2015年11月17日

上午10時03分恢復聆訊

出席人士： 許偉強大律師，為外聘律師，代表食水含鉛超標調查委員會

殷志明大律師，由羅夏信律師事務所延聘，代表香港房屋委員會

王鳴峰資深大律師、陳樂信大律師及羅頌明大律師，由律政司延聘，代表水務署署長

Mr. Ian Pennicott資深大律師及林定韻大律師，由孖士打律師行延聘，代表中國建築工程 （香港）有限公司

鍾耀明大律師，由的近律師行延聘，代表保華建築營造有限公司

林國輝大律師，由孖士打律師行延聘，代表瑞安承建有限公司

李頌然大律師，由顧增海律師行延聘，代表有利建築有限公司、明合有限公司及伍克明

譚俊傑大律師及吳思諾大律師，由何謝韋、李偉業律師事務所延聘，代表啟晴邨及葵聯二邨公屋居民代表Lee Pui Yi、Chong So Nga及Lui Hui Ping

香港房屋委員會第四證人：伍達群（房屋署（啟晴邨和元州邨第二及四期總屋宇裝備工程師））宣誓繼續作供

殷先生：係，主席。依照你琴日嘅指示，就我嘅instructing solicitors就可能我做唔到嗰個核對，就睇睇伍先生係關於個元州邨第二期同第四期嘅書面供詞同埋佢喺啟晴邨已經作出嘅書面供詞有咩嘢唔同嘅地方，我就打算今朝就講畀大家知邊啲地方應該係冇分別嘅同啟晴邨，咁就講完話呢個冇分別，我就淨係講嗰啲有分別嘅部分。

主席：好呀。繼續，開始。

殷先生主問

殷先生：This is the witness statement Of Ng Tat Kwan, the chief building services engineer of Un Chau Estate PHASE 2 and 4。

第1段嘅第一句唔使讀。

"The statement addresses matters relating to one of the "Affected Estates" being Un Chau Estate Phase 2 and 4 comprising Un Lok House, Un Nga House, Un Chi House, Un Hei House and Un Kin House."。

第2段嘅第一句亦係唔使讀。

"I have been looking after matters concerning the construction of Un Chau Estate Phase 2 and 4 as Chief Building Services Engineer/2 from 28 January 2013 until now. The certified completion dates of the domestic blocks in Phase 2 (Un Lok House, Un Nga House, Un Chi House and Un Hei House) and Phase 4 (Un Kin House) of the Estate are 31 March 2008 and 30 April 2008 respectively. I therefore have had to obtain information before late January 2013 from other sources or pursuant to discussions with colleagues for preparation of this statement."

第3段到8段都係同啟晴邨係一樣。

"BS staff who have been involved in the project are as follows: TK Ng is the CBSE; CS Ho, CK Leung and SW Tse had been the CBSE in the past since commencement of the Main Contract; KW Cheung is the Project SBSE; TK Ng, WH Wong and SW Tse had been the Project SBSE in the past since commencement of the Main Contract; HS Ng is the Project BSE; WL Li had been the Project BSE in the past since commencement of the Main Contract; CL Ng, ST Au and TC Leung were the then Senior Building Services Inspector (SBSI) at different stages; and CK Wong was the then Building Services Inspector (BSI)."

跟住落嚟就第10段到第29段同啟晴邨係冇分別。

"Material Submissions – Fresh Water Plumbing System outside Water Pump Rooms – For plumbing materials used outside water pump rooms, they were supplied and installed by the Main Contractor and were vetted and approved by the Project Architect."

跟住第31段到40段都係同啟晴邨冇分別。

"At the time of completion, CBSE issued memos for respective sections of the Estate to the CA confirming that the BS installations in which the water pumps and associated pipework installation inside water pump rooms was included, could be certified as substantially complete such that the BS installations could be safely put into use for their intended purpose. This confirmation was issued upon the major BS installations satisfactorily passing the prescribed tests and inspections. This confirmation for the domestic blocks of Un Chau Estate Phase 2 (Un Lok House, Un Nga House, Un Chi House and Un Hei House) and Phase 4 (Un Kin House) was dated 31 March 2008 and 30 April 2008 respectively."

42段又係同呢個啟晴邨冇分別。

"In respect of works under the CBSE's supervision and in relation to the water pumps and associated pipework installed by the FSWP Nominated Sub-contractor inside water pump rooms, the plumbing materials stated in Form WWO46 and accepted by the WA were as installed."

其餘嘅都冇分別㗎嘞，同啟晴。

主席：好呀。

問：伍先生。

答：係。

問：你同意確立呢個書面證供作為你喺呢個研訊入面嘅證供？

答：同意。

問：嗄。誒...

答：同意。

許先生盤問

問：有一點我想係同伍先生你討論一下，就係尋日下晝，主席同埋委員都有問過你相關嘅問題，關於你哋嘅團隊喺2002年，即係出嗰個更改咗嗰個specification，就有關呢啲銅喉更改咗個specification？

答：係。

問：因為我都知道你尋日同我哋講過，就係當時你哋嘅團隊入面亦都係有人參考咗即係嗰個BS，即係嗰個英國標準當時嗰個演變嗰個過程，咁亦都睇到有啲需要寫落去嘅內容就交代喺2002年嗰個版本嗰度嘅？

答：係，冇錯。

問：咁其中一個就係話要係lead-free solder呢樣嘢，即係無鉛嘅嗰個焊接物嗰樣嘢。

答：唔。

問：咁我亦都知道當時就係正值係呢個房委會，當時亦都係喺度即係開始討論緊嗰個有關由當時嘅GI pipes轉到做呢個銅喉嗰個過程，亦都係畀啲承建商有個選擇就係用銅喉嘅，即係大概2002年左右呢段時間？

答：其實係因為開始討論話畀承建商有一個alternative去用銅喉，而跟住就去做呢個spec嘅。

問：係。所以咁即係嗰個討論關於即係改變用銅喉呢樣嘢，都係一個嗰個更新咗個specification嘅其中一個誘因，係咪呀？

答：係，冇錯。

問：咁我想知道就係因為房署副署長，即係馮女士作供嘅時候，我哋都有問過佢呢個問題，就係關於2002年即係嗰個用銅，嗰個行裏面即係轉用銅喉嘅事宜，同嗰個業界有啲乜嘢嘅諮詢工作嘅。

答：唔嗯。

問：咁我想問一問你，就係就住當時呢一個咁嘅轉變，喺你哋房署入面有冇啲即係比較整--一個全面嘅討論，就住有關轉去銅喉而用嗰啲物料，因為可能銅喉一定係用多咗，咁而就住改變嗰個物料會唔會引起一啲危險，或者例如對市民安全、危險係作出一啲全面啲嘅檢視當時，你有冇咁嘅認知？

答：我冇印象。

問：唔。如果當時...

主席：對唔住。冇印象係因為你唔知道，抑或係冇咁樣樣嘅討論過？

答：我應該係唔知。

主席：Okay。

問：即係如果有呢啲咁嘅討論的話，我假設有呢啲咁嘅討論，通常你嗰個團隊會唔會有份參與，定係其他啲團隊會參與？

答：如果有咁嘅討論，就算我哋冇參與--我哋可能有機會參與，又可能冇，咁但係就算冇參與，我相信係會相關嘅資料會發放出嚟去到我哋度。

問：所以如果例如你哋部門冇睇過嗰啲資料，就好有可能係冇嗰個討論都未定？

答：你指係邊啲資料？

問：即係你冇收過嗰方面嘅資料嘅話，都有機會係可能係冇嗰方面嘅討論，即係如果有嘅話，你哋應該會收到。

答：係，當然。

許先生：我冇其他問題。

主席：我想問如果因為你哋 building services 就係呢啲水喉方面嘅--即係如果你同呢個 architect 去比，咁似乎你哋 building services engineer 就對水喉嘅認識，或者對水嘅認識就應該比 chief--比 architect 嗰方面會真多添，咁講正唔正確？

答：你話多些少我同意嘅。

主席：係。

答：咁但係即係如果 building services engineer 嚟講，就因為要照顧嘅嘢嘢係相當多嘅，其實琴日都有提到風、火、水、電。

主席：係呀。

答：咁就譬如話「風」就通風、冷氣；電器入面有呢個供電、照明、保安、公共天線、通訊；就呢個水嗰方面就係消防--水泵，咁另外消防嘅設備；咁亦都有軋、呢個電樓梯；咁亦都有其他立立雜雜，譬如話垃圾處理系統；就呢個譬如停車場出入嗰個控制系統。咁其實林林總總係好多嘢嘅。

我諗我只可以講就係話--我攞個譬如，如果用醫生作為一個譬如，我諗我哋可以話係一個普通科醫生，但係就唔可以話係一個專科醫生。

主席：唔。因為你頭先講到，如果有呢一方面嘅資料你哋就會知道，咁你就話唔知道，唔知道即係有機會冇討論過即係用銅喉嘅好處同埋壞處，係咪咁樣樣嘅意思？

答：唔嗯。

主席：好嘞...

答：可以係咁講。

主席：我亦都想問，因為我哋見到你嗰個2002呢份文件，咁就係呢個叫做Development and Construction Management Board Instructions，咁我嘅理解有--就冇錯嘅，就係其實就係呢個Development and Construction嘅Division裏面嘅其中一個board叫做"management board"，係唔係？

答：係，冇錯，係。

主席：換句話嚟講，就即係都係Development and Construction Division出嘅？

答：係。

主席：Okay。換句話嚟講，就即係一個副署長就做領導嘅？

答：係。

主席：Okay。咁呢個副署長領導之下，就有個chief architect就係bracket係咪叫做"Design and Standards"呀？

答：係，冇錯。

主席：咁呢個design and standards嘅chief architect就係專係負責呢啲--如果呢啲咁嘅新嘅嘢就係under佢嗰個authorities？

答：可以咁講，係。

主席：係，可以係咁講。咁就...

答：當然佢需要其他人去support佢。

主席：啱，一個人。咁佢--你嘅意思就係呢一個design and standards呢一個chief architect就最終就決--即係佢--當然佢有input，係咪？咁就話咗畀呢個Development and Construction Management Board聽，「我哋想咁樣樣做。」於是個board就出一個咁樣樣嘅instruction？

答：當時嘅情況我唔係好記得。

主席：唔，唔。

答：但係如果睇番呢張 DCMBI 入面嘅內容，主要就係話技術嗰方面，同埋係合約上一啲嘅安排嚟嘅，咁變咗我諗呢張 DCMI--DCMBI 嘅主力應該會係由番 chief building services engineer 同埋呢個 chief QS 嗰面，即係去到安排。

主席：即係我哋其實就最理想嘅人選去問，就應該係問尋日你所講而家做咗助理署長嗰位先生？

答：可以咁講。

主席：Okay。

答：即係如果技術嗰方面就。

主席：當時嘅 chief architect 又係邊個？負責 design and standards。

答：嗰陣時，我唔記得咗。

主席：唔記得，唔緊要。我哋見到呢度--或者我都跟進埋，呢度見到 2002 年，我想問一問當時候，你哋將呢個銅喉攞咗落去可以係一個 alternative 嘅 piping 嘅時候，有冇參考呢個星加坡嘅經驗？

答：星加坡嘅經驗？

主席：因為星加坡同香港都好類似，大家都有好多組屋呀，佢哋係叫「組屋」，佢哋有好多 public housing，其實我哋嗰啲屋者有其屋、我哋嗰啲公屋，佢亦都走過嚟抄嘅好多時--就唔好講抄，借鏡，。借鏡之後，跟住佢哋有佢哋嘅，唔。

答：我印象當時同啲業界傾，或者 supplier 傾嗰陣時，好似有提過下，但係當時好似係講緊佢哋係用好多不鏽鋼喉。

主席：得，唔緊要。但係我想知道就係話，你話當時候出面私人機構已經用咗銅喉好耐，所以你哋就於是就選擇用銅喉，呢樣嘢我冇問題。不過，就你哋嘅理解，當時出面私人嘅屋，即係私人嘅樓宇用銅喉嘅時候，佢哋個 joint 係用 compression joints，即係其他嘅 joint other than 係 soldering 去接？

答：如果我自己嘅理解，應該當時係用 soldering joint 多啲嘅。

主席：即係已經用 soldering joint，...

答：係嘞。

主席：...你哋02年嘅時候？

答：即係出面。

主席：係呀，出面，係嘞。

答：出面嚟講，嗄。

主席：嗄。

答：因為嗰陣時好似仲係可以藏暗喉，即係啲喉可以藏喺牆身入面。

主席：藏喺牆入面，唔。

答：咁如果藏喺牆身入面，就如果你譬如話用compression joint，就會挺到好大嚟，...

主席：係呀，唔。

答：...咁相難藏嘅。

主席：唔。

答：另外，如果因為一般嘅講法都係話呢個soldering joint漏水嘅機會係細好多嘅。

主席：唔。Press-fit去joint呢？

答：Press-fit係近年即係一啲新啲嘅發展嚟嘅，唔係當年嘅。

主席：係幾時嘅事嚟㗎？

答：呢個我都講唔到。

主席：唔知？

答：係嘞。

主席：香港有冇用？

答：Press-fit？

主席：你知我講乜嘢，press-fit？

答：我知，我知。我估應該都有，不過應該數量唔多。

主席：唔。好呀。

答：因為press-fit要用嗰個working space係要大啲嘅。

主席：係，唔該。

咁我冇其他問題問。冇喇嘛？

殷先生：主席，我有幾條問題想問伍先生澄清。

主席：隨便，係，唔。

<u>殷先生補問</u>

問：伍生，其實你嘅證供應該都大約咁講過有關呢啲嘢，我想你澄清。

答：好。

問：第一樣嘢，就係你記得你講話--我唔記得係咪你講，抑或你其他嘅同事講過，就係話房委會喺95年至到2002年期間係用一種物料叫做UPC--UPVC-lined嘅，即係入面有膠嘅鍍鋅喉管，同意嘛？

答：係。

問：嗰個理由就係係咪話因為95年之前，就用冇呢啲--內籠冇嘢，冇膠嘅鍍鋅喉管，過咗一段時期佢就有鏽蝕嘅問題，係咪？

答：係，主要係呢個問題。

問：咁你哋當時轉咗用UPVC-lined嘅鍍鋅喉管，就即係覺得嗰個喉管對食水嘅鏽蝕嘅問題係處理咗？

主席：再講多次。

問：即係你哋由呢個冇 UPVC-lined 嘅喉管轉用咗有 PV--UPVC-lined 嘅喉管，從你哋嘅角度嚟講，之前對食水質素嘅影響，喉管入面嘅雜質對食水嘅影響係處理咗，係咪？

答：係，或者我補充少少，而且喺水務署嗰方面，其實亦都係唔畀再用呢個鐵管，咁而 UPVC-lined pipe 係其中一種可以用嘅喉。

問：咁後來你解畀我哋聽，點解 2002 年嗰陣時會加埋銅喉入去畀呢個承建商做選擇，就因為你哋覺得銅喉嘅 performance，即係佢嘅做到嘅嘢同呢個 UPVC-lined 嘅鍍鋅喉管係相約嘅。

主席：唔係，係因為出面買唔到，人哋裝修又換晒銅喉，你聽...

殷先生：係。

主席：係。

殷先生：嗰個係原因，但係當時你哋係覺得兩種物料嘅--即係嗰嗰作用係冇乜--相差冇乜分別。

主席：咩嘢叫作用？作用就係如果佢純粹講輸送水，梗係冇分別，係咪？睇下你想講乜。

答：我同意。

主席：唔係，你唔使--你想問咩嘢問題，不如你直接問喇。係，直接。

黎先生：唔係，我根據...

殷先生：我想問呢就...

黎先生：我諗係根據呢一份文件，P25-02，根本嗰度個 background 已經講咗點解嗰陣時係轉咗用銅喉，你睇第 3 段嗰度，琴日喺呢一個嘅 25-02，因為嗰度已經講，當時喺出面嗰個工業--建築業已經係

copper pipes were also widely used，同有 similar installation 同埋 technically comparable to you UPVC-lined galvanized steel pipes，同埋銅喉亦都係 price competitive--competition，係個價錢上面係比較係有競爭力，所以事實上已經講咗出嚟，當時嗰個原因。

問：我想就係針對嗰個 technically comparable 嗰個說法，係咪即係話覺得佢同呢個 UPVC-lined 嘅--即係如果 UPVC-lined 嘅鋼喉對水質冇影響，冇壞嘅影響，你哋都覺得銅喉一樣係對水質應該係冇影響？

答：係，因為如果我哋知道譬如銅喉嗰個 performance 係差過 UPVC-lined 嘅 pipe，我諗嗰個考慮就會唔同。

問：我仲有一個問題想你澄清，就係關於 2002 年嗰陣時點解要修改你哋嘅 specifications，就加一句關於唔准用有鉛嘅焊料嚟焊接呢啲銅喉嗰部分。我想你睇睇琴日我哋睇過就話政府嗰個建築物署，93年個版本就係已經有提及唔用呢個含鉛嘅焊料呢件事，你記唔記得？

答：記得。

問：咁如果我哋睇睇，因為主席都帶過你睇過房委會喺 2000 年嗰個未修改個版本嗰度嘅時候，就淨係講一句，就係話"use of jointing materials based on read lead would not be permitted."，你記唔記得？

答：係，記得。

問：咁我哋而家睇番，如果我哋睇番建築署嗰個--即係嗰個 Architectural Services Department 嗰個 93 年嘅版本嗰個合約條款，第 19.55 段嗰度，其實係講咗兩樣嘢，你同唔同意？因為佢第一句就講話：

"The use of jointing materials based on red lead will not be permitted."

第二句就講：

"Solder used for jointing copper of copper alloy

potable water pipes shall be lead-free and to BS 864: part 2, table 17."

係講咗兩句？

答：係，應該係兩樣嘢。

問：應該係講緊兩樣唔同嘅物料嚟個喎？

答：應該係嘞。

問：咁你哋--我嘅理解啱唔啱？2002年之前可以咁講，你哋淨係有第一句，你哋房委嘅specification淨係有第一句，但係就冇第二句，嘅理就係因為當時你哋唔用銅喉，係唔係？

答：應該咁樣講。

問：咁所以嗰句根本話關於"Solder used for jointing copper or copper alloy potable water pipes"，嗰句對你哋係唔適用嘅，因為你哋冇用銅喉做portable water，係咪？

答：應該可以咁講。

問：咁你嘅證供就係話2002年嘅時候，你哋只不過係加番呢一個條款入去你哋嘅合約度。因為以後--因為你哋決定咗用銅喉之後，咁變咗呢個之前唔適用於你哋嘅條款，以後就適用嘞，係咪？

主席：我唔係好明，你再講多一次。係，你話加入去個specifications，抑或加入去個contract嗰度？你想講係加入個specification度，係咪？

問：咁係HA嘅specification。

答：可以咁講。

殷先生：我冇其他嘢問。

主席：唔。

唔該晒你，伍先生，你畀完證供，可以走得，唔該晒。

答：好，唔該晒。

（電波干擾）

主席：呢啲聲就基本上就係因為你哋冇閂呢個手提電話，所以就係干擾到我哋個 digital recording 嘅聲嚟嘅。所以最好就係閂咗佢，因為有機--雖然我哋--唔係，應該咁講，今日你哋就有呢一個 Live Note 嘅 luxury，如果你哋喺法庭裏面冇呢個 Live Note 嘅時候，有陣時我會翻聽你哋講嘅說話，咁就聽唔到。所以就請你哋就最好盡量熄咗你哋個手提電話。就算你哋係去到呢個--可以去到 airplane mode 都得，如果你哋鍾意。

殷先生：主席，我可唔可以用少少時候處理下一位證人？

主席：有啲咩嘢問題？

殷先生：我要睇下佢嚟咗未，因為頭先...

主席：哦，我哋坐喺度等下佢。

請你過去嗰邊。請坐。

下一位證人，係，Mr Yin。

殷先生：係，何先生，或者何生宣咗誓先。

主席：好呀。

香港房屋委員會第五證人：何偉廉（房屋署（物業管理總經理（葵涌+項目管理））） 以本地話宣誓作供

主席：請坐，何先生。

殷先生：主席，我理解何生就係唔係淨係做啟晴邨，佢係做所有呢啲公屋

有關嘅 fresh water supply system 嘅 maintenance。

主席：好呀。

殷先生：咁我而家讀何先生嘅書面嘅證供。

主席：好呀，好呀。

殷先生主問

WITNESS STATEMENT OF HO WAI-LIM, WILLIAM

OF THE HOUSING DEPARTMENT

REGARDING IN, SPECTION AND MAINTENANCE OF

FRESH WATER SUPPLY SYSTEMS IN

PUBLIC RENTAL HOUSING ESTATES

1. I, HO Wai-lim William, provide this statement in respect of the Commission of Inquiry ("**COI**") proceedings and further to the request from the COI on 12 October 2015.

2. I am a Building Surveyor and a Member of the Hong Kong Institute of Surveyors. I joined the Housing Department ("**HD**") in 1978. My current post is Chief Manager/Management (Kwai Chung + Project Management) of the Estate Management Division ("**EMD**") of the HD.

3. I have not been specifically directed to provide a statement but I do so because the Housing Authority ("**HA**") considers it important to provide a complete narrative concerning the inspection and maintenance of the fresh water supply systems of the public rental housing ("**PRH**") estates and not merely the construction/installation of the systems.

4. The purpose of this statement is to outline in broad terms how the HA inspects the fresh water supply systems in the eleven "Affected Estates" (except the Water Pump Rooms, the details of which are covered by the witness statement of Mr. Chan Lik-sun), and where necessary, how maintenance and improvement ("**M&I**") works for such systems are carried out.

INSPECTIONS OF FRESH WATER SUPPLY SYSTEM

5. The EMD manages the maintenance services of the PRH estates after taking over the completed estates from the Development and Construction Division ("**DCD**") of the HD.

6. In general, the EMD inspects the fresh water supply systems in the PRH estates under the **HomeCARE Maintenance Scheme** ("**Scheme**"). The scheme aims to ensure that the PRH estates are maintained in a safe and habitable condition. It covers the water supply systems. Under the Scheme, inspections are performed as follows:-

(a) Repair-on-demand service
(b) Routine estate inspections:-

- Daily Patrol by estate management staff;
- Annual Technical Inspection by technical staff; and
- Annual Professional Appraisal by works professionals.

7. Under the **repair on demand service**, tenants report defects to the estate management office, and the EMD arranges for inspections and necessary repairs through "Responsive In-flat Maintenance Services" ("**RIMS**"). The RIMS include: -

(a) Dedicated in-flat technical teams who respond to tenants' repair requests; and

Tenants lodging their repair requests and follow-up enquiries either through the Customer Service Assistants stationed at Estate Offices or through a hotline of the call centre;

(b) Building maintenance workers carry out minor repairs on the spot; and the in-flat technical team uses a personal digital assistant to record the conditions of any defects reported or any repair works that may be required.

8. A **Daily patrol** is conducted by estate management staff of the common areas of domestic blocks, ancillary buildings, external areas and facilities. The objective is to identify and arrange for rectification of any minor defects in public areas and operational problems of public facilities as early as possible. In respect of the water supply system, the daily patrol includes an inspection of the water pipe system at the common area, for example to detect water leakage and water tank over-flow.

9. **Annual Technical Inspections** are conducted by technical staff. The purpose of these inspections is to: -

(a) Record the condition of both internal and external common areas on a sampling basis; and

(b) Provide information for the Annual Condition Appraisal by works professional staff and for future planned maintenance programs.

10. During the Annual Technical Inspection, a record is made of the condition of fresh water pipe works, any defects identified and proposed remedial works required.

11. The **Annual Professional Appraisal** is carried out by works professionals based on an analysis of relevant information and maintenance records. During the Annual Professional Appraisal, a review of the condition of each building element, including the potable water supply system, which forms the basis for planned repair/improvement works required for the coming years is made.

MAINTENANCE AND IMPROVEMENT WORKS

12. Replumbing in the EMD will be considered for buildings **at least 12 years old** subject to the condition or those buildings or plumbing system with specific complaints concerning water quality or performance (e.g. water pressure).

13. In respect of the eleven "Affected Estates", which were all completed **less than 10 years ago**, our records show that no major replumbing works have been carried out.

