的檢測結果， 按公眾衛生及市政條例 採取規管行動。 如含菌量等於或超出控制或下限 就要依照機電署的指示進行補救措施。 之後再化驗水樣本， 直至水樣本組菌含量回覆正常。	According to water sample testing results, EMSD will take regulatory actions in accordance with the provisions of PHMSO. If bacterial level is at or above the control thresholds, remedial actions shall be taken according to EMSD's instruction and water samples have to be tested until bacterial level resumes normal.
原來是這樣，我明白了。 主席， 除了妥善操作及維修， 我們亦要做好冷卻塔的管理。 請妳講解一下。	I fully understand now. Chairman, besides proper operation and maintenance, management of cooling towers is also vital. Please elaborate on that.
冷卻塔系統擁有人或物業管理公司 應保存由冷卻塔專門承建商 制備冷卻塔操作及維修手冊， 以管理淡水冷卻塔系統的保養事宜。	Owners or property management agencies should keep an operation and maintenance (O&M) manual prepared by the cooling tower specialist contractor for managing the maintenance of the fresh water tower cooling system.
冷卻塔系統操作人員應保存系統運行、	The operator should keep records of system operation,

例行檢查、	routine inspection,
水樣本結果及維修工作的記錄。	water sampling results and maintenance work.
操作同維修手冊及記錄	The O&M manual and records should be kept
應由授權人員保存，	by authorized personnel and readily available
並在授權公職人員要求時	for inspection and reproduction
提供作檢查及複製。	when authorized public officers demand for them.
冷卻塔系統擁有人或物業管理公司	Owners or property management agencies
需僱用獨立的審核人員	should engage an independent auditor to conduct
每年為系統進行操作及維修的審核，	audit on operation and maintenance of the system annually
以檢查維修手冊和記錄。	to check maintenance manual and records,
進行目視檢查及辨出風險同問題	conduct visual inspection, and identify risks and
並建議補救措施。	problems with recommendations on remedial actions if any.
機電署鼓勵非住宅樓宇內	Owners of cooling towers at non-domestic premises
冷卻塔系統擁有人申請參加	are encouraged to apply for joining
機電署管理的	the Fresh Water Cooling Towers Scheme managed EMSD,
<空調系統使用淡水冷卻塔計劃>	which will be conducive to
有助管理其冷卻塔裝置。	their management of cooling tower installations.
如果未參加，	If they have not done so,
可以登入機電署的網址，	they can visit EMSD's website for
參考有關資料同申請計劃詳情。	relevant information and application details.

最後必須要與大家講解的，
是有關審核的程序。
冷卻塔系統的操作和維修記錄獨立年檢
必須由獨立和合資格的審核人員負責。
該審核人員可由樓宇或水冷式空調系統
擁有者或物業管理公司另行僱用，
但不可受僱於現有的冷卻塔服務承建商。
如審核結果
建議需要進行改善工程或補救措施，
則可能需要進行
重新檢查和採取跟進措施。

而審核過程結束後，
審核人員必須提交一份
已簽署的正式年審報告，
予系統擁有者和機電署。
報告重點在於評估上年度的操作
和維修工作與原定計劃之偏差，
及水質較差時所採取的適當措施。
報告中還必須著重所需的改善工作

及補救措施。

Last but not least,
it is about the audit procedures.
Annual independent audits of operation and maintenance records of cooling tower systems
shall be carried out by an independent and competent auditor.
The auditor may be hired by the building or water-cooled air conditioning system owner,
or the property management company;
but shall not be employed by the cooling tower specialist contractor.
Re-inspection or follow up action
may sometimes be required
if improvement work or remedial action is suggested
by the audit results.

After completion of the audit process,
the auditor shall submit a signed copy of formal Annual Audit Report
each to the system owner and EMSD.

The Report should focus to assess whether
the scheduled operation and maintenance work
have been properly carried out in the past year
and appropriate actions that have been taken
in case of poor water quality. The Report should also highlight any necessary improvement and
remedial actions.

而審核員必須具備有關冷卻塔系統的	The Auditor should have relevant operation and
操作和維修經驗，	maintenance experience on cooling tower systems and
且擁有以下其中一項資格。	possess either one of the following qualifications:
屋宇設備或機械工程專業的	Registered Professional Engineer
註冊專業工程師 ；	in Building Services or Mechanical discipline ;
屋宇設備或機械工程	Higher Certificate or above
專業高級証書或以上，	in building services or mechanical engineering
另外具備最少 5 年	plus at least 5 years of operation and
冷卻塔系統操作和維修的經驗。	maintenance experience on cooling tower systems.
我們每年都有做好審核，	We have done annually the audit and
將報告交予機電署。	submitted reports to EMSD.
那就好了，	That's nice.
經過黃工程師同	I fully understand now.
張經理的詳細講解之後，	Thanks for the detailed explanation
我完全明白了。	by Engineer Wong and Miss Cheung.
大家一齊齊心合力做好	Let's work together for better operation,
我們大廈冷卻塔的操作維修同管理。	maintenance and management of the cooling tower of our building.
好呀!	Good idea.