14. Routine maintenance of the fresh water supply system is mainly carried out through district term maintenance contracts. The works mainly involve the following: -

    (a) Repair and maintenance of defective water pipes, fitting and water taps during responsive and routine maintenance;

    (b) Repair or replacement of water pipes and/or fittings during vacant flat refurbishment; and

    (c) Planned M&I works which are condition-driven or on a need basis.

15. The EMD only engages licensed plumbers (registered by the Water Supplies Department ("WSD") with a Grade I Plumber's Licence) through district term maintenance

contracts who shall be responsible for the installation of the plumbing works where submissions to the WSD are required.

MATERIALS OF FRESH WATER SUPPLY PIPES

16. All plumbing works are specified in compliance with the Water Authority's requirements. In selecting materials and specifications, the EMD exercises additional care and control on the works arrangement as we are working in occupied premises. We need to ensure minimum disturbance to our tenants/ occupants during the execution of works and we also need to take into consideration the safety and protection of works in occupied domestic flats, potential obstruction by existing fixtures and fittings, and also planning of water supply interruption period.

17. The parts used in our M&I works to the fresh water supply system are as follows:-

Inside flat: copper pipes with compression joints;

Common area: copper pipes (usually below 75mm) with compression joints or other mechanical joints; and

Common area: ductile iron pipes and flange joints usually for 75mm and above.

18. The EMD requires that jointing material must not project into bore of pipes or fittings. Compression fittings or other mechanical jointing system approved by internationally recognized approval authorities are specified for jointing of copper pipes. Soldering for copper pipe connections is generally not used in M&I works except at isolated locations due to site constraints or availability of suitable joint components to match existing installations.

19. The EMD incorporates all critical criteria for compliance in the EMD General Specifications for Building Works, which are updated as and when necessary. The Specifications are updated based on latest international standards, reference to Specifications of various counterparts including DCD, Architectural Services Department, etc.

CURRENT SUPERVISION ON THE INSTALLATION OF FRESHWATER SUPPLY SYSTEMS

20. The EMD vets and approves the following submissions from the district term maintenance contractor (**"DTC"**) before works start: -

    (a) Sample panel or mock-up of connected pipe works, fittings and associated supporting brackets, hangers, etc; and

    (b) Material schedule showing the type, brand, material, size, manufacture and origin of pipe works, fittings and associated supporting brackets, hangers, etc. accompanied with catalogues, certificates, test reports, approval documents from respective regulatory authorities.

21. In processing the DTC's material submissions, we check the specifications against the DTC's submission documents/samples, including catalogues, samples, certificates, test reports, approval documents from respective regulatory authorities (including approval documents from the WSD, etc).

22. The Maintenance Team conducts checks on submissions by the DTC showing compliance of standards when materials are delivered to the site. Visual inspection and verification are carried out on materials against submitted catalogues and certificates.

23. It is the DTC's duty to ensure and certify that the works are carried out in accordance with the specifications and drawings before notifying the Maintenance Team to inspect them periodically. The DTCs employed by the HA are certified to ISO 9001 for quality management, ISO 14001 for environmental management and OHSAS 18001 for occupational health and safety management. The DTC sets up their management and supervising team according to the contract requirements, and establishes and maintains a system to ensure that works conform to the contract requirements.

QUALITY CONTROL AND MONITORING

24. The Maintenance Team conducts site inspections on a needs basis to assess the quality of the works. The Maintenance Team also checks the work completion records from the DTC or sample check of work done as appropriate.

25. Regarding plumbing installation works, site surveillance is mainly done through visual inspection of, for example, the alignment of water pipes and brackets, adequate pipe sleeves and spacing, the connection of pipes, whether the material us d comply with contractual requirements, any damage to existing or tenant's fixtures, etc.

26. The DTC is responsible for continuous supervision of the works in order to ensure compliance with contract requirements. The Maintenance Team conducts inspections according to standards and procedures, and records the findings under the Maintenance Assessment Scoring System ("**MASS**") as part of the output assessment.

27. In addition to the normal management and quality control of the DTC's work by the Maintenance Team, the

Central Assessment Team ("**CAT**") also conducts quarterly output assessments.

28. The output assessment covers standard and quality of material; quality of workmanship and finishes; job progress; site management and customer services. Sample orders are randomly chosen by the CAT and materials used on site are checked against those approved/specified.

QUALITY WATER SUPPLY SCHEME FOR BUILDINGS

29. Under the WSD's "Quality Water Supply Scheme for Buildings - Fresh Water" ("**Quality Scheme**"), water samples are required to be taken from the PRH estates for testing in accordance with WSD's guidelines. Under the Quality Scheme, at least one sample for physical and chemical analysis and another one for bacteriological analysis are taken from a randomly selected tap supplied from each water tank of each building. In general, the EMD collects water samples from randomly-selected domestic units. A certificate ("**Certificate**") will be issued if the collected samples pass the water test. For the first application, the Certificate will be valid for one year and for subsequent renewal applications, the Certificate will be valid for two years.

30. The water test covers: -

(a) pH value;
(b) Colour;
(c) Turbidity;
(d) Conductivity;
(e) Iron content;
(f) E. Coli; and
(g) Total Coliform.

31. The current status for possessing the Certificate in respect of the eleven Affected Estates is set out in the "Summary of the Certificates of the Quality Water Recognition Scheme in respect of the Eleven Affected Estates", now · produced and shown to me marked **"Exhibit 1"**.

問：何生，你剛才聽到我朗讀完你嗰個書面證供，你有冇嘢需要更正或者補充？

答：冇，唔該。

問：你願意採納去作為你喺呢個研訊入面嘅證供嗎？

答：願意。

殷先生：我冇嘢問。

<u>許先生盤問</u>

問：何先生，首先我就見到你個證人口供嗰度都有提到你嗰個工作，喺呢個房署個工作嗰個年期，咁我見到你就喺 1978 年就已經係加入咗房署，所以都相當一段長嘅工作年期。咁你而家個任職就喺嗰個 Estate Management Division，即係我哋知道係講物業管理嗰個 division。

我想知道就係你幾時加入呢個物業管理呢個部門？

答：物業管理部門，即係 EMD，係喺 2003 年改過名稱。咁喺 ever since 嗰時，我就喺物業管理署。

問：你啱啱講 2003 年改咗個名稱，之前個名稱叫做咩嘢？

答：喺 197--1998 年嘅時候，如果我冇記錯，1998 年嘅時候，就係房署嗰度改組。Before that，就「新樓」係建築署，係一個 branch。嗰陣時係「保養」，「保養」係 under「新樓」。咁喺 1998 嘅時候，

係物業管理署就包含晒物業管理同埋「保養」。

問：即係你所講嘅物業管理署，就由1998年就開始做呢個工作？

答：如果我冇記錯，係，個工作係相同，不過個名係改咗。

問：冇錯。咁我哋都知道，除咗物業管理署，我哋都聽過唔少證人嘅口供，佢哋就係來自佢所謂嘅"DCD"，即係發展及建築嗰個部門。我想問下你在屋宇--呢個屋宇--房屋署咁多年嗰個期間，你有冇擔任過有關DCD部門嘅工作？

答：冇。

問：好，唔該。

你個證人口供入面第4段都有講，就係話你呢份口供你係就住我哋而家講緊嗰十一條邨係作出呢個證人口供。咁我理解啱唔啱呢，就係話你個部門，即係而家呢個EMD呢個部門，同時間都會負責即係好多條邨嗰個物業管理，係咪咁樣呀？

答：係。

問：至於你嗰個工作範圍，例如你嗰個division，尤其是，咁會唔會話分區，即係分區決定，你負責邊一個區嘅屋苑等等呀？

答：有分區，有六個分區。

問：唔。咁我見到你嗰個就係葵涌區。

答：係。

問：咁至於--因為我哋呢次十一條邨都涉及好多區，咁我想問下你個人嗰個參與，即係有關呢個EMD嘅工作嘅參與，就住呢十一條邨，你都有直接嘅參與？

答：唔係。

問：唔係。咁你主要係參與咗邊幾條邨嗰個EMD嘅工作呢？

答：係葵聯。

問：葵聯。但係其他嗰十條邨，即係你作呢一份口供，你就係即係問番其

他邨--負責其他邨嘅一啲同事--EMD 嘅同事就講番畀你點樣嘅情況？

答：係其他一般嘅做法，即係譬如 specification，我係會有幫手處理。

問：哦。或者我都想同你釐清一下嗰個工作嗰個流程，我都見到你證人口供入面都有講到，就係其實你哋個工作就係話建築完成之後，工程完成之後，就即係將個工作就擺去你哋嗰度，你哋負責有啲定期嘅檢視、檢測等等，維修等等，係咪呀？

答：係。

問：我想知道就係由呢個 DCD 部門睇完樓之後，交畀你哋，你哋有冇一個溝通？即係我所講嘅「溝通」，例如話，佢哋喺起樓過程之中，覺得有啲咩嘢地方可能用嘅時候會出現問題，會特別向你哋指出嘅，會唔會有啲咁嘅會去開，等你哋知道有邊啲範疇特別需要注意呢？

答：有。

問：Okay。咁我想知道係大概例如建築嘅過程之中，已經有呢啲咁嘅會一路同你哋開，定係建築過程完成之後，先開始同你哋有啲咁嘅會議？

答：係總部裏頭係有一個交流嘅會。

問：好，或者我問得清楚啲，等你容易解答啲。即係我個意思就係話喺建築個過程，即係 DCD 仲做緊嘢，有工人喺度做緊嘢，佢哋已經開始會同你哋交代個進度係點樣，有啲咩嘢事項你哋接手咗之後需要注意，定係成個建築工程完成了以後先至開始同你哋有開會，跟進住個過程呢？

答：進行嘅時候，係重要嘅 progress 會有同我哋講。

問：可唔可以簡單同我哋講下，例如--即係以你所知，就葵聯嚟講，邊啲係比較重要嘅過程要向你哋匯報？

答：完工，幾時將會完工。

問：幾時將會完工。

答：係。

問：咁例如其中會唔會包括話，佢哋做緊嘅過程之中，例如特別發現可能

某啲物料，即係需要注意，去保養嘅時候你需要多加注意，有冇啲咁樣嘅匯報話畀你哋聽？

答：我唔係太清楚。

問：即係你嘅意思係話，喺工程進行之中，佢哋向你匯報嘅就只不過係局限於「幾時完工」呢件事情，冇其他嘢？

答：如果以我層次，應該係。

問：咁我亦都想問一問，就係當你哋開始接手做呢個物業管理嘅時候，你哋當然--我見到你話有啲 repair-on--on-demand 嘅 service，即係例如如果畀人投訴，你哋要處理，或者你哋有啲定期嘅一啲檢測等等，去巡視嗰個樓宇有唔同嘅情況。

咁我想問下，就係--就住葵聯嚟講先，當時有冇話特別當你哋去處理呢個日常嘅物業管理嘅時候，有冇一啲特別係話當時建築 3 過程之中，用嘅物料有啲乜嘢係唔符合要求，又或者乜嘢係--有啲物料係用用下發覺「咦，唔係好妥喎。」你跟住作出有跟進，要修改，你記唔記得有啲咁嘅情況？

答：我記憶裏頭冇。

問：冇。就住你--我講--唔好講太長，講呢五年之間，五年之間。有冇啲比較即係我哋覺得嚴重啲嘅問題，例如喺啲屋邨建築之後，當你哋呢個物業管理去到做維修、管理嘅過程之中，有冇試過發現有啲物料唔係好符合規格，或者用咗之後「咦，有問題喎。」需要特別去跟進？呢五至十年，我講。

答：有。

問：有。如果講嚴重啲嘅事故，即係講比較你而家都仍然記憶猶新嘅一啲情況，有啲乜嘢物料係曾經出現過問題，可唔可以舉例說明之？

答：例如係外牆跌瓦仔。

問：跌瓦仔，係。咁嗰啲都係因為嗰個物料本身嘅問題，定係個手工嘅問題？

答：手工嘅問題比較大。

問：另外，有冇啲係主要係啲物料係有啲唔妥當嘅問題呢，仲有冇？呢五

至十年期間。

答：應該冇乜印象。

問：冇乜印象，定係你唔記得你係有冇處理過？即係一個好龐大嘅建築工程，因為我哋平時如果屋企自己本身裝修，裝修完之後，一個單位嚟講都會可能有啲執漏要做，有啲物料唔妥，係咪呀？即係一個咁龐大嘅一個屋邨工程，以呢五至十年嚟到計，你完全冇印象話，啊，會有啲咩嘢材料唔妥，而你需要去處理？

答：有。

問：係。仲可唔可以講下例子出嚟？

答：例如防水嘅物料。

問：例如有邊啲，防水物料？即係邊一方面嘅防水物料？

答：天面，天面嘅防水。

問：天面嘅防水物料，即係天台嘅防水物料。

答：天台、天花，大樓。

問：仲有呢，仲有邊啲？

答：或者窗框滲漏。

問：窗框滲漏，係。仲記唔記得仲有啲咩嘢情況？

首先講咗天台防水物料先，天台防水物料係咪都係個--即係個物料本身即係出現咗問題，你哋當時去做檢察嘅時候發覺？

答：係。

問：係主要係咩嘢問題，即係佢嚟嗰啲貨係唔啱規格，定係點？

答：啱唔啱規格我哋已經係無從參考，因為已經 cover up 咗嘞嗰啲嘢。

問：明白。但係你哋即係例如當發現物料有問題嘅時候，會唔會第一時間同 DCD 嗰邊 check 下話，「喂，其實當時佢畀我哋呈交上嚟嗰啲料，係咪呢啲料先？」會唔會做呢個步驟？

答：我哋會係通知 DCD 有問題，因為新樓嘅同事，佢哋係 professional 嘅事--佢係 professional，佢起緊嘅時候，個物料送到場，我哋係唔在場，所以我哋係唔可能質疑佢係咪--啱唔啱。

問：我唔係講你需唔需要質疑佢啱唔啱嘅問題，我其實我都係圍繞你嘅工作範圍。就係你如果你發現「咦，有隻物料唔妥喎。」好似你剛才咁講，天台防水嘅物料有唔妥，即係我嘅問題只不過好簡單，就係你會唔會就住呢個事故，同 DCD 個同事講下，「喂，唔妥喎，呢隻物料。喂，究竟你會唔會 check 下係咪啱，同你哋當時嘅 specification 係咪啱，或者你 approve 過係咪呢隻物料呀？」會唔會有呢啲咁嘅跟進過程？

答：會。

問：會。當時就住呢個天台防水物料，你跟進完之後，你所得到嘅回應係唔係都係--即係係點？係話同個 specification 唔啱，定係佢送錯咗第二批貨嚟定係點，記唔記得？

答：咁細節嘅嘢，新樓嘅同事未必會同我哋交代。

問：新樓嘅同事。你剛才講話呢個天台防水係幾時嘅問題，幾時出現嘅問題？

答：你講嘅係頭先話係...

問：我講係五至十年。

答：我印象中五至十年裏頭，就係五至十年。

問：係嘞。咁你所講呢個天台防水嘅問題係幾時發生嘅問題？

答：係我哋收樓嘅時候發覺。

問：我知，係大概講緊年期嚟講，嗰五至十年係最近定係十年前，定係點樣？因為你啱啱講話新樓嘅話，就唔會有呢個咁嘅--即係你唔會得到一個咁樣嘅一個資訊。我想知道你而家講緊天台防水呢個問題係幾時發生咗？

答：我只係舉一個例子。

問：係，我知道。

答：未必發生喺葵聯度。

問：係，我就知道唔係發生喺葵聯度。我想知道就係話喺呢十年期間，你話有呢個咁嘅情況出現過，咁我想理解一下就係話呢個出現大概係幾時左右，係一年前、兩年前定係點樣？

答：好多時都會發生，我只能夠咁講。

問：你講唔到個時間畀我聽，係咪？

答：講唔到。

問：但係你就記得有呢件事？

答：唔。

問：咁睇下除咗天台防水呢個問題之外，仲記唔記得喺呢十年之間，仲有啲咩嘢物料出現問題，而你需要同 DCD 跟進嘅情況？

答：或者係外層紙皮石剝落。

問：紙皮石剝落？

答：係。

問：你剛才講過。仲有冇其他，即係因為物料嘅問題，即係需要你哋再做啲工夫？

答：大部分都係呢啲。

問：大部分呢啲，好。咁你哋例如發現到有啲物料嘅問題，咁你剛才同我講就係話，你會同 DCD 嗰邊去考究一下，「喂，究竟佢個物料係啱唔啱 specification 呀？」等等。好嘞，你哋跟住就當然會搵啲維修嘅 contractor，即係佢哋嘅承建商幫你去可能做番啲維修嘅工作，係咪？

答：唔係。

問：唔係。係點樣？

答：基本上係新樓嘅合約係有保養期。

問：係，係。

答：咁我哋 refer 咗畀新樓嘅同事，佢哋會搵番個 main contractor 做番嘅。

問：Okay，好。咁如果過咗嗰個維修嗰個年期，即係過咗個 warranty period，咁如果有發現事，咁你哋都會需要搵你所講嘅一啲係 district term 嘅 contractor 幫你哋去做維修？

答：基本上係，除咗 latent defect。

問：除咗咩嘢話？

答：Latent defect。

問：如果你發現好似剛才你所舉嘅例，天台防水有問題，你哋同 DCD 嗰邊跟進咗，叫佢哋搵番--係如果仲係喺個 warranty period 裏面，搵番個總承建商，叫佢搞掂番。咁又或者係過咗個 warranty period，你哋搵自己個 contractor 去做咗。呢啲咁嘅事故發生咗之後，會唔會再坐低同 DCD 有個好似一個 appraisal 咁樣嘅 meeting，去到睇下「喂，整個樓宇呢件事上面吸取咗啲咩嘢經驗呀？」等等，有冇啲咁嘅 meeting 之後？

答：總部係有一個交流，係唔係針對每一條邨嚟做交流，就唔會，即係整體嚟呢個時期有啲乜嘢嘢要注意咁樣，咁會有互相交流。

問：你睇下你個證人口供嘅第 16 段。呢度講就係講話所有啲 plumbing works，即係我哋講水務工程，都係根據呢個水務署嘅啲規格嘅要求。咁你都講：

> "In selecting material and specifications, EMD exercises additional care and control on the works arrangement as we are working in occupied premises. We need to ensure minimum disturbance to our tenants/occupants during the execution of works and we also need to take into consideration the safety and protection of works in occupied domestic flats ..."

即係你又要顧及到唔好對呢個住客造成太多滋擾，另外，你都要即係確保佢哋住得安心。

第17段我有少少問題問你，即係有關呢個水務嘅工程。

"The part used in our M&I works ..."

即係maintenance and inspection。

答：Maintenance and improvement。

問：係improvement，對唔住。Maintenance and improvement嘅works。

"To the fresh water supply system are as follows:

Inside flat: copper pipes with compression joints；

Common area就係"copper pipes ... with compression joints or other mechanical joints..."

因為你成份口供都係用呢個現在式。咁我就想問一問，就係好似講番葵聯先，葵聯邨咁講，你哋做呢個maintenance and improvement嘅works，佢原先嗰個水喉就用銅喉，就係用焊接物，但係點解你呢度呢就係講話當去到呢個maintenance and improvement就講緊係用compression或者mechanical joints，就唔係用soldering joints？

答：如果葵聯呢個個案，葵聯係冇做過任何水喉嘅嘢，同埋葵聯係未過EMD，所以保養係冇做嘢，即係EMD冇做過嘢。

問：係呀，即係你呢份口供，因為你都開宗明義都講，你呢份口供嗰度係比較十一條邨，係咪？你呢度就係講話"The part used in our M&I works"，你就係講關於水喉就係用compression joint，就唔係用soldering joints。我想問下點解會有咁嘅情況，即係如果你講緊葵聯或者其他邨，建築嘅時候用咗soldering嘅銅喉，M&I嘅時候就用compression或者mechanical joint，點解會有咁嘅情況，我想知道、理解清楚。

答：因為我哋個general specification係咁樣講。

主席：即係點樣樣？

答：EMD嘅General Specification係用呢兩種joint。

問：好嘞，我哋搞清楚先。我哋而家聽個specification可能有好多理解。首先，specification因為喺建築過程之中都有specification，呢個就係由你哋DCD部門嘅同事同埋總承建商係需要去到把關，呢個就係佢哋嘅specification。你而家講嘅就係話建築完之後，畀到你哋物業管理部門做嘅時候，有另外一套specification，係唔係咁講？

答：係，因為個情況係有唔同。

問：哦。咁...

答：我可唔可以講？

問：係，係，請講。

答：因為保養工程同起新樓唔同，新樓起咗，話而家係佢可以自由發揮。保養工程係有居民喺度，所以我哋除咗係要跟法例，我哋第16段嗰度都講，我哋係要將個現場嘅危險或者係--唔好講話危險，即係對居民嘅滋擾係減到最低。所以係我哋係冇soldering joint嘅原因，就因為如果燒焊會有係火，會焗到居民啲傢私。就算喺公眾地方，燒完焊都有一陣煙味，我哋係--即係居民或者我哋係唔會接受，所以保養嗰個精神，我哋情願用一係麻煩啲嘅方法。

問：我想問下用呢一種嘅方法，呢一種嘅specification，關於compression或者mechanical joint做呢個維修水喉copper pipes呢啲咁嘅情況，呢個咁嘅specification係幾時開始適用？

答：係。喺2013嘅時候，喺General Specification嗰度就係清楚列明，section 18嗰度。

問：2013？

答：係呀。

問：咁你知唔知道點解2013又有呢個轉變？2013年之前，我想問下，2013年呢個轉變之前，你哋嗰個M&I個works都係仍然都係用番soldering joint，係咪？

答：唔係。

問：都唔係。嗰陣時係用咩嘢？

答：2013之前嘅specification就係1989，個General Specification就係幾種joint都得。

問：幾種joint，可唔可以介紹下邊幾種？

答：因為係嗰陣時嘅specification，個plumbing嗰個section係包埋potable water plumbing同埋drainage，aboveground drainage，佢係section 14。所以喺個specification裏頭，佢plumbing嗰度講就可以compression fitting，或者capillary fitting。但係呢個係General Specification，但係我哋出個DTC或者district term contract嘅時候，我哋有啲particular specification，particular specification overwrite呢個，喺particular specification嗰度講嘅嘢，就同2013嘅時候係一樣。即係話如果係jointing copper pipes就either (a)就compression fitting or (b) mechanical jointing。

問：你嘅意思係唔係即係話2013之前同埋之後，都係喺M&I嘅工程入面，有關copper pipes，fresh water嘅copper pipes都係唔用soldering joints？

答：係。

問：咁我想問下，有冇曾經就住呢啲維修工程係用過soldering joint？

答：我據聞係有，我自己就冇用過。

問：幾時，知唔知幾時嘅事？

答：唔知。

問：唔知。你據聞係有，係就住邊條邨，你知唔知？

答：係極罕見嘅情況，係某一team A 邨嘅同事就係做一啲minor 嘅repair。

問：咁即係換言之講，如果你咁諗，嗰條邨當時做M&I works係用

soldering material 或者 soldering joint 嘅話，就唔係完全符合你剛才話畀我哋聽個 specification 個情況？

答：係。喺好特別嘅情況之下，佢做嘅時候係要問個 contract manager。

問：好。睇下 18 段，呢度講就係：

"EMD requires that jointing material must not project into bore of pipes or fittings. Compression fitting or other mechanical jointing system approved by internationally recognised approval authorities are specified for jointing of copper pipes."

跟住嗰句，我就係想問你：

"Soldering for copper pipe connections is generally not used in M&I works except at isolated locations due to site constraints or availability of suitable joint components to match existing installations."

喺呢度，係咪就係你所講話一啲如果真係用 soldering，就係呢啲咁嘅情況可能會用到？

答：係。

問：咁都你喺個管理物業方面，咁嘅情況會唔會有啲混亂？我所講就係點解，就係話建造個過程用 soldering joint，維修嘅過程就唔係用 soldering joint，但係維修嘅過程有時又可以用 soldering joint。你喺成個管理個工作入面，會唔會即係產生一啲混淆？

答：唔會。

問：假設，你剛才話可能有 warranty period，warranty period，咁如果你話突然間發現水喉有問題嘅時候，你走番去 DCD 嗰個部門，同佢講話「喂，唔該你同個 main contractor 去跟進喇」咁。咁個 main contractor 原先成份合約就係講緊用 soldering joint，咁佢突然間就要改，就用呢啲 compression joint 嚟到幫你做維修工作，係咪咁樣，你嘅意思係？

答：唔係。因為我哋嘅 EMD specification 只係指嚟我哋 EMD 嘅

contractor。

問：咁如果係咁講，即係話又多咗一重，就係如果係個 warranty period 以內，而你哋要搵番 DCD 部門去做維修工作，關於啲水喉個 copper pipes 嘅時候，咁佢哋就會用 soldering joint，係咪？因為你 specification 係只係適用於你個 warranty period 之後嘅工作，係咪咁講？

答：我哋嘅 specification 只係適合於 warranty period 之後嘅嘢，係。

問：咁即係話--可能我重覆，不過我都想問多你一次。就係話我哋講緊整體成個維修嘅制度，warranty period 以內，你搵番 DCD，咁如果佢哋搵番 main contractor，咁就應該係用番 soldering joint，呢樣你同唔同意？

答：我同意，佢係 make good 番自己合約上做得唔好嘅嘢。

問：即係你所知，如果你去搵番個 main contractor，而佢不嬲做個工程係用 soldering joint，咁如果你哋發現有問題嘅時候，喺個 warranty period 入面，佢哋都係用 soldering joint，呢個你知？

答：佢用 soldering joint 唔代表係 defect。

主席：唔好咁長氣，Mr Khaw。

許先生：好，得。

主席：繼續。

問：最後一度我想問一問，就係有關嗰個第 20 段。你講就係呢個 EMD 都會去到睇同埋去檢察，同埋呢個核准，即係有關呢個 district term contractor 所用嘅物料。咁你哋有冇一個例如一個 list，係邊啲物料佢需要遞交 samples，邊啲物料唔需要？

答：有。

問：有。最後我想問一問你，就係關於第29段，你嗰個Quality Water Supply Scheme for Buildings，你呢度都講就係話嗰個申請呢啲咁嘅certificate，就即係你需要驗水，跟住驗水有呢啲參數，跟住攞去水務署嗰度就申請嗰個證明，即係個合格嘅證明，即係佢有嗰個water quality嗰個資格嘅證明。咁我想你睇一睇有關嘅文件，就係B2.1，2.1嘅1158.153。呢個我哋睇到有一張表格，就係即係申請呢個Quality Water Recognition，即係嗰個優質食水嗰個計劃。咁呢度我就睇到其中一個例子，就係紅磡邨。或者你睇一睇嗰個第1158.156，見唔見到有一行係寫住"Supported by building owners"同埋"incorporated owners"等等，咁呢度有個房委會嗰個蓋章。咁呢一part就應該我嘅理解就係即係你哋房屋署嘅同事去簽，就作為一個即係支持呢一個申請嘅文件，係咪咁樣？

答：係。

問：係。咁我想知道通常簽呢一個文件嘅同事，係咪都係你哋部門嘅同事嚟，定係其他部門？

答：未必，係如果係直判邨就係我哋部門嘅同事，如果呢條邨咁嚟計，係外判咗邨。

問：係。但係你都見過呢啲類似嘅表格？

答：哦，okay，okay，呢個都係我哋同事，係，好。

問：你自己有冇話親自或者係你嘅團隊入面見過你同事係有簽過呢啲咁嘅文件，都知道？

答：我冇簽過，我冇。

問：你冇簽過，即係你嘅同事都可能會接觸到呢啲文件，係咪？

答：有可能。

問：好嘞。咁我想睇一睇呢份文件入面，其中有一項，就係睇下呢份文件後面就有啲即係我哋所講supporting documents，一啲係即係附加去支持你個申請嘅文件。咁呢就其中你睇下1158.163嗰度，呢個就係其中一個附件，就係叫做M&I。咁呢個附件入面嗰個有個table，有一個表。佢個表第二項就寫住"WHO - Guidelines for drinking water quality 2nd Edition Volume 3"咁樣。咁

下面嗰個註嗰度就寫咗[2]就係"Guidelines for drinking water quality 2nd Edition Volume 3"咁樣。你自己有冇睇過呢份文件？

答：冇。

問：冇。例如你哋房署嗰方面，有冇話circulate過呢份文件畀你哋啲同事睇過？

答：我唔清楚。

許先生：我冇其他問題。

主席：我哋朝頭早休息先，20分鐘，廿分鐘之後再繼續。唔該。

上午11時24分聆訊押後

上午11時48分恢復聆訊

出席人士如前。

香港房屋委員會第五證人：何偉廉（房屋署（物業管理總經理（葵涌+項目管理））） 宣誓繼續作供

主席：繼續。冇嘢問，係咪呀？

Mr Wong。

王先生：主席，我有幾個問題想請教下佢。

王先生盤問

問：頭先許大律師同你睇過你嘅第17段，你嘅證人口供第17段。係，咁嗰度我就關於"Common area"嗰度，我就想有啲細緻嘅嘢，我想請教下你。

關於嗰啲超過 75mm 嗰啲，就用 iron pipe--即係 ductile iron pipes，如果係 below 75mm，就用 copper pipes，"Common area"嗰度，係咪呀？

答：係。

問：你可唔可以同我哋解釋下點解會有咁嘅分別？

答：因為如果直徑比較大，銅喉係抵受外界嗰個衝擊力係冇咁好，ductile iron 就硬淨好多。

問：唔該你。喺"Common area"嚟講，係用銅--即係如果你哋嗰個 M&I 嗰啲--M&I 佢哋要做嘢嘅話，"Common area"係銅喉多，定係嗰個 iron pipes 多？即係超過 75mm 嘅多，定係 below 75mm 嘅多？即係"Common area"。

答：應該都係 below 嘅多。

問：Below 嘅多，好，唔該。

你第 18 段嗰度，就話喺--用你頭先講嘅講法，喺極罕有嘅情況之下，你哋都會係用 soldering material，但係唔常見，係罕有嘅情況之下先用 soldering material。

答：係。

問：咁喺你哋用 soldering material 嘅時候，個程序係點呢？你哋又會唔會保障，或者咩嘢程序去保障你哋用嗰啲 soldering material 係唔含鉛？即係如果你要用嘅時候，你哋程序係點？

答：係。據我所知，如果係用 soldering joint，佢只係一個 minor repair，例如係喺嗰個喉嘅 soldering joint 本身係有破損，佢要補番嗰個 joint。咁所以係我哋個 jointing material，喺個 Specification 嗰度講係唔可以 protrude 入去個 internal bore 裏頭，只係喺外面嗰度修補啫。

問：係。咁但係你用嗰啲焊錫、焊料嘅時候，你哋 specification 有冇話即係規定啲焊料要含鉛，抑或唔含鉛？即係就算你修--小修小補，咁你都要用少少焊料，咁嗰啲--你哋又--Specification 有冇講話嗰啲要含鉛抑或唔含鉛？

答：據我所知，應該唔含。

問：唔含鉛。

主席：佢實際上有冇 Specification？

答：如果喺 plumbing 呢個 section，即係講水喉呢個 section，係冇 welding--weld--即係冇 soldering 呢樣嘢。

主席：即係而家你哋都冇？

答：冇。

問：Okay。咁我就問過第二方面嘅問題。

咁最後一個，我想--許大律師都帶你睇過，關於嗰個 Quality Water Supply Scheme 個 buildings 個--29段嗰度。你係咪2003年先至進入呢個 Estate Management 呢個行業，頭先你講，係咪呀？2003年，2003年之前，你有冇做過 Estate Management 呢個...

答：都喺--一路都係喺 Estate Management 嗰度，只不過佢改咗名。

問：Okay。咁你...

主席：哦，唔係，唔係。等一陣先，我想問一問，即係因為你哋個"DCD"起樓個 Specification 喺2002年已經改咗話如果用 solder，就要用 lead-free 嘅 solders。

即係你而家係咪--即係如果我冇理解錯誤嘅話，根據你頭先所講，就係話由 2002 年去到而家，2015 年，你哋嗰個 estate maintenance，你哋去做維修嘅時候，你哋個 manual，你哋個 instruction，你哋個 Specification 裏面都冇講係要用無鉛嘅 solder？

答：我只能夠重複話喺做 plumbing 或者 replumbing 呢個範疇裏頭，係 soldering joint 係冇出現，係只係話 either compression joint or mechanical joint。

主席：即係從來都唔會出現？咁我都唔係好明，點解你哋最初嘅時候，即係起樓嗰陣時，就要 solder joint，跟住維修就完全唔用呢？都完全唔 make sense。

答：個原理係就係起樓係冇人入住，...

主席：冇人咩嘢話？

答：...維修保養就有人喺度住。我哋除咗要考慮法例要求之外，仲要係做到係對居民--existing 嘅居民嘅滋擾減到最低。

主席：我知。

答：而 soldering 係有氣味，亦都有火舌走出嚟。

主席：咁你咪叫佢行開一陣囉，你咪叫佢「行開一陣，我要整呀，你唔好聞。」你喺屋企釘口釘，做維修，鑽牆都有聲，咁你唔通你話「哦，唔好做嘞。」咁樣樣，黐膠水咁樣呀？

答：實質上，如果叫居民行開一陣而嚟做，我相信嗰個 progress 會更慢。因為總之有人喺度住，我哋唔係咁容易係--即係我哋保養嘅精神係令到個滋擾對居民減到最低。

主席：我知，你如果你話畀--你如果話畀個居民聽「喂，我入嚟同你整番好間屋喎。」佢都唔畀你整，都當然梗係有啲咁嘅人，係咪先？不過個問題一般就話「你可唔可以將就一下，行開少少呀？可能有啲異味，我哋整完之後，你先至再返嚟。」

咁但係你哋就話「哦，不如都係唔好，不如唔好用 solder，換咗 compression。」咁樣樣？

答：以客為本係我哋 EMD 個精神。

主席：哦，okay，繼續。

問：好。我想--我頭先帶你睇緊嗰個 29 段。

咁零三、零四年你都有做管業呢方面，咁你--我咁講，你同唔同意呀？喺 02 年之前，即係 2002 年之前，水務署係冇推出呢個 Quality Water Supply Scheme，即係喺呢個 Water

Supplies--Quality Water Supply Scheme喺2002年先至推出，根據你認知，咁樣啱唔啱？

答：係。

問：好，咁 2002 年之前，咁你哋會唔會從呢個 Estate Management 即係管業方面，會唔會自己去驗水？即係如果冇呢個食水質量呢個 scheme，水務署推出嘅話，你哋係咪自己唔驗水？

答：據我所知，唔會係無緣無故咁去走去驗水。

問：唔去--Sorry，我聽唔到。

答：除非係發覺係水係污濁，或者係如果 2002 之前，或者覺得個水壓唔夠。

問：係，即係關於食水安全，即係 02 年之前，你哋係冇做嘢？即係除非你發現食水污濁之外？

答：你講個食水安全？

問：係。

答：就唔係話 replumbing？如果係--據我所知，如果係邨係超過 12 年，而係覺得有問題，就走--會走去係做幾個測試，而睇下需唔需要再換啲銅喉--需唔需要換喉。

問：係。就你--咁你會做咩嘢測試？

答：係有五個測試，係 water flow、water clarity、水壓同埋係個 pipe 嘅 reduction of bore，同埋 visual inspection，睇下有冇黃水。我相信呢啲係以前係 GI 嗰啲喉嚟，零二之前。

問：即係二--喺 2020--02 年之前，如果你驗水，就根據呢五個方法去驗？

答：係。

問：好。

王先生：主席，我冇其他問題。

主席：唔該。有冇人有問題問？

MR PENNICOTT 盤問

問：Mr Ho, good morning. You may want to put the headphone on.

答：Yeah.

問：Mr Ho，I am represent China State, the main contractor for two of the affected estates, Kai Ching and Hung Hom. I just want to ask you a couple of questions; also, I am afraid, in relation to paragraphs 17 and 18 of your statement.

Mr Ho, we are agreed, I think, that when substantial completion of the works is completed on any particular estate, there is then a two-year maintenance period; do you agree?

答：Agree.

問：Do you also agree that during the course of that two-year maintenance period, the tenants will move into the units?

答：會。

問：During that maintenance period, when the tenants are in occupation, if there is a problem with a soldered joint on a copper pipe, the repair would be carried out by the main contractor, and he is entitled to use solder to repair that joint; do you agree?

答：同意。

問：At the end of the two-year maintenance period, responsibility for maintenance and improvement transfers back to the Housing Authority, and they contract that obligation to a district term contractor;

is that right?

答：係。

問：Your specification to that district term contractor, which I have not had the opportunity of looking at, but as I understand your evidence, it's that if there is a defect on a copper joint, previously soldered joint, it will be repaired by a compression joint; is that right?

答：係。

問：Can you tell us what's involved in converting a soldered joint into a compression joint?

答：將兩件喉分開，然後擺 solder joint，因為做之前都係要停水，即係條喉會 cut 斷，因為停咗水。

主席：跟住又擺 solder joint？你頭先講又擺 solder joint。

答：哦，sorry，係 compression joint，compression joint。

問：Yes. So the process must be this, must it not, Mr Ho: you shut off the water, because you are going to repair the pipe -- you can't repair it with water running through it; is that right?

答：唔。

問：You then presumably clean off the solder?

答：如果我哋 cut 開嗰條喉，嗰個位會冇咗。

問：So you actually replace the pipe altogether or just repair the joint?

答：應該係連條喉都有做 repair。

主席：實際上，你知唔知點做，我想問一問？

答：呢個極少會出現。

主席：哦，唔。即係未見過？

答：我哋只係 repair 番嗰個位。

問：Can I repeat the chairman's question, Mr Ho: have you any first-hand professional knowledge of how you, as it were, repair the soldered joint by replacing it with a compression joint? Do you know?

答：我同意我冇親身喺地盤見過嗰個過程。

問：In your witness statement , you say in paragraph 18 that soldering for copper pipe connections is generally not used in M&I works, except at isolated locations due to site constraints. That seems to be an acceptance, Mr Ho, that at least on occasions soldered joints will be used by the term contractors. Is that right?

答：係。

問：But if I have understood you correctly, in the answers you gave to Mr Wong just a moment ago, there's nothing in your specification to the term contractors which deals with solder joints; is that right?

答：係。

問：Mr Ho, finally, you say soldered joint may be used in situations where site constraints dictate. Can you give us an example of a site constraint where a soldered joint would be used?

答:例如係冇位,係拍到喺個角落頭。但係據我所知,係有用 solder joint

嘅同事就係講話係見到佢原本嗰個 soldering joint 個位係有損壞，所以喺外面係補番佢，喺個喉嘅外面補番佢。咁佢做呢樣嘢係要攞 special approval，當區嘅同事係需要通知佢嘅 contract manager。至於係焊係點樣，就係佢要畀 method statement。

問：So are you saying that if the term contractor concludes that he can't use a compression joint to do a repair, and therefore has to do a soldered joint, he has to get special permission to do that?

答：據我所知，係。

問：Okay，thank you very much. I have no further question.

主席：好，仲有冇人有問題？

鍾先生：我代表保華，我有幾個問題想問一問何先生。

<u>鍾先生盤問</u>

問：想問一問一個 general question 先。最先呢--剛才許大律師就問關於就係 over 嗰十年--十五年，有冇一啲比較嚴重啲嘅 defect 嘅 problems，咁你提出有幾樣，有啲防水嘅有幾個問題。

我想問一問你有冇印象，大概十年前，就好--有一個好大嘅事，拖咗好耐。有啲喺大堂位，喺啲 common area，有啲 homogeneous tiles，嗰啲所謂高溫磚，就好多個屋邨都不斷不斷咁跌出嚟，有冇印象有呢件事？

答：有。

問：有呢件事件？

答：係。

問：嗰次拖多好耐，最後嚟講係點樣處理番？你簡單嚟講，係你哋嗰個保養部門處理，定係 new works 嗰面處理？

答：簡單嚟講係當年係成立咗一個 task force。

問：成個 task force...

答：係，係。

問：...去處理呢樣嘢？

答：係，總之處理...

問：最後你哋理解嗰個係一個手工嘅問題，定係設計嘅問題，定係兩樣都有？

答：兩樣都有。

問：兩樣都有？

答：唔。

問：之後你都冇再用呢個 homogeneous tiles，係咪呀？

答：係。

問：係咪呀？即是已經當時出咗事之後，有一個 task force，經咗好耐時間處理咗之後，就喺 Specification 改咗，就唔准用 homogeneous tiles，係咪咁呀，你理解？

答：係，我理解係。

問：得，唔該。咁我轉一轉另外個題目，想問一問你，喺房屋署裏面有幾多--即係我理解，都係睇番張 paper，我一陣間會 refer 畀你睇。大概指示至少有一千八十八個嘅屋--嘅屋邨而家係嗰啲係六成在外管理緊。你哋總共有幾多個 chief property manager，喺你嗰個 rank？

答：如果做區，有六個。

問：六個大區？

答：係。

問：你係其中一個？

答：係。

問：咁請問你嗰個--剛才我哋就係講緊呢個 enquiry，係講緊十一個屋邨，但係有啲屋邨係冇呢個問題。我想理解下，係你管轄嘅總共有幾多個屋邨？你自己管轄，唔係淨係限於呢個出咗事嘅有鉛水嘅屋邨，係你有幾多個屋邨？

答：係有接近二十個屋邨。

問：二十個？

答：係。

問：有幾多棟樓？好大拃，二百棟、三百棟，有幾多？

答：百幾棟。

問：百幾棟，okay，明白。我點解要問一問，想理解番，就睇番個 context。而家想睇一睇呢一個水務條例，係嗰個文件 bundle C2 item 11。嗰個 page 我係要嗰個 schedule 2，clause 17，之前我哋睇過好多次。許先生，你當然未睇過，17。1172 頁，唔該。

我哋 1172 裏面，其實嗰個水務條例，個 Regulation 裏面提到就係有啲叫 capillary fittings 同埋 compression fittings，就要 BS 864，而家我哋改咗，呢個係之前。裏面已經提到 compression fitting，咁我哋嘅理解--係咪你理解，其實 completion--compression joint 其實都係用咗好耐，喺房屋署？除咗而家嗰啲項目嚟講，你理解你--你而家印象中，你入行開始做嚟講，房屋署係咪已經係用緊 compression joint？

答：係。

問：喺保養期--係？

答：係。

問：咁呢個文件可以我哋轉去下一個，就係 B3.2，item 66，唔該。嗰個頁數係 2387，唔該。我哋可以去番第一頁先，去番第一頁嗰個 page 先。呢個。呢一個文件係一個房屋署嘅文件嚟。呢一個文件就係交畀嗰個 Review Committee，係關於你哋嗰個保養部嗰啲嘅數據嚟，我哋睇睇啲數據，睇睇個表。

我正話剛才講嗰個數目喺呢度嚟，一千一百八十八座。咁我哋睇左手面同中間，我哋發覺左手面就係講單位裏面，單位裏面，中間common area我哋就係講緊，我嘅理解就係啲走廊同埋啲電梯大堂。咁如果我哋睇番嗰個單位，其實如果係用copper嘅material，同埋下低嘅non-copper material，即係我哋講緊copper joints，如果將一一八八減咗三百五十一，就其實全部都係用緊銅喉。而銅喉裏面有分compression joint同埋solder joint，咁我哋望一望，compression joint佔相當大嘅部分。咁我想問一個簡單啲嘅問題，你哋除咗喉，其他你一路係經過你哋保養，如果一路發覺你哋嘅maintenance嘅specification，裏面有一啲嘅物料，或者有啲work經常一出事嗰陣時間，你哋點樣反映番去畀你哋嗰個保養部門去改個specification，你個途徑係點樣，或者你解釋下。

答：係，我哋headquarter個RD unit，Research and Development unit係同係DCD係有定期係feedback。

問：我想問一問，因為之前我哋好似聽過有啲問題問過，就係房屋署就冇一個指定嘅Research and Development嘅unit。你正話提咗嗰個RD unit係邊一個部門？

答：係EMD。

問：係屬於係跨過咗嗰個development同埋construction同埋保養，定係每一面都有一個R&D？

答：喺EMD裏頭。

問：即是你哋嗰面保養部有一個R&D？

答：我哋集中係即係自己嘅feedback就有，佢本身有。

問：明白。咁你哋嗰個R&D個部門，個主管係邊一個ranking？

答：係senior，senior professional。

問：一個senior嘅maintenance嘅surveyor？

答：係。

問：或者呢個級數？

答：係。

問：咁你哋有問題就反映畀佢哋？

答：係。

問：你哋知唔知道佢嗰個過程中改過 specification，有冇再同你哋講，定係完左就會出畀你哋？

答：會，有，有，有。

問：有畀你哋？

答：有，有 working group 又有。

問：咁問番一個問題，如果你哋睇到用咗咁多年，亦都嗰個 compression joint 都喺嗰個條例裏面都有提到。你有冇除咗話燒焊同呢樣嘢喺個工序上有個唔同之外，喺個 performance 裏面有冇漏水嚴重嘅問題，compression joint？即係我個想法就係如果係有問題，你應該可能係已經處理咗，不過我想問一問，想清晰。

答：如果做得好係冇問題。

問：做得好，冇問題。剛才之前就唔係問何先生你，之前個證人，主席就問過就係喺星加坡進行就用一個鉛 press-fit 嘅方法，你知唔知 press-fit 同你嗰個 compression joint 有咩嘢分別？

答：唔知。

問：你唔知？

答：唔。

問：咁你哋有冇留意下，你哋做管理嗰個角度，同星加坡嗰面維修、保養嗰面，你哋有冇去比較下？喺房署嘅層面或者你個人嘅層面。

答：喺房署，相關嘅同事會有作比較。

問：你理解會有？

答：係。

問：Okay。咁所以你就--我正話可唔可以咁講，就係個 compression joint 用咗咁耐嚟講，都唔覺得有一個 performance 嘅問題？

答：係。

問：Okay。咁或者咁樣講，正話都提到，喺保養嘅角度有兩面，一方面就係啲 common area，比較即係地方大啲，就係居民住緊。正話主席問我，因為如果你入一啲入屋，就每一個人自己間屋可能係裝修，好迫挾。咁可能喺運作上，燒焊，咁兩面有分別。咁其實喺走廊嚟講，我理解新工程同舊工程除咗係 occupied 嘅情況之下，因為佢走廊好長，咁嗰啲喉相對上都係好長，咁喺嗰個你嘅理解嚟講，佢純粹係做一個 compression joint，嗰個效率高唔高？即係做嗰陣時難唔難做？

答：我唔理解你話難唔難做，係做得到。

問：係做得到？

答：係。

問：即係冇乜嘢特別嘅運作上嘅問題反映畀你哋？即係你哋冇話特別覺得呢個 compression joint 有問題，所以要反映畀嗰個保養部，想再改，你哋而家係 satisfy with 嗰個 compression joint？

答：係，係耐啲咁解。

鍾先生：哦。我冇其他問題，主席。

主席：唔該。仲有冇人有問題，冇囉呵？

我想問一問你哋嗰個 Research and Development，呢個係純粹係你哋 Estate Management 裏面嘅一個 Research and development，咁即係換句話嚟講，就係即係如果你哋日常遇到啲咩嘢問題，唔係，你哋個 Research and Development 呢個 section 實際上係做啲咩嘢？

答：做一啲需要深入研究嘅嘢，同埋係譬如係比較 specialize 嘅嘢，例如石棉，石棉嘅處理。又例如係最近係即係做晾衫架，晾衫架，換鐵閘之類嗰啲。同埋係新出嘅 FSBO，Fire Safety (Building) Ordinance，係呢個係比較新，我哋同 BD，Building Department 要緊密聯繫，咁就呢個係我哋 Research and Development 係主要做呢啲嘢。

主席：即係純粹--咁係做啲你哋--我都唔係好明，係你哋日常遇到嘅問題抑或係你哋會--譬如你話--我唔知，譬如你頭先話 fire safety，咁係你知道會有啲新嘢嚟，咁所以你哋就做定一啲研究，抑或點樣樣？

答：兩樣都有，有啲新嘅法例嚟，咁大家都係開始，因為房署係大嘅 stakeholder，所以我哋係畀業界早行，咁所以防火條例好多時係要同 Buildings Department 係要傾，即係 fire engineering approach。咁另外亦都係即係有啲 feedback 係日常有問題，咁就區嘅同事係發覺係一個係 common，每一區幾乎會--即係好 general 嘅現象嘅時候，就會係畀 R&D 係深入研究。

主席：好嘞。咁譬如好似呢個用銅喉咁樣樣，我哋知道喺 2002 年開始，就你哋房署、房委會就開始引入呢一個銅喉，咁喺事前有冇話叫你哋嘅 Research and Development 係去前瞻性咁樣樣睇下，有冇啲即係會諗到會有啲乜嘢維修保養上高嘅問題？

答：當時應該有個叫做 Technical Development，我相信係個 function 係相約，佢哋係會係研究呢樣嘢。

主席：呢個所謂 Technical Development 又係研究啲邊一方面嘅 technical development？

答：就例如係呢啲，即係有新嘅物料。

主席。係。因為你原本就用開我哋知道嗰啲 steel pipes galvanised 咗嘅 steel pipe，咁跟住你轉新嘅物料，轉咗做銅。咁我諗因為房委會要引入呢個銅，咁就即係你嘅意思，就即係梗係會問下你哋維修保養部，「你哋諗唔諗到有啲咩嘢問題，日後如果要維修保養嘅時候」，會唔會有咁樣樣？

答：會。

主席：會。亦都會即係你哋又會有個咩嘢 Technical...

答：Technical Development，嗰陣時係。

主席：Technical Development 係有個人，抑或有個--有咩嘢人去做呢啲咁樣？

答：有一個 senior 同埋三個 professional。

主席：Senior 咩嘢 building surveyor？

答：係。

主席：三個 professional 係乜嘢？

答：係都係 surveyor，maintenance surveyor。

主席：都係 surveyor 嚟，得。咁於是佢哋就要睇下「啊，究竟係換咗用銅喉嘞，第日維修保養嘅時候會有啲咩嘢問題出現呢？」咁會唔會牽涉一啲好複雜嘅技術上嘅問題，就要同--我唔知，CDC 嗰啲反映...

答：係，會互相交流。

主席：係咪？DCD，唔係 CDC。就互相交流。

黎先生：我要問一問組織上，呢一個 Technical Development，屬唔屬於你哋 Estate Management？

答：屬於。

主席：屬於，屬於？

答：係，係 EMD。

主席：係呀。因為點解我咁問你，因為 2001 年嘅 1 月 15 日，有一個係嗰啲優質食水計劃嗰啲會開咗，咁我哋見到有個 minute。咁個 minute 就抄送去畀一個叫做黃比，B-A-Y，係嘞，比較個「比」，黃比嘅人士。咁我相信黃比就係 Estate Management 嘅人嚟，係咪？

答：係，係呀。

主席：因為嗰份2001年1月15號嘅文件，嗰個minute裏面就其實就係嗰個優質食水計劃開會，咁就講到就話如果用銅喉，就會有呢一個係soldering嘅problems，因為呢啲problems喺美國同埋喺英國都出現過。咁呢一個咁樣樣嘅minute，或者我都可以畀你睇睇。就係好似喺F。

許先生：A2。

主席：喺A，A2。第幾頁？

許先生：A2，85。

主席：係嘞，呢一個就係2001年1月15號開嘅會嚟，咁跟住你行落少少睇，你就會睇到呢個第7號文件就會討--呢度有一個人叫做黃比，係咪？你見到，跟住再行落啲，再行落啲，再行落啲。咁跟住佢就會話--再行落啲，咁就有一度就講到話「我哋討論第7號文件」。不過唔緊要，呢度唔使睇落去，咁跟住我哋直接去第7號嗰個文件。係呀，呢度有講到話討論過呢個文件。咁跟住我畀你睇呢個第7號，ACQWS嘅文件。搵唔搵到？ACQWS呢份文件。

答：F1？

主席：F1，係呀，F1，係嘞。

第幾？

許先生：30。

主席：係嘞，咁呢度就係講呢個quality of water in building。咁跟住去到裏面某一個段落，就講我頭先所講嘅說話。唔記得咗第幾段，一路走落去，我諗都幾後嘅其實。呢度冇錯，highlight咗呢度。2001年嘅1月15日，就曾經有講過呢個問題。當時候你哋個黃

先生就有出席，咁請問返到去之後有冇研究呢一個課題，因為你哋2002年就開始引進呢一個銅喉。

答：我冇印象有。

主席：冇印象，得。有冇討論過其實？即係就你所知，有冇討論過，喺你哋嘅Estate Management嗰個department裏面。

答：記唔到。

主席：記唔到，得，好，唔該。

我冇嘢問嘞。冇囉呵？

唔該晒，畀完口供，可以離開，唔該晒。

答：Okay，唔該。

主席：下一個係咩嘢證人，請問？

殷先生：嚴家豪先生。佢係Housing Department嘅啟晴邨入面嗰個Building Surveyor--都係EMD入面嘅一個Building Surveyor，係關於fresh water maintenance。

主席：唔係，我就想問下實際上有冇直接嘅關係，同我哋？呢個又係你哋話想我哋知多啲咁樣樣，自己--係咪咁呀？

殷先生：呢個佢就係即係關於嗰個maintenance個defects liability period，即係頭先何生講，就係喺嗰個屋邨過咗嗰個defects liability

主席：過咗個保養期，係喇。

殷先生：保養期。呢位同事就係監管嗰啲喺保養期入面出咗問題嗰個。

主席：咁我哋有啲咩嘢想要知，同我哋個reference係有關嘅？

殷先生：係，完全因為佢係個commission of enquiry係話有嗰個maintenance of嗰個。

主席：最屘嗰度，問到maintenance嗰度，係咪？

殷先生：係。

主席：就係其實我哋又唔需要知而家。因為嗰個其實 strictly speaking，同我哋個terms of reference都冇咩關係。

許先生：我原先就諗住就住剛才何先生，有啲事項佢唔係咁清楚嘅。咁因為佢哋都係屬於EMD嗰個Division，咁我就想可能有兩、三個問題都想問番嚴先生。就...

主席：關於乜嘢嘢？

許先生：最主要都係講番嗰個--第一，就係優質食水嗰個認知，即係嗰個standard。因為...

主席：我哋--唔。

許先生：...何先生剛才個答案就話即係佢冇印象，即係關於嗰個世衛嗰個文件。

主席：係吖。

許先生：咁我睇下--即係唔知道呢一位嚴先生會唔會有啲補充咁。

主席：我諗都唔會有啲咩嘢特別㗎嘞。

許先生：可能唔會有啲咩嘢補充。

主席：咪係囉。

許先生：諉...

主席：我都諗唔到。即係基本上而家房委會、房署嘅證供，其實都好清楚，冇人睇過呢個世衛嘅guidelines，係除咗佢哋倚賴水務署嗰啲參數之外。

許先生：係呀。即係因為之前嗰啲證人，因為佢哋都係屬於嗰個DCD嗰個部門，咁就變咗即係都係--佢哋兩位係屬於EMD。

主席：EMD，係。

許先生：咁所以佢哋會唔會因為部門同埋部門之間，即係會唔會有啲唔同嘅情況啫。

主席：得，唔緊要，但係如果你叫佢都得，不過就如果咁就唔需要讀佢個witness statement出嚟。

殷先生：唔需要。

主席：係，唔需要。

許先生：好。

主席：你有咩嘢問題，咪直接問佢咪得囉，譬如如果你要問佢嘅話，係咪？

許先生：好，好呀。

主席：即係你唔需要吖？你都唔需要吖？

殷先生：唔需要。

主席：係吖。

殷先生：我哋純粹係因為嗰個...

主席：係呀，純粹...

殷先生：...Salmon letters...

主席：除非係好特別。好，咁我哋叫呢位--對唔住，咩嘢名話？嚴先生，係咪？

黎先生：嚴先生。

殷先生：嚴家豪先生。

主席：嚴家豪先生入嚟。

<u>香港房屋委員會第六證人：嚴家豪（房屋署（高級物業服務經理（西九龍及港島））） 以本地話宣誓作供</u>

<u>許先生盤問</u>

主席：我哋調查委員會嘅律師有幾條問題想問你，嚴先生。

答：Okay。

問：係，okay。就住你證人口供最後有一部分，就講呢個申請水務署嗰個優質食水計劃嗰一部分，我想先問咗你少少嘢先。就係我哋都知道申請，要呈交文件畀水務署，咁其中入面啲文件都包括咗一啲鉛水嗰啲測試個結果等等。我就想你睇一睇嗰個文件，就係B2.1嗰個文件，1158.153。

答：見到。

問：咁呢個我哋剛才都問過另外一位證人，就係呢個亦都係一個即係表格。呢啲即係一個standard嘅格式嘅表格，入面就關於一個renew application，即係一個更新嘅申請。即係佢以前曾經批過，佢而家就再想更新番個申請。

答：係。

問：咁呢個就關於紅磡邨，我就見到喺.154 嗰度，我哋見到喺紅磡邨嘅呢個，睇到嘛？

答：紅磡邨，見到。

問：咁就喺156嗰度，我哋都見到係有一個房屋署嘅蓋章。

答：唔，係。

問：咁亦都係呢度證明咗房屋署嘅職員都係支持呢個申請嘅。

答：係。

問：佢係supported by你哋嗰嘛，見到呵？

答：係，係。

問：咁呢個同事，即係通常我哋講緊呢啲咁嘅申請，你哋去蓋章或者簽名嘅同事，都係屬於你哋EMD Department同事，係咪？

答：EMD嘅。呢度都有個名，係EMD，房屋署嘅同事嚟嘅。

問：係嘞，冇錯，冇錯。咁就我哋睇番呢個文件，有啲附件，附件其中一個係.163，163入面，都有講到有個係--睇到WHO，中間嗰度？

答：個表嗰度？

問：個表嘅第二項，"WHO - Guidelines for drinking-water quality"嗰度，見到嘛？

答：見到。

問：咁亦都係我哋睇到 2nd Edition Volume 3，咁喺個註腳嗰度，我哋見到亦都係喺第二欄都寫咗同樣呢一份文件，"Guidelines for drinking-water quality 2nd Edition Volume 3"嘅，見到嘛？

答：見到。

問：咁我想問下，呢份文件你自己有冇見過？

答：即係note嘅第二份文件，係咪？

問：係嘞。

答：呢份文件我冇見過。

問：冇。你哋--或者你或者你嘅團隊，有冇問過--即係例如喺房署內部，有冇話問過「喂，呢份文件咩嘢嚟㗎？因為係其中你哋呈交嘅即係資料嘅一部分。」即係入面有講過？

答：唔係，呢份文件，如果照佢個heading寫，就係即係攞sample嘅時候，即係要一啲嘅方法，點樣去做，係點樣攞sample。咁我哋即係房屋署如果佢優質水，如果佢攞嗰啲sample，即係我哋唔係隨便搵個同事攞嘅，其實我哋係搵一個認可嘅lab去攞。咁嗰個lab，就相信就即係跟咗呢個方向去做，...

問：哦，即係你...

答：...即係佢就會處理咗呢啲嘅。

問：明白。即係你哋係靠個lab嚟到去即係根據呢啲世衞嘅標準去做？

答：係，係。

問：你哋自己就唔會去睇世衞標準係咩嘢嘅？

答：因為佢係認可 lab 嚟，就專係幫我哋係做呢啲工作嘅。係呢方面嘅專家咁，所以佢哋會跟呢啲指引做。

問：即係你哋自己署方就唔會去睇嗰個世衞標準個內容？

答：我本人就冇睇過嗰份。

問：咁我想問一問，即係剛才都有提及過，你哋 EMD 嗰個 division，入面即係有個嗰啲 R&D 嘅部門，即係我哋所講研發部，即係研究發展部。

答：研發，係，係。

問：咁就呢個 R&D 個 department，會唔會話周不時會取得一啲資訊，就係一啲嘅世界嘅標準。即係有關例如起樓嘅時候，一啲安全或者係即係對住客會引起嘅一啲嘅危險，或者係對佢身體會有 harm，有唔好--有不良嘅影響，呢啲咁樣嘅一啲世界嘅標準，作為一個 R&D 嘅 department，你哋會唔會取得呢啲咁樣嘅資料㗎？有冇定期咁取得呢啲資料？

答：因為我就即係唔係做 R&D，因為我就係以即係前線房管嘅身分，但係我估即係如果係要關注，即係佢哋都應該會有留意到。但係個程度係點呢，因為我唔係參與，變咗我就唔可以代表佢講太多。

問：咁例如你哋成個 EMD 嘅 division，如果例如 R&D 方面收到一啲資訊，例如假設係有關一啲國際嘅標準嘅，咁你哋會唔會都即係整個 EMD 嘅 division 去 circulate？會唔會有啲咁嘅做法？

答：因為我諗即係 R&D，就係嗰個組別就專門做研發，咁可能佢收嘅資訊會相當多，我相信佢就唔係每收到任何資料，就一定全部 circulate 畀我哋所有人，可能佢考慮過、研究過。對於我哋喺即係做 EMD，做房管，做維修保養，如果真係有啲嘅值得去--要認識嘅、要認知嘅，咁佢哋就會同我哋去分享。

問：好。就住你喺 EMD 呢個 division 入面工作嘅年期，因為我知道你 1996 年就開始即係 join 呢個房署嘅。

答：係，係。

問：咁你係咪一開始都係做呢個 EMD？

答：一開始係EMD，係。

問：咁你咁多年期間，直至到呢一次呢個鉛水事件發生之前，你嘅印象中有冇曾經就--即係使用銅喉，有機會啲焊接物或者係使用銅喉時候啲材料引起有鉛嘅危險，即係會釋出鉛嘅危險呢方面，有冇曾經有討論過或者有任何嘅circulation嘅資料？你有冇印象？

答：我就冇呢個印象。冇呢個印象。

問：有冇呀？冇呢個印象。咁最後我都想問一問你，就係就住呢十年嚟講，即係而家數番十年，你喺EMD嗰個division入面做嘅時候，有冇啲係因為嗰個建築期間所用嘅物料，有啲即係唔符合即係當時建築嘅規格，咁用嘅時候產生問題，而你哋要去處理㗎？有冇啲咁嘅例子你可以記得？

答：你講係建築期唔符合規格？

問：即係話建築材料--假設吓，因為建築材料有好多，成過千種建築材料，例如外牆嘅紙皮石又好，或者係你入面用嘅磚、木或者任何嘢都好。即係建築材料方面，即係喺建築完成之後，即係到你哋去管嘞，你哋去物業管理嘅時候，有冇啲時候因為建築材料唔符合即係當時建築嗰陣時所要嘅規格，而令到你哋需要去處理？

主席：喺你答呢條題目之前，我都想問一問，即係實際上你想同我哋要決定嘅邊一個issue係有關呢？

許先生：係，係，我都想講一講嘅。

主席：唔。

許先生：就係因為我哋都睇過好多次嗰個6210嗰個表，就係有關嗰啲物料係即係喺呢個工地現場係需要檢察，咁有三十二種物料嘅，我數過。

主席：係吖。

許先生：咁我其實我係想即係藉呢個機會，睇一睇會唔會有啲--呢咁多年處理過一啲重大嘅問題，一啲材料？

主席：唔，我明白。

許先生：咁而處理咗之後，會唔會係同 DCD 個 department 都有溝通呢方面。

主席：唔，得，好，繼續。

許先生：係。

答：如果我哋即係 EMD，即係作為房管，物業管理同埋維修，咁其實我哋如果收咗即係嗰個物業、個邨有意見，其實我哋就會 feedback 番畀 DCD 嘅。但係你話特別講到物料上，我哋好難咁講，總之我哋房管上覺得有意見嘅，我哋會交畀佢哋去考慮，佢哋去睇番佢哋自己嘅合約，或者 spec 有冇一啲唔符合，即係佢哋係會決定嘅，即係我哋只不過我哋嘅意見就畀咗佢哋。

問：我明。我暫時我係唔係講緊你哋嗰個程序上係點樣處理，就以個別例子嚟講，就係呢五年或者十年之間，有冇啲比較嚴重啲？因為建築材料而產生嘅問題，喺你哋 EMD 係需要處理，有冇啲咁嘅例子？剛才嗰位證人就有提過幾個例子，其中包括就係外牆嗰啲紙皮石剝落，同埋係天台嗰啲咁嘅...

答：天面防水。

問：...防水物料有問題咁。咁就你嘅經驗嚟講，有冇啲其他嘅物料當時做完呢個建築項目之後--成個建築項目做完之後，你係需要去處理？就住因為嗰啲材料可能用嘅時候有唔妥當，或者係不符合嗰個喉管嘅要求。

答：或者樓層嘅頭先講過，啲 homogeneous tiles 呢啲，即係近期嚟講，...

問：係，homogeneous tile。

答：...比較明顯啲。

問：係，仲有冇其他？

答：我暫時諗到係呢個。

問：你哋喺處理呢個物業管理嘅期間，咁如果係發現到同個物料有關嘅問題，你哋會唔會都係會同 DCD 嗰個部門有任何溝通？

答：會嘅。

問：會嘅。

答：我哋會 feedback 番畀即係 project architect。

問：係。咁一般嚟講，例如喺建築過程之中，首先我講建築過程先之中，對於嗰個物料供應，即係或者係佢可能要話畀你哋聽有啲物料用咗，佢哋可能會覺得以後會比較大嘅機會出現問題，會唔會事先同你哋喺建築過程之中同你哋溝通咗先？

答：個別 project 就好少。

問：就好少？

答：係，個別 project。

問：你所講嗰個溝通，都係你哋即係 take over 咗 from DCD 之後，如果發現有問題，就會同佢哋溝通？

答：係嘞，係嘞。

問：你哋溝通嘅過程之中，我哋講緊呢五至十年，有冇曾經討論過「喂，有啲物料有問題，你建築嘅過程之中呢，應該係多啲去驗下佢喎。」有冇啲咁嘅討論？

答：因為牽涉有好多區好多 project，即係你講我自己本人，我本人嘅認知，冇特別咁仔細。即係只不過係我哋就住頭先講，都係仍然物業管理，同埋喺有時維修嘅角度，有啲意見，就有 feedback，但係個細節就由番 DCD 佢哋去考慮。

問：唔。

許先生：我冇其他問題。

主席：唔該。

鍾先生：我係代表保華，係有兩個問題想問一問。

鍾先生盤問

問：正話提到就係有個優質水個計劃，咁我想問一問，你有冇聽過有一個叫做 Advisory Committee on 嗰個 Quality of Water Supply？佢中文就好似係嗰個水資源同埋嗰個水質事務諮詢委員會，有冇聽過有呢個會？

答：都聽過。

問：有呀？呢個會其實由 2000 年就應該係水務局就帶頭，咁你哋房屋署裏面就分別有兩個就助理署長，應該就係 EMD 嗰面，一位叫做黃比先生，你認識呢位，係咪？

答：黃比先生，認識。

問：係。之後而家應該另外一位叫陳少德先生，係咪？

答：即是後期嚟。即係佢邊位去開會，我就都唔係好認識㗎嘞。

問：唔緊要，你知道呢兩個名㗎？

答：兩個名，知嘅。

問：佢哋嗰個 ranking 好似係 Assistant Director 嚟，係咪？

答：係，係。

問：咁嗰個委員會其中一部分，正話主席都提到，就有一個部分就係專登去講一個--即係喺外國有啲報導，咁嗰個好特別。咁除咗嗰個情況之下，咁你哋平時嚟講，有冇有同呢一個會開完會之後，有啲資訊畀你哋嘅？定係你嘅印象中咁耐都冇收過？

答：因為嗰個會裏面可能傾咗好多個問題...

問：明白，我只係想講--所以唔係好 specific 嘅。

答：係。

問：從來有冇任何文件關於水質，係關於你哋保養，咁有啲文件 pass 畀你哋嘅？因為有十五年，我數落去有廿幾次會。

答：譬如會嘅會議紀錄文件，我哋就冇見過，...

問：你印象中未見過？

答：...但係可能係滲透咗，頭先講譬如...

問：明白。

答：...優質水等等，可能已經滲透咗我哋做嗰啲嘢，通知我哋執行，咁可能有嘅。

問：可能佢喺呢個過程中抽咗啲嘢出嚟，就...

答：係嘞，已經係執行咗。

問：...交畀你哋？

答：即係交畀我哋執行。

問：但係佢哋冇將個原裝文件或者邊個部分冇畀過你？

主席：你哋講嘢唔好咁快先得㗎。你問問題，就想佢聽到吖，係咪？佢答問題，就想你聽到吖，但係你哋大家同時都講嘢嘅話，咁就全世界都聽唔到，係囉。

鍾先生：我明白。

主席：係，我知道你連珠炮發想追問落去，不過我哋聽唔到。唔。

問：係，咁請你講講正話嗰個？

答：即係話譬如會議紀錄...

主席：咪係囉，你而家問過啲咩嘢問題，你自己都唔記得。

答：會議紀錄我哋--就冇特別畀我睇嘅。

問：我問番你嗰個先，有冇一個文件係由嗰個委員會嘅，畀個 copy pass 過畀你？

答：我本人就冇印象見過。

主席：會議嘅紀錄就冇？

答：係嘞，係嘞。

主席：唔會攞去畀你哋嘅。

問：再一個 follow up 嘅問題，咁有冇一個文件畀你哋嗰陣時，係 refer to 因為有呢一個會開過之後，要你哋留意或者要去跟進嘅地方？

答：我都冇咁嘅印象，但係可能佢從一啲我哋嘅指引裏面講有啲事項要做，可能就提一提過，但係我未必會記得晒咁多。

鍾先生：係，冇問題。

主席：2002 年，你哋房委會就引進呢個銅喉，咁我哋知道喺 2001 年喺呢一個--頭先呢位律師所講嗰個食水優質嘅委員會上高，就你哋房署就有一位副署長，就係你哋係 estate management 就出席。咁而喺呢個會上高，就曾經討論過就係話喺外國，尤其是喺英國同埋喺美國，當呢一個用銅喉嘅時候，就嗰啲焊料就含鉛就係一個大嘅問題嚟，咁基本上就係直接啲問。你有冇收過呢一方面嘅資訊？

答：我冇印象收過即係咁樣嘅資訊。

主席：即係完全冇，係咪？

答：係嘞，印象中冇。

主席：你哋嘅 Research and Development 亦都冇--就你所知，亦都從來冇就住呢個焊料嘅問題係做過任何嘅研究嘅？

答：呢個我就唔敢答，因為助理署長...

主席：唔係，就你所知。

答：就我所知？

主席：係呀，就你所知。

答：就我，我就唔--即係唔知道佢有冇因為咁而做過啲研究。

主席：係，如果有問題，就會通知你哋㗎喇，應該，係咪？

答：係，係。

主席：好呀。冇囉呵？好，唔該晒，可以走得㗎嘞。

下一位係...

殷先生：下一位係葵聯邨二期嘅 Chief Architect。

主席：不如我哋食完飯先至聽佢講吖，好唔好？我哋兩點三再繼續，好唔好？我哋早啲，唔該晒。

下午 12 時 46 分聆訊押後

下午 2 時 17 分恢復聆訊

出席人士如前。

主席：下一位證人，繼續。

殷先生：主席，我下一位證人係葵聯邨二期嘅 chief architect。

主席：好呀。

香港房屋委員會第七證人：譚瑰儀（房屋署（葵聯邨第二期總建築師））

以本地話宣誓作供
殷先生主問

殷先生：I now read out the witness statement of Tam Kwai Yee Ann Mary, chief architect of Kwai Luen Estate Phase 2.

COMMISSION OF INQUIRY

WITNESS STATEMENT OF TAM KWAI YEE ANN MARY

—

CHIEF ARCHITECT OF KWAI LUEN ESTATE PHASE 2

1. I, TAM KWAI YEE ANN MARY, provide this statement in respect of the Commission of Inquiry into Excess Lead Found in Drinking Water ("COI") and in response to a request from the COI dated 12 October 2015. This statement addresses matters relating to one of the "Affected Estates" being Kwai Luen Estate Phase 2.

2. I am an Architect by profession, a Member of The Hong Kong Institute of Architects and have joined the Housing Department (HD), which is the executive arm of the Housing Authority (HA). I have been involved in the construction of Kwai Luen Estate Phase 2 as the Chief Architect from 1 April 2014 to present. I therefore have direct knowledge of the project from April 2014 onwards. Information relating to the period before April 2014 I have obtained from records or pursuant to discussions with Colleagues for the purposes of this statement.

3. I have reviewed the letter from Lo & Lo Solicitors dated 12 October 2015 (paragraph (ii) 1 to 6 in particular) and address the matters raised together with other matters I consider relevant to the COI.

BACKGROUND INFORMATION

4. Being Chief Architect/5 Acting of the HA from April 2014 to present, I have served as the Project Manager, Design Team Leader and/or Contract Manager (CM) for over 30 public housing projects under various project stages, from inception, design, tender, construction to completion and post-completion, including all associated housing-related infrastructures and supporting community facilities, providing steer and leadership for the projects.

5. Both the Chief Architect and Chief Building Services Engineer are involved in managing the design and construction for plumbing installation works of public housing developments.

6. The gross site area of Kwai Luen Estate Phase 2 is 1.36 hectares. This development comprises two domestic blocks of 38 and 39 domestic storeys with flat production of 1,507, a footbridge with lift tower, a community garden, ancillary facilities and associated external works.

7. As common in HA's projects, the HA has adopted a conventional design-tender-build approach for construction of this development and engaged a Main Contractor, who is fully responsible under contract for carrying out the construction works and maintaining continuous supervision to ensure meeting the contract requirements.

8. The HA awarded the building contract, titled "Construction of Public Rental Housing Development at Kwai Shing Circuit" with contract number 20100097 to Shui On Building Contractors Limited ("Shui On") on 4 August 2011 with contract sum of Hong Kong Dollars Five Hundred and Ninety Seven Million (HK$597,000,000.00).

9. Shui On commenced the contract works on 12 August 2011. I certified the completion of the two domestic blocks

and the footbridge with lift tower on 30 April 2014, the remaining works on 28 May 2014 and the community garden on 4 June 2014.

10. I now address the specific matters set out in the letter from Lo & Lo Solicitors dated 12 October 2015.

Request 1: Explain their respective roles and responsibilities and the respective roles and responsibilities of the main contractor, sub-contractor(s), licensed plumber(s) ("LP") and other person(s) in the contractual, construction, and post-construction stages relating to the installation, supervision of work, inspection, certification of completion, monitoring and maintenance of the fresh water plumbing system as far as controlling the content of lead of the Plumbing Materials is concerned, stating the procedures, criteria and standards involved

CHIEF ARCHITECT

11. As the Chief Architect for the project "Public Rental Housing Development at Kwai Shing Circuit" (subsequently named as Kwai Luen Estate Phase 2) since the last few months of its construction stage, my role was mainly to act as the administrator of its building contract (the Contract), i.e. the Contract Manager (CM) as referred to in the General Conditions of Contract (GCC) as supplemented by the Special Conditions of Contract and the Specifications.

12. At the start of the Contract and pursuant to the contract provisions, the then Chief Architect as the then CM had delegated part of the duties and powers vested in the CM under the Contract to the project senior architect and project architect for serving as the Assistant Contract Manager and Contract Coordinator respectively to assist in administering the Contract. Senior professionals and professionals

of other disciplines, including the building services engineering discipline, were delegated the duties and powers under the CM for serving as CM's Representatives to administer the part of the contract works in their respective areas of expertise as necessary. Site Inspection Team was also appointed to inspect the Works, testing and examining materials to be used and workmanship employed in connection with the contract works.

13. A list of the HA staff who have been involved in this contract is shown to me marked "**Exhibit [1]**".

CHIEF BUILDING SERVICES ENGINEER

14. At the start of the Contract, the then CM had also delegated to the Chief Building Services Engineer, as the CM's representative, the duties and powers vested in the CM under the Contract insofar as they concern Building Services Works, with respect to (i) General Conditions of Contract Clause (GCC) 65(2) (termed as use of Prime Cost, Provisional and Contingency Sums); and (ii) GCC Clause 66 & Special Conditions of Contract (SCC) Clause 25 (termed as varied form of subcontract and objections to nomination).

15. The Chief Building Services Engineer (CBSE) was assisted by a team of building services staff to discharge his duties including the project building services engineer (BSE) who served as the CM's Representative and was responsible for the administration of Building Services Nominated Subcontracts (including Fire Services and Water Pump Nominated Subcontract), the project building services inspector, etc.

CM'S REPRESENTATIVES AND SITE INSPECTION TEAM

16. Professionals of various disciplines who were serving as the CM's Representatives and the Site Inspection Team for the Contract discharged their duties of contract administration and/or site inspection according to the provisions of the Contract and with reference to the HA's centralized quality systems and measures developed, regularly reviewed and enhanced over time for guiding and supporting the project teams.

17. While Shui On as the Main Contractor was to give continuous supervision and all necessary superintendence for proper carrying out of works on site to meet the contract requirements, the CM with the support from the CM's Representatives and the Site Inspection Team gave periodic supervision to the Main Contractor's works on site.

18. Under the CM's overall supervision, the CM's Representatives and Site Inspection Team conducted periodic and random checks on materials and workmanship for conformance to the Specifications and the progress of the Main Contractor's works. For inspection of the plumbing installations, the Site Inspection Team comprised two disciplines with various ranks of Site Staff as follows: -

    (a) Building Works Team (comprising Senior Clerk of Works, Clerk of Works, Assistant Clerk of Works and Works Supervisor) inspected Building Works including builder's works requirements for building services works;

    (b) Building Services Team (comprising Senior Building Services Inspector, Building Services Inspector, Assistant Building Services Inspector, Work Supervisor (Building Services)) inspected building services installation works.

19. At the completion stage of the building works, the HA had also appointed Multiple Surveyors Limited to

supplement Site Inspection Team's resources and conduct final inspection of the completed builders works for the domestic blocks. Multiple Surveyors Limited was responsible for inspecting the completed works and checking the materials and workmanship, particularly for flat-to-flat inspection, for conformance to the Specifications.

20. As common in HA's projects, this Contract involved over one thousand materials and components and around thirty trades of sub-contractors and workers. To ensure effective use of manpower, the HA determined the quality control standards for material approval, site inspection and testing of various materials and construction process, complementing the performance-based specification, while taking into account of the laws and regulations, industry/trade practices, past experiences and risk management.

21. Before the "Excessive Lead Found in Drinking Water" incident (the Incident), like the industry, the HA had all along believed that the widely accepted and used soldering materials for fresh water plumbing system should have complied with relevant requirements and also been unaware of its associated risk to health. Therefore, checking of presence of lead in solder or lead in water was not built into the HA's site inspection system and we did not check for presence of lead in soldering materials.

MAIN CONTRACTOR

22. Shui On, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Shui On had the general obligations to execute the Works including providing all necessary labour, materials, construction plant, temporary works and superintendence and to complete the Works within the

time for completion as stipulated in the contract. Shui On should comply with the Contract Manager's instruction on any matter related to the contract and conform to all enactments and regulations including but without limitation to the Waterworks Ordinance (Cap. 102) and Waterworks Regulations (Cap. 102A) in the execution of the Works.

23. Under the contract, Shui On was responsible for giving continuous supervision of the site works to ensure that the quality of works, including plumbing installations, complied with the statutory and contractual requirements. As required by the Specifications, Shui On was to provide all necessary superintendence by providing a management team during currency of the works, and name a competent and authorized agent who would be constantly on site on a full time basis dedicated to the superintendence of the Works. Shui On established its Construction Management Team, the organization of which is now produced and shown to me marked "**Exhibit [2]**" according to contract requirements. Such management team included Project Manager, Quantity Surveyor, Quality Control Manager, Architectural Quality Control Coordinator, Structural Quality Control Coordinator, Site Agent, General Foreman, Block Foreman, Registered Structural Engineer, Building Services Engineer and Safety Officer etc.

24. Shui On was permitted under the contract to sublet a part of the Works. The subletting of any part of the Works did not relieve Shui On from any of his liabilities or obligations under the contract. It was a common practice in Hong Kong, including HA projects, for the Main Contractor to employ domestic subcontractors to take up various packages of works normally defined by trades and the plumbing installation works were among the packages. However, the HA did not have any direct contractual relationship with the domestic subcontractor.

DOMESTIC SUBCONTRACTOR AND NOMINATED SUBCONTRACTOR

25. The Contract permitted Shui On to sublet the Works to their selected domestic subcontractors or to those nominated by the HA. However, there was control of subletting the plumbing works. The subcontracting should be no more than two tiers of subcontractors.

26. In this Contract, I knew that Shui On employed Ho Biu Kee Construction Company Limited ("Ho Biu Kee") as the domestic subcontractor for the plumbing works but I had no knowledge of the details of this domestic subcontract in the period before the Incident. It was upon Shui On's submission of an Investigation Report in their letter dated 14 September 2015 to the HA after the Incident enclosing a copy of the subcontract document between Shui On and Ho Biu Kee for the plumbing works, that I was aware of the responsibilities of the subcontractor. The copy of the above subcontract document is now produced and shown to me marked "**Exhibit [3]**".

27. In this contract, Shun Cheong Electrical Engineering Co. Ltd. was the nominated subcontractor for fire services and water pump installation. As for the responsibilities of this nominated subcontractor, my colleague, Mr. Leung Chi-Kwong Eric, the Chief Building Services Engineer knows more than me and he will provide details in his statement.

LICENSED PLUMBER

28. The service of Licensed Plumber (LP) which is a statutory requirement under the Waterworks Ordinance (WWO) (Cap. 102) in the installation of the plumbing system is usually provided by the plumbing domestic subcontractor. The HA did not have any direct

contractual relationship with the domestic subcontractor, so similarly did not have any direct contractual relationship with the LP.

29. The Specifications did not stipulate the specific roles and duties of the LP on the basis that these were all prescribed under the WWO except that the engagement of an LP was mentioned in the Specification Clause PLU1.Wll0.

30. The LP for the fresh water plumbing system in Kwai Luen Estate Phase 2 was Mr. Lam Tak Sum. The roles and responsibilities of the LP are stipulated in the WWO and Waterworks Regulations (WWR) and his performance as a LP is under the jurisdiction of the Water Authority. As such, I presumed the responsibilities of the LP for the fresh water plumbing system had been in accordance the provisions under the WWO. This included notifying the Water Authority of the commencement date and scope of plumbing works to be carried out the Form WWO46 Part I, notifying the Water Authority of the completion of plumbing works with request for inspection and approval by the Water Authority at Form WWO46 Part IV, and supervising the execution of the plumbing works on site etc.

31. Shui On was relied on to monitor the service of the LP and it was expected the LP would execute his duties under the WWO and WWR. Presumably, the "Point Penalty System" administered by the Water Authority reinforced this, as it provided a positive incentive for the LP to carry out the task professionally and accurately.

32. As for the responsibilities of the LP for fire service and water pump installation, my Colleague, Mr. Leung Chi-Kwong Eric, the Chief Building Services Engineer knows more than me and he will provide details in his statement.

MAJOR PROCESSES FOR THE INSTALLATION OF FRESH WATER PLUMBING SYSTEM

33. The major processes for the installation of fresh water plumbing system mainly involved application for the Water Authority's permission to proceed with the plumbing installation, submission of plumbing material proposals, procurement of materials, execution of plumbing installation after delivery of materials to site, testing and commissioning, request for the Water Authority's inspection and approval of the plumbing installation upon completion and application for connection of the street supply main for the development, Water Supplies Department's inspection and issuance of the Certificate Regarding Water Supply Connection, and monitoring and maintenance of the fresh water plumbing system.

Application for the Water Authority's permission to proceed with the plumbing installation

34. Before commencement of plumbing installation, the LP completed and signed the Form WWO46 Part I to notify the Water Authority of the commencement date and scope of plumbing works to be carried out, quoting the Water Authority approval reference and approved drawing number, size and number of water meters involved, anticipated date when water supply would be required and the pipes and fittings intended to be installed. Upon the project architect also signing Form WWO46 Part I and Part II, it was then submitted to the Water Authority.

Submission of plumbing material proposal

35. There were two Sections in the Specifications regarding plumbing installation, namely, PLU1 on Water

Supply and PLU2 on Sanitary Appliances. Pursuant to Section PLU1, materials for pipes, fittings and joints, including soldering materials, Shui On was not required to submit material proposals with samples for CM's approval if they conformed to the Specifications, requirements of which were mainly compliance with British Standard and statutory requirements, and having obtained Water Authority's prior approval. Pursuant to Section PLU2 on sanitary appliances, Shui On was required to submit material proposals with samples for CM's approval because CM had to consider factors including appearance, coloration, detail dimensions etc., other than technical requirements. Approval of materials is intended only to conduct documental check that the proposed materials comply with the specifications and not an independent quality control measure involving scientific tests.

36. In this project, Shui On also submitted proposals of materials, including copper pipe and fittings and soldering material specified under PLU1 as a general practice for approval.

<u>Execution of the plumbing installation works with continuous supervision</u>

37. After receipt of the Water Authority's approval for commencement of the plumbing installation works, Shui On, with their domestic subcontractor, Ho Biu Kee, should have procured materials according to the approved samples and/or the Specifications and then proceeded with such works on site. Shui On was obliged to provide all necessary superintendence throughout the duration of the plumbing installation works and give continuous supervision to ensure such works were executed in strict accordance with the statutory requirements and the contract specifications to the satisfaction of the CM.

38. The plumbing installation in this project was common in most HA's projects and comprised two parts. The first part was the up-feed system with ductile iron pipework from water supply main connected by WSD to master check meter, through up-feed pump room routing to tower roof water tanks by exposed ductile iron piping mounted on the external wall or in pipe ducts. The second part was down-feed system with copper pipes from roof water tank to water meter cabinets of each domestic floor, including pressure reducing valves at intermittent floors, then to the common corridor and distributing to each flat. The pipework was surface mounted to facilitate future maintenance.

Periodic inspection by the HA

39. Throughout the duration of the Contract up until completion, my predecessors and I, holding the role of CM for various periods, with the support of project senior professionals and professionals as the CM's Representatives and the Site Inspection Team including the Project Clerk of Works, Assistant Clerk of Works, Work Supervisors, Project Building Services Inspectors etc., gave periodic supervision and random checks on materials and workmanship of the plumbing works for conformance to the contract specifications. The CBSE provided the engineering support and gave periodic supervision of the site works, including vetting of the materials submission, pump and valves installation, testing and commissioning of the fresh water plumbing system inside fresh water up-feed pump rooms and booster pump rooms.

40. During the course of the Contract, the CM's Representatives also conducted assessments under the HA's Performance Assessment Scoring System (PASS) with Shui On on-site to assess the quality of works including Shui On's performance in plumbing

installation works and management of their domestic subcontractors. Based on records, Shui On's scores for plumbing works were generally satisfactory.

Testing and commissioning

41. Upon completion of the fresh water plumbing system, Shui On, with their domestic subcontractor, Ho Biu Kee, cleansed and disinfected the fresh water inside service. They conducted the required testing and commissioning of the system, which was performance-based, in the presence of the HA Site Inspection Team.

Request for the Water Authority's inspection and approval of the plumbing installation and application for connection

42. Having completed the testing and commissioning of the plumbing installation works with satisfactory results, the LP completed and signed Form WWO46 Part IV and submitted to Shui On. After checking and found it in order, Shui On forwarded the completed form to the project architect who signed on Form WWO46 Part IV for the domestic portion on 3 April 2014 certifying the correctness of the meter positions. The project architect also signed Form WW0132 Part II on 14 April 2014 applying for the Water Authority's connection for water supply. The copy of the forms is now produced and shown to me marked "**Exhibit [4]**".

Water Supplies Department CWSD)'s inspection and issuance of Certificate Regarding Water Supply Connection

43. According to records, WSD sampled water at the

connection between the water main and inside service on 10 April 2014 for testing basing on the eight parameters in WSD Circular Letter No.2/2012. The test results were satisfactory. WSD forwarded the test report to the LP who gave a copy to Shui On who subsequently forwarded it to the HA. The copy of the test report is now produced and shown to me marked "**Exhibit [5]**".

44. WSD inspected the completed plumbing installation on 14 April 2014 after receipt of the above signed Forms and the Water Authority issued Certificate Regarding Water Supply Connection (Form WWO 1005) for the domestic portion on 28 April 2014.The copy of the form is now produced and shown to me marked "**Exhibit [6]**"

Request 2: Explain the procedures, their respective roles and responsibilities and the respective roles and responsibilities of the main contractor, sub-contractor(s), LP(s) and other person(s) in the procurement and variation of Plumbing Materials and in constructing, installing, inspecting, testing, checking and approving such Plumbing Materials as far as any requirement about the content of lead is concerned

Submission of material list to the Water Authority before commencement of plumbing works

45. Before commencement of plumbing works, the project architect and LP signed and submitted to Water Supplies Department (WSD) in the Form WWO46 Part I together with the Annex listing the plumbing materials, with various details, intended to be used. For fittings, only draw-off taps, stop valves, gate valves, ball valves and combination fittings were required to be listed in the above Annex. Solder material was not required to be included in this material list.

46. Being a procuring entity governed by the Agreement on Government Procurement of the World Trade Organisation, the HA has been adopting performance-based specifications that must be non-discriminatory. No brand name or origin of materials was specified in the Contract. As such, before commencement of the plumbing works, Shui On also submitted plumbing material proposals for CM's approval and the list of plumbing materials stated in the Annex to the Form WWO46 Part I would be subject to updating if any of such plumbing materials would be different from Shui On's proposed plumbing materials, subsequently approved by the CM in compliance with statutory and contract requirements.

47. Pursuant to WSD Circular Letter No. 1/2004, the list of plumbing materials submitted to the Water Authority in the Annex to the Form WWO46 Part I can be updated for minor alterations by the LP from time to time before WSD conducts site inspection of the completed plumbing installation. The copy of the Circular Letter is now produced and shown to me marked "**Exhibit [7]**".

48. Based on records, in the Annex to the Form WWO46 Part I that the LP signed and dated 10 May 2012, there were 35 items of plumbing materials intended to be installed, all complying with the statutory requirement. The copy of the Form WWO46 Part I together with Annex of the material list is now produced and shown to me marked "**Exhibit [8]**".

49. The Water Authority returned the Form WWO46 Part III to the LP on 14 June 2012 stating that "the Plumbing detailed in Part I and at the Annex was accepted" and "permission was given for you (LP) to proceed with the plumbing detailed in Part I and at the Annex".

50. The HA relied on Shui On to monitor the service of the LP and would expect the LP to update of the list of materials in the Annex to Form WWO46 Part I since

presumably the "Point Penalty System" administered by the Water Authority would have provided a positive incentive for the LP to carry out the task professionally and accurately.

Material submission and variation approval by Contract Manager

51. Materials used in the Contract were governed by the Specifications forming part of the Contract between the HA and Shui On. According to the Specifications, materials used in fresh water plumbing system should be in full compliance with all statutory requirements together with any revisions or amendments according to specifications, such as, Waterworks Ordinance and its Regulations, Hong Kong Waterworks Standard Requirements for Plumbing Installations in Buildings and Circular Letters issued by WSD and, inter alia, relevant sections of appropriate British/European Standards on materials and workmanship, etc.

52. The Specifications for the materials was performance-based. All pipes and fittings should be constructed of materials suitable for the required working and test pressures and temperatures of the fluid carried and capable of withstanding working pressures, maximum static pressure, be of standard products and, inter alia, approved by the Water Authority. Provided the specification requirements could be achieved, there was no restriction on any particular manufacturer or brand that Shui On could propose. They should fulfil the contract specification requirements and one of the following as required by the Water Authority for all pipes, draw-off taps, stop valves, gate valves, ball valves and combination fittings:-

a) Category A - Bearing the British Standard

Institution Kitemark

b) Category B - Accepted by the Water Authority (Water Fittings) Regulations, United Kingdom (formerly known as the Water Byelaws);

c) Category C - Accepted by the Water Authority in writing; and

d) Category D - Bearing the Water Authority Stamping.

53. The use of soldering alloys for copper and copper alloy capillary fittings used in this contract should comply with Specification Clause PLU1.M160.5 as follows:-

i) Comply with BS EN 1254:Part 1:1998, Table 6 Sections II and III

ii) Use of integral solder fittings is permitted provided they comply with BS EN 1254:Part 1:1998;

iii) Use only lead-free category solders; and

iv) Use only a non-corrosive type of flux that is recommended by the solder alloy manufacturer.

54. Shui On proposed to use "FRY" 99C Lead Free Solder Wire under the Material Sample Submission Form ref: KSC/A/PLU/006 on 18 February 2013, submitting sample, material catalogue, testing report and job reference. According to the technical data provided by Shui On, FRY 99C complied with BS 1254-1 and was stated to be "lead-free". The project architect then approved the material proposal. The copy of the material sample submission and approval document is now produced and shown to me marked "**Exhibit [9]**".

55. After approval of the plumbing material proposals with submitted samples, all the approved samples were kept in a lock-up sample room for record and for reference by HA Site Inspection Team for routine checking during

the construction process. The samples were kept until the completion of the Works and after that were disposed of.

56. The approved plumbing material samples complied with the statutory and specifications requirements. As mentioned in above paragraph 47, the LP should have updated the list at the WSD office for any variation of the materials before WSD inspected the completed plumbing installation.

57. However, after excess lead was found in drinking water in Kwai Luen Estate Phase 2, I learnt that Shui On had proposed plumbing materials that were subsequently approved but might not have been updated in the Annex of Form WWO46 Part I submitted to the Water Authority. A comparison table listing the materials originally submitted to the Water Authority in the Annex to Form WWO46 Part I on 10 May 2012 and those as-built materials as verified on site by the Site Inspection Team is now produced and shown to me marked "**Exhibit [10]**".

Site supervision for plumbing installation

58. Under the Contract, upon delivery of materials to site, Shui On was obliged to check the materials against approved samples and documents to ensure compliance. I learnt from my Site Investigation Team that after verification of the plumbing materials delivered to site by Shui On, such materials were stored in the plumbing domestic sub-contractor's lockable workshop at site.

59. In the Contract, major plumbing materials checked by HA Site Inspection Team included close-coupled WC suite, wash hand basin, mixer and shower handset etc. The HA Site Inspection Team did not check on site whether or not FRY 99C lead free solder was delivered. It was considered as a sundry material and we would

presume that supervision and control were carried out by Shui On and LP. If we were aware of the risk of presence of lead in solder and its implications on the drinking water quality and in turn, the associated health risk, we would have checked the materials delivered to site.

60. During the plumbing installation period in this contract, based on records, there were numerous work trades, including paving, drain laying, plastering and finishing, painting, metal works, component doors and sanitary fitment installation, electrical, lift and fire service installation, concreting at external areas etc., being simultaneously executed at site, which involved about 230 workers every day when works on site was on full swing.

61. The periodic and sample checks carried out by the HA Site Inspection Team would need to cover all these activities and works. Site inspection guides had been developed to facilitate the HA Site Inspection Teams to carry out the inspection. The inspection of fresh water plumbing system including water pipes and fittings, water pumps and associated installation included in-process inspection, final inspection and witness test. The HA Site Inspection Team checked the installation against the approved drawings and approved material record.

62. Soldering materials have been regarded as a sundry item, similar to the iron tying wire used for fixing steel reinforcement, screws, bolts and nuts etc., which was not measured separately in the Bills of Quantities. The soldering material, the extent to which it was lead free, was not covered in the inspections so no such tests were carried out. As a general practice, the quality control on plumbing installation was focused on performance including the flow rate, water tightness, pressure resistance and mechanical strength and endurance.

63. During the course of the Contract, the CM's Representatives also conducted assessment under the HA's Performance Assessment Scoring System (PASS) to quantitatively measure Shui On's performance in compliance with contract requirements. Compliance with respect to materials was assessed under the component of Management Input. Similar to Building PASS, Building Service PASS assessments were also carried out for water pump installations undertaken by Shun Cheong Electrical Engineering Co. Ltd.

Request 3: Explain the steps taken by HA, the main contractor, sub-contractor(s), LP(s) and other person(s) in ensuring that the work in connection with the construction and installation of the Plumbing Materials was carried out by workers with sufficient training and qualifications

64. Shui On, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Shui On had the general obligations to execute the Works including providing all necessary labour, materials, construction plant, temporary works and superintendence and to complete the Works within the time for completion as stipulated in the contract.

65. Pursuant to Specification Library 2008 Edition regarding the requirement for Trade Tested Workers, the combined percentage for skilled and semi-skilled trade tested workers (Plumber) was 100% whereas the maximum permissible percentage of semi-skilled workers was 15%. Pursuant to the relevant contract clause, the Trade Tested Workers should have acquired the following qualifications:-

a) Skilled Workers should be either one of the following:-

i) A registered skilled worker or registered

skilled worker (provisional) as respectively defined in section 2(1) of the Construction Workers Registration Ordinance (Cap 583); or

ii) Holder of a full trade test certificate issued by the Construction Industry Training Authority / Construction Industry Council Training Academy.

b) Semi-skilled Workers should be either one of the following:-

i) A registered semi-skilled worker or registered semi-skilled worker (provisional) as respectively defined in section 2(1) of the Construction Workers Registration Ordinance (Cap 583); or

ii) Holder of an intermediate trade test certificate issued by the Construction Industry Training Authority / Construction Industry Council Training Academy.

66. The monthly report, namely, Record of Traded Test Worker was prepared by Shui On and checked by HA Site Inspection Team. The checking was based on records of Shui On's Access Control and Recording System. The Trade Tested Worker's information from Shui On was also being forwarded to Construction Industry Council for verification of the workers' identity and qualification regularly.

67. During the period that I served as CM of this contract, I did not have knowledge of the steps taken by the LPs in ensuring that the work in connection with the construction and installation of the Plumbing Materials was carried out by workers with sufficient training and qualifications.

Request 4: Explain how Plumbing Materials containing lead came to be used in the Affected Estates and why the use of the same had been allowed and overlooked

68. Shui On, as the Main Contractor, was fully responsible for carrying out the Works. Under the Contract, Shui On had the general obligations to execute the Works including providing all necessary labour, materials, construction plant, temporary works and superintendence and maintaining continuous supervision on site at all times until completion.

69. With respect to the HA's periodic supervision of the Works, as in other HA's projects, we had followed the established practice of focusing on the functional performance of the water supply installation in terms of pipe fixing and alignment as well as water tightness of the system through visual inspection and water pressure test. Soldering materials have been regarded as a sundry item, similar to the iron tying wire used for fixing steel reinforcement, screws, bolts and nuts etc., which was not measured separately in the Bills of Quantities. The HA Site Inspection Team was also not required to verify the materials delivered to site and check the lead content of the soldering material during the execution of fresh water plumbing installation as copper pipes have been used in the fresh water plumbing system in Hong Kong for decades and the soldering materials are widely accepted and used in the industry with no indication nor alert that those containing lead might be used.

70. Not until the Incident, there had also been a general lack of awareness in the industry and the HA of the associated risk this soldering material might pose, including lead leaching from the solder applied on outer face of the pipework into the water inside and the lead content level in drinking water that would affect health e.g. the WHO prevailing standard of 10µg per litre. As such, despite its established

risk-based approach for quality control, the HA had not then stepped up the periodic supervision to check on the lead content of this soldering material upon delivery to site and during execution.

71. Furthermore, there was no statutory requirement for testing of lead in water by the Water Authority for new buildings until the Incident in July 2015 and the HA was also not aware of the possibility of lead in water. Therefore, as in other HA's projects and the industry in general, we did not conduct any laboratory tests for lead in water at the contract completion stage in 2014 which might have helped identifying the use of soldering material containing lead during construction stage.

72. There was also no requirement for testing of lead in water by the Water Authority for the Quality Water Supply Scheme for Buildings then. As such, water testings by the HA after the estate completion for registering with such Scheme also did not cover testing of lead in water. Therefore, lead in water due to lead in the soldering materials was also not identified earlier in the post-completion stage.

73. As in other HA's projects, lead-free soldering material was specified under the Contract aligning with the British Standard stipulated under the WWO. Sample submission with supporting documents complying with the contract specifications was made by Shui On and approved by the project architect. As such, Shui On was responsible for use of such lead-free soldering material on site and maintained continuous supervision to ensure such use. The use of lead solder on site without the CM's permission was in breach of contract.

74. According to Shui On's plumbing domestic subcontractor Ho Biu Kee's letter to Shui On dated 25 August 2015 attached to the Investigation Report enclosed in Shui On's letter dated 28 August 2015 sent to the HA after

the Incident, now produced and shown to me marked "**Exhibit [11]**", Ho Biu Kee indicated that the soldering materials were ordered by their site representatives and purchased by their head office but the purchase orders were disposed.

75. In the above Investigation Report, Shui On also stated that the soldering material for jointing copper pipes was not included in the "List of materials requiring inspection upon delivery" of their "Project Quality Plan". Relevant extract of Shui On's Investigation Report is now produced and shown to me marked "**Exhibit [12]**".

76. Based on the available information, I cannot conclude how and by action of which party lead solder came to be used in Kwai Luen Estate Phase 2.

Request 5: Explain and Identify any use of Plumbing Materials which deviated from the Plumbing Materials contracted for ("Deviated Plumbing Materials"). This request is confined to Deviated Plumbing Materials which have now been found to contain lead or from which lead has leached into water. Please also explain why such Deviated Plumbing Materials have been permitted to be installed without being spotted during any monitoring or inspection process

77. Before July 2015, I was not aware of the presence of excess lead in water in the fresh water supply system of Kwai Luen Estate Phase 2. On 14 July 2015, the Government announced that 5 out of 44 water samples from Kwai Luen Estate Phase 2 were found having lead content exceeding the WHO prevailing standard of 10μg per litre. As for World Health Organization (WHO), I only learnt about their standard for lead in water after the excess lead was found in drinking water in Kai Ching Estate and Kwai Luen Estate Phase 2. Before

July 2015, I was not aware of the WHO guidelines on the drinking water quality at the consumption point.

78. After excess lead was found in drinking water in Kai Ching Estate and Kwai Luen Estate Phase 2, the Government Task Force led by a Deputy Director of the Water Supplies Department (WSD) was formed to investigate the cause of excess lead in water in Kai Ching Estate and Kwai Luen Estate Phase 2. I learnt from their final Report issued in October 2015 that the lead-solder joints were the source of excess lead in drinking water in Kai Ching Estate and Kwai Luen Estate Phase 2, and some copper alloy fittings also leached lead but did not result in excess lead in drinking water.

Lead Solder Joints

79. "FRY" 99C Lead Free Solder Wire was submitted by Shui On for copper pipe joints in the fresh water plumbing system and approved by the project architect. Under the Contract, Shui On could determine whether they themselves procured the materials, including piping and fittings and solder for copper pipes etc., or instructed their subcontractor to order the materials. However, pursuant to the contract provisions, Shui On should ensure compliance in procurement of solder materials according to the approved sample, regardless of whether or not they or their subcontractor are buying the materials.

80. In respect of material procurement stage, the contractor was not required under the contract to submit any purchasing record of the soldering material to the HA. At the material delivery and installation stage, the HA Site Inspection Team did not check the delivery notes, purchase order of solder materials as the contract specifications did not require the

contractor to provide such documents. It was expected that Shui On would procure and use "lead-free" solder for the plumbing installation as the soldering material was widely accepted and broadly applied in the jointing of copper pipe works in Hong Kong and before the Incident, the risk of presence of lead in soldering materials was not known.

81. After preliminary testing indicated lead was found in one soldering joint of copper pipes in Kwai Luen Estate Phase 2 in July 2015, Shui On was requested to investigate why lead soldering material not complying with the Specifications and the approved sample was applied in the fresh water plumbing system without permission. Shui On submitted their Investigation Report to the HA on 28 August 2015 and stated that they sub-contracted the whole plumbing installation works including materials (i.e. soldering material) and labour to Ho Biu Kee. The service of the licensed plumber was provided by this tier of sub-contracting and Ho Biu Kee did not further sub-contract the works.

Copper Alloy Fittings

82. Only based on the final Report issued by the Government Task Force in October 2015, we came to notice that one pressure reducing valve (PRV) which is a copper alloy fitting installed in Kwai Luen Estate Phase 2 was tested and found not complying with the British Standard in respect of lead content. (6.2% to 6.5% whilst the lead content in copper alloy should be 4%-6% for valves). Nevertheless, it was concluded in the Task Force's Report that this did not result in the excess lead in drinking water. The copy of the extract of the final Report of the Government Task Force is now produced and shown to me marked "**Exhibit [13]**".

83. Shui On had submitted samples of this copper alloy

fitting for approval. The project architect checked the material catalogue, testing report and approval letter of the Water Authority etc. submitted by Shui On, found it acceptable for approval at sample submission stage and then signed the sample approval form. The HA's quality control focuses on the operating performance of the copper alloy fittings, including flow rate and pressure test etc. We expect proprietary fittings with prior approval by the Water Authority are suitable for use in the fresh water plumbing system and WSD had to scrutinized the supporting documents provided by the suppliers of these fittings in respect of its chemical composition.

84. In respect of the above defective PRV reported by the Government Task Force led by WSD, Shui On had been instructed to submit a remedial proposal for the existing PRVs of this type.

Request 6: Describe the Measures and/or recommendations (after the discovery of excess lead in drinking water) by the Chief Architect and the Chief Building Services Engineer in order to prevent similar incidents from happening in the future

85. The past control mechanism for HA's projects was consistent with the industry practice, the law and other WSD requirements, but had not focused on the presence of lead in the fresh water supply system, and had not targeted soldering materials as a high risk items. After excess lead was found in drinking water in 11 public housing estates since July 2015, the HA has reviewed and strengthened quality control to address the risk.

86. I would recommend the following immediate and long term enhancement measures on the installation of fresh water supply system:-

I. During construction

a) Main contractor is required to:-

i) submit supporting document of lead free grade soft solder or filler metal as required under current submission procedure; and

ii) submit a Subcontractor's Management Plan covering stringent plumbing subcontractor supervision and on-site monitoring to ensure that all workers will use only lead-free category of soldering / brazing materials for jointing of copper pipes including quarantine soldering / brazing materials and define the roles of Licensed Plumbers (LP) in supervising plumbing installation works.

b) HA project team is required to:-

i) register delivery of soldering/brazing materials to site under On Site Delivery Verification Form 6210; and

ii) conduct random audit checking upon material delivery to site after the main contractor's completion of checking for lead free content in solder joint.

II. End of construction

a) The main contractor is required to:-

i) declare that only lead-free category soldering / brazing material are used;

ii) carry out cleansing and disinfection of the plumbing installation;

iii) collect water sample:-

- agree with WSD the locations for collecting water samples and arrange accredited laboratory for bacteriological and chemical analysis according to the water quality requirements specified in the WSD Circular Letter Nos.2/2012 and 1/2015. In the submission of WWO46 part I, a supporting document of lead free grade soft solder or filler metal used in soldering, brazing and/or welding construction methods is required;

- agree with HA's Contract Manager and take additional test samples on top of WSD's requirement for concurrent water quality test by a Direct Testing Contractor employed by the HA. The sampling should cover a selected point of use of each distribution zone and a random point of the lowest zone of each vertical riser;

b) In the event lead content in water greater than 5 µg/litre is identified:-

i) The HA Site Inspection Team to conduct further check on the soldering / brazing materials to ascertain if they contain lead; arrange with Direct Testing Contractor for X-ray scanning, or other means as appropriate;

ii) main contractor to carry out investigation on the cause(s) and submit investigation results and details of all necessary rectification works for approval of the Contract Manager;

iii) after completion of the rectification works, Main contractor to coordinate with the HD's site inspection team for conducting re-test(s) by a Direct Testing Contractor employed by the HA.

III. After completion and before occupation of new buildings

a) Main contractor to carry out cleansing and disinfection of all the completed fresh water tanks and fresh water supply pipework;

b) HA's site inspection team to arrange a Direct Testing Contractor to collect water samples and test according to the water quality requirements specified in the WSD's "Quality Water Supply Scheme for Buildings - Fresh Water". Water samples shall be taken from each potable water supply tank in the building(s) and the water outlets at the farthest point of use in each branch of the distribution system.

問：譚女士，你剛才聽我朗讀完咗你嘅書面供詞，有冇嘢需要修改或者補充？

答：冇。

問：你願意採納呢個作為你喺呢個研訊入面嘅證供嘛？

答：係。

殷先生：我冇嘢問。

<u>許先生盤問</u>

問：譚女士，就首先就想問你有啲背景資料先嘅，就係我想問一問你係幾時正式係加入房署工作㗎？

答：我係大約係一--我諗係一九八幾到九零年代，因為我又係加入過房署工作，然後離開過，然後再加入嘅。

問：即係一九八幾至九零左右？

答：九零喇，你當。

問：九零，一九九零。

答：係九--八九、九零，我唔係 exact...

問：記唔記得幾時離開房署，中間？

答：中間都係隔兩、三--兩年嗰㗎喇係，自己...

問：即係加入咗之後兩年嗰離開嘅？

答：係喇，係喇。

問：離開幾耐呀？

答：幾年，應該係 1995 年返入嚟。

問：95 年再加入嘅？

答：係，冇錯。

問：我想問一問，就係你擔任呢個總建築師大概係幾時開始呀？

答：喺文件度有講過，就會係 2014 年 4 月 1 號，我開始...

問：哦，係嗰陣時就正式開始擔任呢一個，...

答：喺...

問：...即係唔係淨係就葵聯，而係喺呢個房署個職位？

答：係。

問：都係 2014 年開始擔任個總...

答：係，CA5 (acting)，呢個係2014年4月1號。

問：好。之前嘅職位係乜嘢？

答：之前係senior architect，咁亦都喺第二個division 亦都試過係署理嘅總建築師。

問：即係acting？

答：即係--係喇，係acting，就唔喺Development and Construction Division嗰度。

問：好，我首先想睇一睇之前副署長馮女士嘅口供入面，其中有兩段我想你睇下嘅，就係呢個B15.1 37508，第8段，37508第8段，大概第二句開始，"To assure the safety of HA's developments"，跟住就講係HA嘅practice，"not only make sure the DCD"，即係你哋嘅部門，嗰個"project procedures, specifications, testing"等等係要符合即係法例嘅要求，同埋都要符合一啲國際標準嘅，睇唔睇到呀？

答：唔嗯。

問："International standards"。

答：唔嗯，唔嗯。

問：跟住第9段嗰度，我哋亦都睇下，就住嗰個即係37509嗰度，第9段，見唔見到呀？

答：唔嗯。

問：咁呢度就話個DCD，即係你哋工作個部門，亦都係有個quality management system嘅，後面佢有一度大概第三句開始，見唔見到"There is a comprehensive set of measures developed, enhanced and enriched over time under the system."？見唔見到嗰句呀？

答：唔嗯，唔嗯。

問：跟住就"These measures are subject to regular reviews, feedback and risk-based assessments, taking into account"法例，亦都係"international standards"，即係國

際標準，"industrial practices"同埋"past experience"等等嘅，見唔見到呀？

答：唔嗯，唔嗯。

問：所以呢度馮女士當時都有多處提及呢一個國際標準嘅，我見到你嗰個證人供詞嗰度就冇特別話去提呢個國際標準呢樣嘢，我想喺呢一度同你即係討論一下嘅啫。我見到你個證人口供嘅第 20 段，38015，第 20 段，你都係講緊話你哋房署或者係房委會，有關啲 material approval，即係啲材料嘅核准，或者 site inspection 等等，就你哋會參考法例、呢個行內個即係一般嘅做法、past experience 同埋 risk management。我想知道你作為呢個總建築師，之前就係高級建築師，喺房署，就住一啲國際標準，例如我哋呢幾日都經常聽到，有世衛等等嗰啲標準，喺房署入面，你哋有冇一個特定一個架構或者一個制度，係讓你可以得知一啲呢啲國際標準？

答：如果你就話呢個係冇一個特定嘅部門去淨係講個國際標準呢，我唔了解係有嘅，如果係國際--淨係話國際標準，因為我哋就 run 一個 contract，有一個 project 嗰陣時，我哋行先就係話嗰個 regulative 嘅 requirements，即係 under laws enactment 要嘅 requirements，我哋就會係跟隨嘅，亦都係 base on 我哋以前一路做咁耐嘅 practice，我哋房署裏面嘅 practice，亦都係嗰個 trade 嘅 practice，我哋去根據為準嘅。

咁如果話國際標準，因為國家標準係好 wide 嘅，即係雖然你今朝就講水啫，但係國際標準係好多㗎嘛，包含好多好多嘅嘢㗎嘛，咁我哋係冇可能真係會話係每一個即係我哋去研究或者係睇。咁我哋基於--如果話嗰個法例上有話要跟嘅，我哋就會去跟，係喇，British Standard，係喇。

問：即係主要都係從法例嗰個角度嚟到睇，係咪呀？

答：係喇，building authority 話要跟 British Standard 有關嘅 materials 嗰啲，我哋咪去跟囉。

問：好，我想畀你睇一睇一份文件，就係喺呢個 A2 嘅文件夾，A2 1230，呢一份文件，我哋知道就係--或者我同你講一講先，就係世衛就喺 2010 年 3 月就出版嘅文件嚟嘅，佢最主要嗰個重點就係喺嗰個大廈嘅食水安全嘅，佢其中開宗明義，佢就講佢呢一份文件主要個目的就係就住有關大廈嘅建造或者係管理上面可能衍生出嚟一啲即係對健康嘅問題，就住食水嚟講，對健康個問題，佢就即係加咗一啲

guidelines喺度嘅。

其中佢入面有幾項我都想同你睇一睇嘅，就係其中有一度佢就講呢一個有關嘅持份者，就喺第 19 頁，即係呢一個 internal document -- 1249頁，佢喺2.1嗰度就係講呢個持份者，第二段嗰度就講持份者包括啲咩嘢人咁樣，其中都包括--你見到第一嗰個圓點嗰度，就見到，"Building commissioners"，其中包括發展商、planning officers、architects、design engineers 等等嘅。

我其他主要內容，我唔逐一讀出嚟，不過其中有一項，喺呢一個文憲度亦都講出嘅，就係有關呢個食水安全，其中一個比較值得關注嘅項目就係食水入面嗰個重金屬嗰個含量，或者我都同你睇一睇其中一段，喺呢個第 1288 頁，1288 頁中間即係見唔見到"Corrosion"嗰度？

答：唔嗯，唔。

問：呢度數落嚟第二段，就係"A wide range of materials can be potential sources of chemicals through corrosion including metal pipes"，入面佢就有話"(lead、copper、galvanised steel、iron), solders、brass fittings"等等，呢個亦都係講咗一啲潛在嘅--即係啲樓宇喺建設或者管理上面有啲潛在嘅風險，係有關即係呢個鉛對人身體有害。

好似呢一啲咁樣嘅即係對於食--即係我哋唔係淨係講食水安全一個咁一般性嘅話題，直情係講緊大廈，大廈嘅建造同埋管理入面嘅食水安全，呢一啲咁嘅文件，你哋作為房署總建築師，有冇即係話曾經有得知呢啲文件？

答：呢份報告我之前係未見過，...

問：未見過？

答：...亦都未聽聞過，咁佢可以每一個 standard 講好多有關即係 building materials、water quality 嘅嘢，但係問題係呢份我哋未去睇過呢份係，亦都未從法例上我哋得知到。

問：之前我哋有幾位證人都有問過呢個問題嘅，就係有關房署就有冇一個特定嘅 R&D 嘅 unit 呀？即係一個研發部，就住你哋 Development Construction，即係發展同埋建築呢一環，你嘅認知，有冇一個特

別嘅一個 R&D 嘅 unit？

答：我哋喺我哋 Development and Construction Division 裏面，我了解係冇一個係特定淨係去做 research and development 嘅。

問：好，你有冇聽過或者你自己亦都即係工作範圍入面有冇知道你哋房署入面有一個叫做 design and standards unit？

答：有，呢個，係。

問：呢一個 unit 會唔會都負責例如一啲--即係例如 research development 嘅工作，會唔會有？

答:如果係我哋署嗰度發覺係某啲嘢要需要去睇嗰陣時,可能呢個 design and standard 組嗰個 chief，即係嚴生，chief architect (D&S)，佢可能會被分派去做，但係就好--似乎--視乎嗰件 issue 係有關係咩嘢，即係如果你話係有啲石屎嘅問題，又可能會係畀另一位總結構工程師去睇。

問：你有冇曾經牽涉過喺呢一個 design and standards unit 入面嘅工作？

答：我未曾經喺嗰度服務過。

問：冇做過。

答：咁即係你嘅意思即係...

主席：對唔住，我拃亂戈柄。咁你講呢個所謂 design and standard 呢一個咁嘅 unit，首先第一，佢係喺 DCD 裏面，係咪？

答：冇錯，係。

主席：第二，如果我就咁聽你講，佢就完全冇呢個前瞻性嘅，佢只不過係 reaction 嘅啫，係咪咁嘅意思呀？即係佢唔會話「啊，我哋而家去 identify 下有啲乜嘢 hazard,跟住做一啲 risk 嘅 assessment。」係冇嘅，純粹就係「啊，出咗問題喇，我哋先至去做啲嘢。」咁樣樣嘅？

答：我唔可以贊同咁講法，因為 CAD&S 佢係包括好多種工種嘅，咁亦都

係視乎喺個行業度，個 trade 嗰度係有乜嘢需要去睇得到，然後發覺，然後我哋就會去睇，亦都係，咁亦都係因為 design and standard 亦都係我哋專--因為我哋房委會、房署係要去起樓、起公屋，我哋嗰個就會做好多設計嘅，嗰方面嘅設計，變咗佢唔係一個專責去做一個任何你正話講問有關去做 research 嘅係。

主席：即係...

答：咁有大部分工作好多都係要去做設計、樓款係點，同埋亦都有時譬如而家好講環保嗰啲，佢會去研究嗰方面。

主席：即係呢個 design and standard 只不過係嚴先生所做嘅嘢嘅一個好小嘅部分，係咪咁嘅意思，你嘅意思？

答：在設計個樓款嗰陣時，或者佢研究下我哋喺我哋個公屋嗰個 provisions 嗰度，個 standard 去到邊呢？亦都係一個 design and standard 裏面佢哋--佢要知道嘅，即係譬如話你畀唔畀--啲窗係應該係點、畀唔畀鐵閘或者係畀唔畀任何一個 provisions，佢哋都會去研究呢方面。

問：可能你之前都聽過，就係就住一啲外國嘅經驗，我哋之前都有問過嚴先生同埋馮女士，就係一啲喺蘇格蘭發生嘅即係食水含鉛嘅事件，另外就係喺呢個威爾斯發生嘅事件，同埋有啲美國所頒布出嚟嘅有啲對食水含鉛應該加啲咩嘢注意嗰啲咁嘅文件嘅，嗰啲你都應該係即係之前係冇聽過嘅？

答：係冇聽過嘅，喺行內，我覺得係呢樣未被人注意到，或者即係冇被提醒過嘅。

問：好，我想另外今--因為我哋而家喺 R&D 個問題度，都想問一問埋你呢一樣嘅，就係今朝早我哋聽到有啲你哋 EMD 嘅同事，即係 Estate Management Division 嘅同事，都有講話佢哋 Estate Management 其實都有啲係同埋 R&D 嘅部門嘅，你有冇聽過呀？

答：我只聽過佢哋有一個位置，有個 post 嘅，係嗰個名都有 R&D 嗰度嘅係，嗰個 post 嚟嘅，係唔係一個 unit，我唔係好清楚係有關...

問：知唔知佢哋做咩嘢㗎，呢個 post？

答：我諗我哋 EMD side 同事可以補充，如果當時佢講過，咁就係㗎喇，因為我唔係嗰個 division，我唔可以清楚咁話佢嗰個 post 係做咩嘢。

問：好，我就想問一問，例如嗰一啲 EMD 嗰個 R&D 嘅 division，例如同你哋 DCD，例如好似剛才我哋講 design、standards unit，會唔會有溝通㗎？即係大家對於一啲應該達到啲咩嘢標準，即係最近可能喺其他國家發生嘅一啲情況即係需要跟進嘅，有冇啲咁樣嘅溝通、協調，兩個部門？

答：我哋通常如果 DCD 同 EMD 裏面有咩嘢問題要溝通，我哋都會係好多人去--即係好多個 post 會牽涉過一齊我哋去講嘅，因為用大家嘅智慧一齊去解決問題嘅，咁就未必我--以我理解，未必淨係--即係或者係 D&S 同 R&D 咁，即係會話 involve 好多譬如 projects 嘅人都會去知道嘅。

問：好。你作為呢一個房署嘅總建築師，你都一定係對於即係水務條例、水務規則，有關嗰啲建築工程事項嘅一啲要求，你都會認識㗎嘛？

答：係，係。

問：或者我哋都睇一睇呢一個水務規則入面嘅一小項，睇一睇 C2 1160，我哋睇一睇呢個 Regulation 20 嗰度，呢度都有講到 Regulation 20，我哋而家睇緊 1160 嗰度，見唔見到呀？

答：係。

問：呢度亦都係講出就係啲喉管或者一啲嘅組件，係需要符合呢個英國標準嘅，呢樣嘢你--喺你嘅工作範圍以內一路都即係知道有呢個標準存在，係咪呀？

答：要跟 British Standard，係嘅，知嘅。

問：即係呢個喉管同埋啲其他嘅裝備。

答：唔。

問：如果我哋去 C2 嘅 1172，呢個 schedule 嘅第 17，我哋見到啲有關所講 capillary fittings 等等，要 comply with BS 864，即係我哋所講嘅 British Standard 864，而喺呢一個水務規則入面都講--即係所謂佢所講嘅 British Standard 係即係講最 latest

嘅，一路我哋會用最 latest 嗰個 standard 嘅，所以你一路以嚟，都會對即係個 British Standard 嗰個演變過程，即係個發展都要有認知嘅？

答：可以咁講，因為 British Standard 其實係包含好多嘅物料嘅，我係咪完全--我唔可以話我係完全可以跟得到每一個，不過就因為始終我哋都會係我哋有 specifications 去寫我哋個 requirements，我哋亦都如果我哋發覺有乜嘢唔同嘅，同事去批嗰陣時，就會再研究。

問：好，我哋都睇咗，就係有關葵聯邨嗰個合同入面，我諗我暫時唔使睇呢個螢光幕，睇呢個合同，不過我哋都知道個合同入面因為就佢係採用咗 2008 年嗰個 Specification Library，...

答：唔，冇錯。

問：...咁所以入面都有一啲嘅條款、一啲嘅規格嘅細節係有關 copper pipes、capillary pipes 入面係需要符合英國標準 1245，嗰個你都知道，係咪呀？

答：係，冇錯。

問：其中嗰個規格入面其中一個要求，佢直情係講到明係要即係 lead-free solder 呢樣嘢，你都係明白，係咪呀？

答：係。

問：咁我想問一問你同唔同意咁樣講法呢，就係喺個合同入面咁清楚訂明呢啲咁樣嘅 solder materials 啲焊料係需要合乎英國標準、需要無鉛呢樣嘢，最主要都係因為我哋要跟個法例去做事，要符合嗰個水務嗰個規則嘅，同唔同意呀？

答：唔嗯。

問：咁亦都係你同唔同意就係話用呢啲咁嘅無鉛嘅焊接物，最主要都係個目的都係希望避免啲鉛係因為有害吖嘛，有害嘅物質，就走入去嗰啲水管度，你同唔同意？

答：我哋做 execute 個 contract，contract managers，我哋要根據嗰個 contract 寫嘅 requirements 嘅，如果話由嗰個 contract 嗰個 requirements 點嚟呢，我哋就會係根據由個 Specification Library 嗰度有嘅嘢，我哋就會係 include 落嚟嘅係，我哋 run 個

contract 嗰陣時冇話再特別去睇--即係知要用 lead-free solder，批料就係 lead-free solder，亦都冇再去考慮，因為可能我哋從來都冇喺個 trade 度冇知道話水會含鉛，...

問：唔好咁...

答：...lead with solder，所以我哋就冇考慮呢樣係唔係由一個 lead-free solder，然後佢跟住帶來嘅 risk 係乜嘢，我哋冇去深諗過呢樣嘢，不過我哋會跟 contract，因為 contract 做嘅嘢、寫嘅嘢係會根據 WWO 法例，即係如果佢嗰個 British Standard 係 supersede，咁亦都會到時--即係喺 Specification Library 嗰度會 update 咗，咁我哋係根據嗰度去做，因為我哋都唔知話喺個 trade 度話有呢個問題嘅。

問：我哋先唔好講話 trade 有咩嘢問題先，先好簡單以常理嚟到去諗，我相信你都唔會唔同意就係話即係鉛呢樣嘢一般嚟講，大家都知道對人體有害，呢樣嘢你唔會唔知嘅，係咪呀？

答：我諗我哋大家都喺細細個嗰陣時都睇過話細路仔玩嘅嘢就唔應該有嗰啲 paint 有鉛嘅，我哋 basically 係由嗰度都會有得知呢樣嘢嘅，咁有幾多鉛然後先有害，呢樣就我哋未去研究過嗰樣嘢。

問：我哋暫時--唔係講緊幾多鉛嘅問題，我哋就係講話個法例要求，你剛才都強調，法例係要求即係你要跟英國標準，英國標準都講咗係無鉛嘅，咁所以你要有一個咁樣嘅合同嘅制訂，寫到明無鉛都係希望--常識嚟講，都係希望鉛呢一種大家都知道有害嘅嘢唔好喺製造呢個水喉嘅過程之中係用，你同唔同意咁嘅講法？

答：我唔係做 drafting of specifications，當時去 draft 嗰陣時嗰個 intention 係乜我唔清楚，不過就如果係喺嗰個 regulation，據我最近所了解，就係話當個 British Standard 係 update 嗰陣時，咁可能兩個 British Standard 係有所差異到，或者係個清楚程度，咁亦都會 as 一個 specification drafter，佢會想係等大家無論 contractor 或者 project team 都易睇啲，易做啲，可能將一啲嘢係清楚啲寫出嚟咁解，喺個 British Standard 裏面所有嘅 requirements 係抽咗出嚟，如果話係上一個 British Standard 係有寫清楚，而跟住嗰個可能都有少少令到會難明白到嘅，咁所以我--可能我估計係咁，所以會寫咗出嚟。

問：我諗我再問多最後一次，即係其實我個問題好簡單，就係呢個你要喺個合同制訂講到明無鉛，都係唔想有鉛呢樣嘢係引致到鉛嘅物料滲咗

啲鉛落去啲水喉工程入面，同唔同意呀？

答：我所--因為我唔係 draft 嗰個 specification，我唔知個 intent --最先個 intent...

問：亦都係呢個答案，即係你唔係 draft...

答：我只知道一定會係跟法例要嘅嘢。

主席：你係唔係個 drafter，不過你喺你嘅 witness statement 嗰度，都話你已經起咗三十蘴公屋㗎囉喎。

答：我 involve 三十個項目。

主席：係喇，involve 過三十個公屋嘅 project㗎囉喎，由 inception、design、tender、construction 去到 completions。

答：咁係我諗係一個問題，即係如果話即係法例要嘅嘢，我哋做咗落去，但係有時個 building industry 裏面好多時做嘅嘢最源於係乜嘢，或者佢--其實係最緊要佢跟住會一牽連帶動嘅 risk 係幾多，就未必係我哋會知得到嘅，或者我哋 aware 到，可以咁講，唔係唔知道，而係唔 aware 到，如果話一個 trade 一路係做，而係做咗好耐，亦都冇喺任何喺 trade 或者喺 regulatory 嗰方面有警覺過我哋，我哋就係--我哋跟番個 trade practice 一路去做。

主席：唔係，即係我哋知道外國就有啲 leaded solder 裏面就有 lead 出現咗，係咪？外國就知，即係你而家係咪想話畀我哋聽香港呢個問題從來都冇存在過嘅，香港不嬲都冇呢個問題，係咁蹺 2015 年 7 月先至喺呢個公共屋邨裏面出現嘅啫，即係因為你成日都講話「Trade 又冇問題，我哋又唔知，出面又唔知，我哋又唔知，總之個個都唔知。」咁即係換句話嚟講，呢個咁嘅問題，香港從來都唔係一個問題嚟嘅？

答：我唔可以講話呢個事情話喺個 lead 裏面有 solder 呢樣嘢係唔係一定係喺歷--即係呢幾十年度係冇，不過就係問題嗰個我見到係...

主席：唔係，香港，香港，我淨係講香港啫。

答：係，我就話香港，係喇，即係我哋呢--我諗係八十年代開始用 copper pipes，但係就係事實有冇--如果話喺出面--個市場出面有一個建築物要試下先知有冇嘅，但係我哋冇呢個資料，但係問題我哋只知道係

冇--呢個問題冇出現過，即係冇喺--提醒話「啊，呢個危機出現過或者提出嚟」，係可以咁講。

主席：Okay，即係你嘅意思就即係因為呢個從來都唔係一個問題，咁所以你哋就搬字過紙嘅啫，「個 specification 咁寫，咁咪於是乎咪將佢 transfer 咗落去個 contract 嗰度囉，實際嘅原因係點解呢，就唔知嘅。」係咪咁嘅意思呀？

答：我諗我哋係會將嗰個 British Standard 裏面有嘅嘢，咁法例又話要跟 British Standard，我哋亦都會去根據而去寫出嚟。

主席：我知，即係其實你都未--不過我諗我再問落去，你都唔會答我㗎喇。

繼續。

問：或者我去另外一個問題度。睇一睇呢個葵聯邨呢個合同先，喺 4.2，B4.2 3483，我哋先睇下--或者我哋先睇一睇個書面先，3405 就係呢一個葵聯邨呢個興建項目嘅即係你哋所講個 contract，contract booklet，3405。

答：係。

問：係咪呀？

答：唔。

問：如果我哋睇一睇 3483 嗰度，特別有個叫做 specification 嘅，呢度我哋睇到呢度就寫話個"Specification referred to in the Articles of Agreement and Conditions of Contract shall be deemed to include all of the following"，其中一個就係我哋剛才有提過，個 Specification Library 2008 嘅，係咪？

答：唔嗯，唔嗯。

問：好喇，咁我又想你去睇一睇，喺呢一個 contract 裏面，因為我哋知道其實你呢個 contract 入面有啲內容，其實唔係完全跟晒 2008 個 specification 嘅，咁我哋又睇一睇有關嘅內容先，3547，如果我哋睇下 3457 嗰度，就 3457、3458，一路去到 3459，就係講緊--對唔住，3547、3548、3549 呢三頁都係講緊一啲有關喉管同埋啲喉

管嘅組件同埋個 joints，即係嗰啲 pipe joints，入面所要用嘅物料嘅，睇唔睇到呀？

答：唔嗯，唔。

問：喺呢度，我就睇唔到係特別有任何嘅 specifications 係講呢個 soldering materials 嘅，係咪呀？

答：唔嗯，唔嗯，唔嗯。

問：咁所以如果我哋要嗰個--你同埋個承建商就住 soldering material 入面嗰個要求，就一定要係--大家走去睇番 2008 年嘅 Specification Library，先至會知道個要求，就喺你制訂呢一套--即係就住葵聯邨特定嘅呢一套 contract 入面，就冇特別咁寫出嚟嘅。

答：唔嗯。

問：我想問下點解你唔直情係將嗰啲要求就咁將 2008 年個 Specification Library 嗰度擺喺入面呢？而要透過一個間接嘅方法去睇 Specification Library 先至知道其實對於 soldering material 嘅要求喺邊呢？

答：我諗呢個係有關我哋製作 Specification Library 嘅 practice，2008 係一個--當時一個 library，如果再後一個，我哋通常幾年 review 一次，中途如果有啲 clause，某啲 clause，唔係淨係 plumbing 呢一度，可能 concreting，可能 plastering 嗰啲，如果中途有需要覺得要 update 嘅，咁就可能 specification team 嗰面就會出咗個新嘅即係 clause，咁我哋中途如果即係我哋一零年咁，當係一零年咁，做 tender 嗰陣時，如果有個新 specification clause，所以我哋就會 include 埋嚟，咁個 clause 我哋就唔會將成個 08 咁厚嘅咁就擺落去，我淨係會話 revise 咗乜嘢或者加咗啲咩嘢。

問：即係你...

答：所以即係主要即係變咗係少量嘅，可能即係我哋有要--需要去 revise 可能係少量嘅，多嘅咁咪喺--去番個 library 去睇囉。

問：你嘅意思係咪咁呀？即係話喺呢一個有關葵聯呢一個 contract --特製嘅呢個 contract 入面，所擺落去 PLU1 入面嗰啲內容係即係有

改動過嘅，你先至會加落去，你係咪咁嘅意思呀？

答：應該係。

問：即係改動過嘅意思即係話同 2008 Specification Library 可能有唔同嘅，你先至係講出嚟，如果同佢一樣嘅，就唔講出嚟，係咪咁嘅意思呀？

答：應該係。

問：點解我問你呢個問題呢？就係因為你咁樣嘅制訂嗰個合同嘅方式就對於你下一浸，即係個 main contractor，嗰個總承建商同埋個二判佢哋個合同會有少少關係，我帶一帶畀你去睇下，睇一睇 K1，K1 800 嗰度就係-- K1 800 就就住瑞安同埋水喉工程嘅二判個合同嚟嘅，嗰個 subcontract 嚟嘅，咁樣我哋見到佢哋喺呢個 subcontract 度就亦都有附加咗一啲你哋 main contract 入面一啲嘅規格落去嘅，我想知道首先就係就住呢啲咁嘅 subcontract，你哋房署會唔會要求嗰個總承建商如果佢同一個 subcontractor 有一個 subcontract，要將個 subcontract 要交畀你哋睇一睇，有冇啲咁嘅 practice？

答：冇呢個 practice 嘅。

問：冇呢個 practice，好。

答：我都係有關呢個瑞安同埋何標記呢個任何一個 subcontract，如果有 documents，都係呢個事件之後，鉛水事件之後，我哋做 investigation，然後要求瑞安「你畀多啲資料我哋喇。」咁，然後畀我哋嘅，因為我哋係直接係冇同呢啲 subcontractors 係有任何合約嘅關係。

問：咁我想問下，如果你哋唔話要求去睇一睇個 subcontract，呢個總承建商同埋嗰個二判喺制訂合同嗰陣時，係咪可以能夠完全符合你房署嘅要求，我哋講緊制訂合同嗰個過程，你哋就冇乜得監管，睇唔到嘅囉喎？

答：因為總承建商嘅責任係做晒所有喺個合約以下要求要佢做嘅嘢，而佢點去分判呢，就係由佢自己去做嘅呢樣嘢，我哋唔係做 construction management，係總承建商嘅責任做佢自己嘅 construction management，不過佢係有責任，我無論佢係分判畀邊個，佢都有--佢可能會分判一啲，然後有啲就畀第二個做，可能

佢自己去買料，做嘢就係個 subcontractor 做，咁無論係點，就係總承建商嘅責任，對我哋房署--房委會嚟講。

問：好，如果我哋睇下呢一個二判個合約入面，就都附加咗你哋嗰個 main contract 入面嘅一啲條款，其中就係 857 嗰度，857 就係我剛才帶你睇過，857 至到 859 都係有關你哋就住葵聯呢個特定嘅 main contract 入面，就住 PLU1 入面嗰啲制訂嚟嘅，見唔見到呀？

答：唔嗯，唔嗯。

問：咁所以如果你哋冇特別話要求個 subcontractor 將個 subcontract 嘅內容畀你哋睇，而你哋本身個 main contract 又冇將所有有關材料嘅要求寫晒出嚟嘅話，咁可能去到 subcontractor 個 contract 入面嘅時候，就會失咗真，即係有部分會唔見咗，你同唔同意我咁嘅講法？

答：我只可以話總承建商佢有咁嘅責任，佢負責，佢點分判係佢嘅問題，而佢亦都我諗做我哋嘅總承建商亦都好有經驗做我哋房委會嘅合約，我哋點去安排啲合約，啲 requirements 寫喺邊呢？寫喺呢本書吖，定第二本書吖，或者真係 print 出嚟畀佢呢，佢係好清楚嘅，咁亦都可以--我諗即係總承建商可以作--喺佢自己嘅 statement 去講嘅。

問：即係你嘅意思即係話就住總承建商同埋二判佢哋嘅關係，有關合同嘅制訂係唔係真係可以完全符合你哋 main contract 入面嘅要求就信晒承建商㗎喇？

答：係總承建商嘅責任嚟，係。

黎先生：我可唔可以好簡單咁問一問？頭先譚女士你講你哋好倚賴嗰個總承建商去遵從嗰個合約嘅內容嚟到做嘢，係咪呀？

答：係，冇錯。

黎先生：所以實際上你個合約入面寫得好清楚要佢哋係用一啲係無鉛嘅焊料，包咗喺嗰個係啲合約入面，所以就期望嗰個總承建商就會依照合約去做，咁總承建商亦都會係將呢個合約係再如果分判嘅話，亦都將同樣嘅條款加咗喺佢哋嘅合約入面，我哋睇嗰啲合約睇得到，佢哋加咗喺入面，喺佢哋嗰啲同分判商之間嘅合約，總承建商同分判商嘅合

約，二判，都加咗入去入面，叫佢哋話係用一啲無鉛嘅焊料。

答：我可以--雖然我唔係聽得好清楚，但係我了解你個問題係咪話係我哋有冇留意佢哋同分判商嘅合約...

黎先生：唔係，唔係冇留意，...

答：唔係...

黎先生：...即係頭先你話冇睇過吖嘛？

答：冇嘅，我哋冇，我哋根本唔會問佢攞，佢亦都冇畀我哋。

黎先生：係喇，即係你冇睇過，係我知，你講你冇睇過，即係我意思講法就係咩嘢呢？係房委會同總承建商嘅合約入面就講得好清楚就唔可以有鉛嘅焊料，因為你哋根據嗰個 specification 嚟去制訂嗰個合約吖嘛？

答：唔，唔。

黎先生：但係你就冇作出任何嘅監察嘅行為嘅，但係你要求個總承建商做嘅嘢，就算佢分判出去之後嗰陣時，都係要遵從嗰個原本嗰個合約--主合約嘅內容嘅，咁所以我哋睇得到嗰個嘅總承建商佢畀嗰個分判商嗰陣時，佢哋簽約嗰陣時，亦都有提醒咗嗰個係負責分判嗰個人係要遵守嗰個主合約嘅內容嘅，咁但係嗰個總--睇落去，總承建商未必亦都會走去監察，我哋遲啲或者可以睇得到係咪嗰個分判商係真係好嚴厲咁遵從嗰個合約嘅內容，係防止有呢個焊料嘅--有鉛焊料嘅使用嘅，咁變咗出嚟有少少我啲睇法落去，大家都一個責任互相轉移，即係畀另外一個 party，即係房委就畀總承建商，總承建商就可以係畀咗落去呢一個分判商，但係如果係嗰個總承建商知道房委或者房署都唔會走去監察某一啲條款嘅話，大家就變咗覺得「我都無需要做，因為房委、房署都唔會 check 我嘅呢一類嘅工程嘅，有冇用焊料嘅。」咁所以嗰個嘅分判商就亦都唔會--就知道冇人會 check 嘅。即係會唔會有咁樣樣嘅情形出現呢？

答：或者我從另一角度去可以解釋，因為總承建商佢嘅責任係一個 continuous supervision，而我哋房委會，我哋嗰個 site inspection team 係 periodic supervisions，咁佢有責任去睇-- continuous supervise，係 make sure 佢喺地盤做嘅嘢係跟隨合約，而我哋一個 periodic supervision，或者用一個 risk-base 去睇，我哋覺得會可能--我哋已知嘅，覺得係有個 risk

喺度嘅嘢，我哋會係會加埋落喺我哋個 periodic supervisions 嗰度，咁所以我哋係 on-site delivery，我哋係有啲 items 我會真係做 on-site delivery checking、verifications 嘅，但係我哋呢啲係包括我哋覺得會係--即係我哋知道有個 risk 喺度嗰啲，我哋會包咗落去，但而係 contractors 嗰方面，佢就應該去 check 晒佢，特別佢 submit 過 approve samples，佢喺嗰個 contract requirements 就係有特別去講明嘅，呢個就係由佢去做㗎喇會係，即係我唔可以一千樣，...

黎先生：即係你嘅期望...

答：...因為我喺個 statement 都講過，一千樣 materials 喇係，我哋都會用一個 risk-base 去，然後安排我哋既有嘅資源而去做嘅，咁變咗唔係一千樣睇晒，我哋可能一千樣裏面幾多樣嘢我哋會去睇，而總承建商佢亦都由佢個 risk-base，然後去睇幾多，然後但係佢自己都有責任去 make sure 啲嘢係 meet contract defines。

黎先生：即係你嘅期望就係總承建商去 check 就係百分百嘅，而房委會、房署去 check 總承建商就係隨意嘅，係可以係零嘅？

答：唔係隨意，唔係零，我講過，我哋有個基準嘅，我哋咁耐嚟，喺 over the years，我哋有個 site inspection system 嘅，要做幾多，我哋有啲 manual、有 guideline 話畀我哋 site inspection team 要做幾多嘢嘅，咁呢個係一路積累嘅經驗，亦都係由以前個--即係我哋個 risk --我哋既知嘅 risk，然後就擺咗落去 develop 我哋呢個 system，而係根據呢個 system 去睇，我哋一定唔會畀嗰個 supervisions 嗰個程度嘅人手係可以好似 main contractor 可以畀到咁多，有時或者需要喇，如果唔係，我哋--最先我都係講話我哋房委會係做一個 tender 嗰個 system，就係請一個 contractors 返嚟，聘用一個 contractor 返嚟，佢要做晒所有個 continuous supervisions。

問：就住呢個你而家講緊呢個 continuous supervision 或者係 periodic supervision，我都想有啲問題要同你釐清一下先嘅。第一樣嘢我想講一講嘅就係有關啲物料嘅一啲樣本嘅檢測同埋核准嘅呢方面，我哋之前都聽過啲證人講，就住呢啲物料嘅核准或者檢測，就係--我哋而家講緊係啲物料未大批送到嚟地盤之前，即係就住啲樣本嘅。

答：Sample submissions，係咪呀？

問：係喇，就係嗰啲 sample submission。

答：係，樣本 submissions，係，你講，係。

問：我哋都知道，PLU1 就冇規定係需要提交樣本嘅，除咗有某幾種之外。

答：有兩樣，除咗兩樣。

問：主要佢都係需要承建商--總承建商去提供嗰啲有關 sample 嘅 materials，即係啲文件。

答：文件，係，唔係 sample，係文件。

問：係喇，係咪呀？

答：係。

問：PLU2 就需要有 sample 嘅，係咪呀？

答：係，寫明嗰啲就要有嘅。

問：好喇，我又想同你討論下呢個 PLU1 幾時要 sample、幾時唔要 sample 嗰個情況，PLU1 我哋都聽過，之前有幾位證人都講，就係 PLU1 雖然喺個合同入面，喺個 specification 入面係唔需要佢畀 sample，但係一般行內嘅做法，你哋房署入面個 practice 都係--都有唔少嘅物料係需要總承建商提交嗰個實物嘅 sample 嘅，係咪咁呀？

答：Sorry，你話 PLU1 我哋...

問：1，係。

答：1 我哋需要佢哋定係...

問：係，係喇。

答：我諗如果我哋 contract requirements 冇寫話需要佢哋畀 sample 我哋，當佢做 material proposal submissions，冇需要佢畀 sample 呢，我哋唔可--即係除非我出咗 instruction，叫佢一定要做，唔係，佢係無需要去做嘅，不過如果佢肯畀埋我哋睇嘅話，我

哋亦都唔會唔睇，係吖嘛，係咪呀？係喇。

問：咁即係話你哋嗰個做法就係話靠佢哋畀唔畀，就唔係話你哋做主動去要求 PLU1 有邊啲物料你需要畀樣本嘅，唔係咁嘅，總之「你畀，我就睇，你唔畀，我就唔睇。」係咪咁樣呀？

答：係，因為嗰個 specification 寫得好清楚，我哋需要嘅 requirement，我咪擺咗落去囉，好似 PLU2 話需要佢畀嘅，譬如廁所個樣係點，佢咪要畀我睇下先囉。

問：好，因為我哋尋日聽一位總呢個屋宇裝備工程師個證供入面，佢都話其實你哋都會有一啲嘅所謂一個 list 或者一個 instructions，係講關於 PLU1 啲物料邊啲係需要總承建商提供嗰個實物作為樣本檢測嘅，你有冇任何印象，對於呢樣嘢，即係對於個 list 或者對於呢個 instructions，有冇啲咩嘢印象呀？

答：呢個冇，如果有，都係我即係早前㗎喇，所以我冇呢個印象。

問：你會唔會畀 instructions 畀例如你嘅同事，即係話「嗱，就住呢個工程，有某幾樣物料你哋係需要總承建商係呈交呢啲實物作為樣本嘅。」有冇啲咁嘅情況係你需要畀 instructions㗎，PLU1 咁樣？

答：喺我由四月一號開始嗰陣時，我未出過咁嘅 instruction，未畀 instruction 畀同事，如果--但係因為我去到個 stage 都係一個 completion stage，好晏，即係要 submit 嘅 sample 應該都 submit 晒已經係，如果你話之前嘅，我唔覺得佢哋會有出過，我唔為意佢哋係有出過，通常我哋都會係 specifications 係需要話要做嘅嘢就要去做，要 contractor 去做。

問：好喇，就住呢個葵聯呢一個項目，PLU1，你即係會唔會有記憶就係就住 PLU1 所用嘅材料，記唔記得有邊幾種係總承建商係有提交過呢個樣本畀你哋去檢測同埋審核？

答：我諗呢啲我要啲番 record 先知，因為好多。

問：好，好呀。

答：但係我知道因為即係一路都係講 soldering 事件，咁亦都叫咗同事啲咗，呢個 soldering 佢係有入到嘅。

問：好，我哋知道...

答：雖然我哋喺個 contract 冇個 requirements。

問：你講得啱，就係 soldering material，你哋當時就係有收過瑞安嗰邊呈交畀你哋嘅一啲樣本，即係實物嘅樣本，再加埋有啲有關呢個焊接物入面嘅一啲文件嘅，即係有關呢個焊接物嘅文件嘅，你哋都收過吖嘛，我畀你睇一睇呢個...

答：係，知，知。

問：...B15.2 嘅 38148 先。

答：得，我 exhibit 有，都有嘅。

問：38148 入面，我哋見到呢一張就係你哋房署嘅 sample submission 同埋 approval form，呢一張紙入面就對有幾種物料都係進行過一啲樣本嘅檢測同埋核准嘅，睇唔睇到呀？

答：唔嗯，唔，唔，唔。

問：我哋暫時淨係睇 38148 先，係咪呀？

答：係，okay。

問：第 4 項嗰度我哋睇到，亦都有呢個"Brazing Alloys"同埋"Soldering Alloys for Copper Fittings System"，就"Hot and cold Fresh Water Supply System"嘅咁樣，呢個就冇特別提到嗰個物料嘅名嘅，不過如果我哋睇番後面，就應該會知道清楚啲，就係我哋見到 38161，睇唔睇到有個 Fry 99C lead-free solder wire，係咪呀？

答：Yes，係。

問：跟住我哋見到有個 test report 添嘅，就係 38163，一個 Nutek Systems Limited 出嘅一個 test report，係關於呢一個呢隻 Fry 嘅牌子，係咪呀？

答：唔嗯，唔嗯。

問：入面你睇到嗰個 chemical composition test，嗰個含鉛量就係 0 嘅，見唔見到呀？

答：Yes，係。

問：咁所以我相信當時你哋嘅同事都一定係有收過嗰個實物嗰個樣本，再加埋有收過呢啲 Fry 嘅有關資料嘅？

答：係，係，係，我見到佢簽到 approval 嘅。

問：好喇，我想知，就係你對呢啲咁嘅樣本或者樣本文件嗰個資料核實、驗證，個目的都係希望就係有呢個咁嘅紀錄，第二時如果啲貨送到嚟嘅時候，咁起碼你即係有個根據喺度 check 番啲貨啱唔啱，係咪咁樣？

答：呢個物料，如果你話 in general，其餘我哋真係需要去--我哋寫到明佢需要 sample submissions 嗰啲，我哋都會係有個原因，即係譬如個廁所有個顏色咁，當你個洗面盆有個顏色咁，顏色有好多種，或者個 paint 有顏色，咁呢啲我哋一定要佢畀 sample submissions 嗰啲，咁真係我哋攞嚟就會喺 delivery 嗰陣時我會去 check 下係同唔同顏色或者 dimensions 同唔同，但係其實呢個 Fry 呢個，即係個 soldering materials 喺我嘅 PLU1 嗰度係冇 require 個 sample submissions 嘅，不過佢上到嚟，我哋都會睇嘅，佢 material proposal 上嚟，話畀我哋聽，我哋睇過 testing report okay 嘅，咁咪接受呢個物料囉。而家佢上到個 sample 嚟，我哋會照一般我哋有 sample 嘅做法，攞番喺我哋個 sample board、sample room 嗰度嘅，我哋再有冇去用呢？因為唔係我哋原本要佢入嘅 sample，所以如果話其餘，譬如洗面盆，我哋要有 sample，我就 on-site delivery check 去睇，呢個佢 sample 入嚟，我哋冇一個--即係我哋基本冇叫佢入，所以我哋都冇一個基本原因個 sample。

問：咁填呢份 form，睇咗啲 sample，睇咗啲咁嘅 test report，咁多嘢睇完，查證咗，Fry 呢個 99 掂㗎喎，好，剔咗、剔咗、剔咗，簽埋名，簽晒名，同事，冇用㗎喎原來呢樣嘢，廢㗎喎呢個做法，成個做法冇意思，因為根本即係你所講就話「哦，都唔會攞嚟查㗎喇跟住。」完全冇用㗎喎？

答：但係 material proposal --可以咁講，我哋--係基本冇要求去做，係咪？我哋合約係咁寫，頭先講過，合約係咁寫，冇要佢做 sample submissions，係咪？冇要佢做嗰個--即係總之佢冇 submission 上嚟，咁佢做，我哋咪 take 一個 evidence，就做 mark 落嚟，我哋唔會話「我冇要你做，你又做上嚟。」我掟番畀佢㗎嘛，我哋就照睇咗，睇咗，然後有一個 record，如果有--譬如而家呢個事件咁，我哋亦都可以攞番出嚟，而證明佢係上過 submission 上嚟，即係有

啲 verifications 上面冇--即係 contract 上、合約上需要做嘅嘢就係咁。因為我哋點解當時冇要佢 sample submission，因為我亦都係一路成個 trade，我哋房委會、我哋房署係唔覺得呢個係一個--唔知道會產生問題，咁所以個 specification 冇話 sample submission requirements.

問：其實你講咁多，你其實係咪即係都係同意我嘅講法，就係話由於你呢啲咁嘅 sample 呢啲物料，就唔係你 contract 要求要畀樣本嘅，...

答：係，佢係一個 general practice。

問：...人哋畀咗喇，你雖然大費周章做咗咁多嘢，其實都係對成個建築工程，跟住落嚟冇用嘅？

答：有用，對 contractors 有用，可能佢--雖然我冇 requirements 佢要上，但係可能佢 for whatever reason，佢都想問我哋攞個 approval，畀我哋睇一睇啱唔啱、啱唔啱合約要求，我哋咪幫佢囉。

問：我明，我明，我個問題係...

答：我哋係要為呢個 counterparties，我哋係去做呢樣嘢嘅。

問：好，啱，合唔合要求，做咗喇，合喇，剔咗喇，做完呢一樣步驟，核准咗之後，呢啲咁樣嘅核准對跟住落嚟嘅工程冇用可言嘅，同意嘛？

答：有意義在係佢可以--如果 main contractor 佢盡晒佢個責任嘅話，佢就會話畀分判商聽要去做呢樣嘢，如果分判商有責任喺度，而佢亦都有責任而係根據呢樣嘢，然後去睇，係實際係做到，咁亦都係我可以補充...

主席：冇意義嘅，因為呢樣嘢根本原本就係分判商交畀總承建商嘅，唔係承建--呢啲係分判商交畀承建商，叫承建商交畀你房署，冇意義㗎，下面上嚟㗎嘛。

答：唔係...

主席：使乜又喺你上高又落番去話畀佢聽要用呢一隻嘅？

答：我諗我哋對個合約上，個關係就對總承建商，總承建商有需要問我哋，我哋亦都會去答佢，幫助佢一齊去睇。

問：好，實際嘅情況就係，而家畀咗呢個 Fry 你，核准咗，到時如果現場嚟嗰隻唔係 Fry 嚟嘅，係隻"Cry"嚟嘅，冇人知，係咪呀？冇人知㗎喎，同唔同意呀？

答：如果總承建商有做佢個 continuous supervisions，佢應該係會知。

問：說到底，唯一嘅把關，你就話信總承建商，同唔同意？

答：當時嗰個 site inspection system 係咁，因為嗰陣時係成個 trade 成個行業覺得係呢個唔係一個 risk，唔係一個問題嚟，自從呢件--呢個水事件呢度，我哋亦都係已經 update 咗我哋嗰個 inspection system，亦都要嗰啲 soldering materials，而家落地盤，我哋會去 check，我哋亦都將我哋張 inspection form 亦都係--最近亦都係 update 咗，自從呢件事，我哋發覺亦都連嗰個行業都發覺係有呢個問題，因為我哋一路都係跟法例上，我哋唔知有水有鉛呢個問題存在，或者係 solder 會令到--即係會跟住因為係 solder，然後點樣到落去水，水，然後跟住--然後先令到個水有鉛，即係一系列嘅步驟，唔係純粹淨係話鉛對身體有冇害，即係細個時梗係知，有關嗰個玩具係即係啲 paint 唔好有鉛呀咁。

主席：我都想同你跟進呢一個問題，即係所以你嘅證供就係話鉛有毒你係知道嘅，鉛有毒呢個一個好概概括性嘅問題啫，就係鉛有毒你係知道嘅？

答：如果好 general 咁講，可以，但係其實如果而家我先識睇呢個水位，咁係咪要零點--即係幾多、幾多、幾多分之幾...

主席：唔係，唔係，唔係，咪住先...

答：...先係真係有害呢，對健康，其實都係一個我哋需要考究，即係專家先識考究嘅問題呀真係，因為冇話 zero 呢樣嘢，即係要 above zero 一定有害呢樣嘢。

黎先生：主席問你一個好簡單嘅問題啫。

主席：好簡單嘅問題啫。

黎先生：就淨係問你鉛有冇毒啫。

主席：鉛有毒你知道係一個問題。

答：係，in general，可以咁講。

主席：知道，okay，好喇，跟住下一個問題，聽清楚囉喎。你知唔知道食水含鉛喺好多國家都曾經出現過問題呢？

答：呢樣係唔為意。

主席：即係你唔知道嘅？

答：唔為意，冇--我哋呢個 concept 即係冇嚟過。

主席：唔係，你，你，你。

答：我自己，係，冇研究過呢個問題，...

主席：唔係，唔係，我...

答：...冇諗過呢個問題。

主席：冇，好喇，我個問題好簡單，我再重複多一次，就係你知唔知道食水含鉛喺好多個國家曾經出現過問題？知道抑或唔知道呢？

答：冇為意過呢個問題。

主席：知道抑或唔知道呢？

答：喺發現呢個事件之前，鉛水事件之前，我可以話 at 嗰個 moment，我唔知道。

主席：Okay，即是換句話嚟講，你就唔知道以前啲食水管就係用鉛造嘅，就因為啲食水管用鉛造，所以就令到啲食水有鉛，呢樣嘢你亦都唔知嘅，係咪咁呀？

答：可能係曾經讀書時知過。

主席：咁即係而家我又返番去...

答：我哋係一路個 trade 冇提過呢樣嘢，亦都喺香港度，我唔為意係有--...

主席：唔係...

答：...即係喺我哋即係呢個年代，唔為意有鉛水管。

主席：而家我又返番去頭先嗰個問題，知否食水含鉛喺好多個國家就曾經出現過問題呢？其實就係第二個問題嚟嘅，即係我而家又返番轉頭去問你啫，咁知道抑或唔知道呢？

答：我頭先好似答咗唔為意，唔知道。

主席：唔知道，得。

答：係喇，可以講話係簡單，如果你要講知定唔知。

主席：好喇，即係你完全唔知道嘅。好喇，跟住如果你呢條問題都唔知道嘅話，咁即是話--不如我都開放式咁問，知唔知道係乜嘢原因引起呢啲國家有呢一個食水含鉛出現問題呢？乜嘢嘅原因，乜嘢嘅嘢導致呢啲國家係曾經出現過食水含鉛嘅問題，知唔知道呢？

答：我冇睇過啲報告，我唔知道。

主席：Okay，咁如果我話畀你聽基本上有兩個原因，第一個就係用鉛造嘅水管，第二就係用鉛造嘅焊料，咁你又知唔知呢？

答：我頭先話冇睇過個報告，所以我唔知道，咁而家...

主席：好喇，得喇。

答：...即係呢排好多嘅討論，...

主席：得。

答：...咁而家我諗好多人都知道。

主席：唔係，我想知道下，因為你哋作為 chief architect 嘅認知啫。好喇，既然如果你--我剛才所講嘅嘢你都唔知嘅話，我都問你一個開放式嘅問題，你知唔知道係駁呢啲水管嘅焊料係有兩種呢，就一種就

係有鉛，一種就係冇鉛嘅呢？

答：我哋只知道食水管我哋駁，我哋要求係無鉛嘅，亦都喺個 trade 裏面一路都係用無鉛，...

主席：唔係，唔係，唔係，...

答：...所以我就只知道係無鉛。

主席：你呢個係你而家先至知嘅啫，啱唔啱呀？

答：唔。

主席：即係之前你都唔知嘅？

答：唔知會有人用有鉛嘅 solder。

主席：唔係，唔係，唔係，因為如果你既然唔知道係焊料裏面含鉛，含鉛嘅焊料曾經喺其他嘅地方係引起過食水含鉛嘅問題，你理論上好 logical，你都唔會知道嗰啲焊料係有鉛抑或冇鉛，因為冇意思嘅，啱唔啱呀？

答：我諗可以咁講，因為你頭先講嘅所有嘅事件都係有關個食水嘅問題，係咪？嗰啲 report 喇係，咁我頭先嗰個...

主席：唔關--完全唔關 report，我只不過問你一啲你知道唔知道嘅問題。

答：係，係，係，啲事件，事件，係，係。

主席：係。

答：咁有關食水喺外國嘅問題，我頭先講過我唔知道，唔為意，而喺有關香港，而我哋喺我哋嘅 project，全部都話要唔含鉛嘅 solder，咁我亦都覺得--知道我哋全部都為--個 trade 係一路用緊㗎喇係，咁所以我唔為意、我唔知道會有含鉛嘅--有人會用含鉛嘅 solder 喺食水管嗰度，可以咁講，如果話寫得--如果個 specification 話寫得 lead-free 嘅，咁即係話有--即係相對嚟講，一個 logical thinking，就 solder 梗係有另一隻係有 lead㗎喇，咁喇，如果你問我知唔知冇 lead 嘅 solder 定係冇 lead 嘅 solder 呢係，但係就用喺用喺係--即係用番喺呢個 case 嗰度，即係話喺食水管，而呢一個行內嘅 practice，我諗我哋全部都唔知道係...

主席：得，唔緊要。

答：...會有人用含鉛嘅 solder。

主席：得，即係所以返番去我問你嘅一連串嘅問題，即係其實你嘅認知程度就只係去到第一個 level--第一個問題，就係鉛有毒你係知嘅，就係咁多喇？

答：喺唔同情況之下，我唔特別知係水--我只知係--我哋如一般人，都知，細細個知道玩具就唔應該有鉛嘅 paint，即係呢個係最早知有關鉛對人嘅影響，可以咁講。

主席：係呀，含鉛嘅汽油都畀取締咗，係咪？因為空氣裏面太多鉛，係咪？呢樣嘢你都知喇？

答：係，係，即係我呢一個，係，可以係，係。

主席：好。

答：More recently 即係 example，係。

主席：好，我哋今日聽住咁多先，好唔好呀？

許先生：大家都需要休息下。

主席：好，咁我哋聽日再繼續，唔該，okay。

2015年11月17日

下午4時26分聆訊押後

Tuesday, 17 November 2015

(10.03 am)

(Transcript of simultaneous interpretation except where otherwise specified)

MR NG TAT KWAN (on former affirmation)

(Evidence in relation to Un Chau Estate)

Examination-in-chief by MR YIN

MR YIN: Chairman, in compliance with your instructions yesterday, my instructing solicitors have helped me to do a checking on Mr Ng's written witness statement in relation to Un Chau Estate Phases 2 and 4. This statement was compared with the statement on Kai Ching Estate to see where there are differences.

This morning, I am going to tell you which parts of the statement are the same, and then after that I will only go to the parts where the statement is not the same.

(In English) This is the witness statement of Ng Tat Kwan, the chief building services engineer of Un Chau Estate, Phases 2 and 4.

(Via interpreter) Paragraph 1, the first sentence, I don't need to read it out.

"(In English) The statement addresses matters relating to one of the 'Affected Estates' being Un Chau Estate Phase 2 and 4 ([comprising] Un Lok House, Un Nga

House, Un Chi House, Un Nei House and Un Kin House)."

(Via interpreter) The first sentence of paragraph 2 needs not be read out again.

"(In English) I have been looking after matters concerning the Construction of Un Chau Estate Phase 2 and 4 as Chief Building Services Engineer/2 from 28 January 2013 until now. The certified completion dates of the domestic blocks in Phase 2 (Un Lok House, Un Nga House, Un Chi House and Un Hei House) and Phase 4 (Un Kin House) of the Estate are 31 March 2008 and 30 April 2008 respectively. I therefore have had to obtain information before late January 2013 from other sources or pursuant to discussions with colleagues for preparation of this statement."

(Via interpreter) Paragraphs 3 to 8 are identical to the statement for Kai Ching Estate. Paragraph 9:

"(In English) BS staff who have been involved in the project are as follows:

a. TK Ng is the CBSE; CS Ho, CK Leung and SW Tse had been the CBSEs in the past since commencement of the main contract;

b. KW Cheung is the Project SBSE; TK Ng, WH Wong and SW Tse had been the Project SBSE in the past since commencement of the Main Contract.

c. HS Ng is the Project BSE; WL Li had been the

Project BSE in the past since commencement of the Main Contract:

d. CL Ng, ST Au and TC Leung were the then Senior Building Services Inspector (SBSI) at different stages; and

e. CK Wong was the then Building Services Inspector (BSI)."

(Via interpreter) Section B, paragraph 30:

"(In English) Material Submissions -- Fresh Water Plumbing System outside Water Pump Rooms.

For plumbing materials used outside water pump rooms, they were supplied and installed by the Main Contractor and were vetted and approved by the Project Architect."

(Via interpreter) Paragraph 10 is the same, paragraph 10 all the way to paragraph 29 are the same, and then paragraphs 31 to 40, the same. Paragraph 41:

"(In English) At the time of completion, CBSE issued memos for respective sections of the Estate to the CA confirming that the BS installations, in which the water pumps and associated pipework installation inside water pump rooms was included, could be certified as substantially complete such that the BS installations could be safely put into use for their intended purpose. This confirmation was issued upon the major BS

installations satisfactorily passing the prescribed tests and inspections. This confirmation for the domestic blocks of Un Chau Estate Phase 2 (Un Lok House, Un Nga House, Un Chi House and Un Hei House) and Phase 4 (Un Kin House) was dated 31 March 2008 and 30 April 2008 respectively."

(Via interpreter) Paragraph 43:

"(In English) In respect of works under the CBSE's supervision and in relation to the water pumps and associated pipework installed by the FSWP Nominated Subcontractor inside water pump rooms, the plumbing materials stated in Form WWO46 and accepted by the [Water Authority] were as installed."

Other parts are the same.

Mr Ng, do you confirm this statement as your evidence to the Commission?

A. Yes, I do.

Cross-examination by MR KHAW

MR KHAW: There is one point I would like to discuss with you, Mr Ng. Yesterday, the chairman and members asked you the same question. Now, for your team in 2002, the specification was changed for the copper pipes.
Of course you told us, at the time in your team, in relation to the evolution of the British Standards, your team added parts relevant of those changes to the 2002

version, which is about leaded soldering materials. At the time, the Housing Authority started discussing about changing the GI pipes to copper pipes, as a choice for contractors. It was about 2002; right?

A. Well, at the time the discussion started about giving contractors an alternative to use copper pipes, and that's why this spec was prepared.

Q. So how about switching to copper pipes? This is one of the reasons leading to the updating of the specifications; correct?

A. Yes.

Q. The Director of Housing, Ms Ada Fung, when she gave evidence, we asked her the same question, that is about changing the specifications in 2002. At that time, what sort of consultation was carried out with the industry? We asked her that. Now, at the time there was this change, within the Housing Department was there an across-the-board discussion? Because if you switch to copper pipes, of course you would be using more copper pipes, but if you change the use of materials, could it pose any risks to public safety, and did you do a comprehensive examination at the time; do you know?

A. I don't have any recollection.

MR KHAW: No impression or --

CHAIRMAN: You said didn't have impression. Is it because

you didn't know or there was not such a discussion?

A. I don't think I knew.

MR KHAW: If there were such a discussion, let's assume there were such a discussion, would your team be involved or would other teams be involved?

A. If there were such a discussion, even if we were not involved or there's the opportunity that we might become involved but if we were not involved, I believe the relevant information would be issued and reached us.

Q. So, if your department did not see the information, it's possible that there was not such a discussion? So if you did not receive the relevant information, it's possible that there was not such a discussion? Because if there were such a discussion you would have received the information; right?

A. Yes, of course.

MR KHAW: I don't have any other questions.

Questioning by THE COMMISSIONERS

CHAIRMAN: Now, the building services -- when compared with an architect, it seems that you, as building services engineers, would have more knowledge about plumbing than architects or chief architects; is that right?

A. Well, yes, a bit more knowledge, I agree. For building services engineers, we have to look after many different aspects. Yesterday we mentioned ventilation, water

services, electrical services, like air-conditioning, and electrical services includes lighting, security systems, communication systems, and so on. Then water services, that includes fire services installations, water pumps. Then of course there are elevators and escalators, and miscellaneous items like rubbish collection system, the access control system in car parks is also -- there are many different items to be covered.

I can only say -- perhaps I can draw an analogy. When compared to a doctor, I would say we are general practitioners; I wouldn't say we are specialist doctors.

CHAIRMAN: You said, if there were such information, you would have known. Now you say you did not know about such information, so it's possible that there was no discussion about the merits of using copper pipes; is that right?

A. You could put it that way.

CHAIRMAN: Now, if I may ask too, for the 2002 document, Development and Construction Board Instructions, I think my understanding is correct. There is one board, under the Development and Construction Division; correct? It's the management board; correct?

A. Yes.

CHAIRMAN: So in other words the document was issued by the

Development and Construction Division? In other words, the division is actually headed by a Deputy Director?

A. Yes, correct.

CHAIRMAN: And under the leadership of the Deputy Director, there is a chief architect (design and standards); is that correct?

A. Yes.

CHAIRMAN: So this chief architect (design and standards) is in charge of all such new instructions? So these are under his portfolio; is that correct?

A. Yes, you could put it that way.

CHAIRMAN: Of course you would require the support of others?

A. Yes.

CHAIRMAN: So what you meant was that, for this chief architect (design and standards), of course he would have input. He would have reported to the Development and Construction Management Board that he would like to do this, and then the instruction would have been issued?

A. I cannot quite recall what happened, but then when I read this DCMBI, I think as far as the contents, the contractual arrangements are concerned, this paper is about such matters.

For this DCMBI, I think it would have mainly been

the responsibility of the chief building services engineer and also the chief QS.

CHAIRMAN: So the best person that we should put this matter would be the one in the role of the assistant director; right?

A. The gentleman who was the assistant director.

CHAIRMAN: Then who was the chief architect responsible for design and standards at that time?

A. I cannot recall.

CHAIRMAN: It doesn't matter if you don't recall.

If I may also follow up here. This is dated 2002. My question is, at the time, you have included copper pipes as an alternative. As far as piping was concerned, did you make reference to the Singaporean experience?

A. The Singaporean experience?

CHAIRMAN: Yes, because Singapore is quite similar to Hong Kong. In both places we have public housing, in both cities, and for our home ownership schemes and for our public housing estates, they have come here to copy from us. Well, I should not say copy; they have tried to make reference from our experience.

A. My recollection is that at that time probably when we talked to the industry, talked to the suppliers, probably this was mentioned, but then it was said that

they used quite a lot of stainless steel pipes.

CHAIRMAN: It doesn't matter. I think I recall that you said that in the private sector, they had used copper pipes for quite a long time, and that's why you have opted for copper pipes. That's fine. But what is your understanding, for the private buildings, they were using copper pipes -- what about the joints? Was it by means of compression joints? Would it be the case that the jointing was by means other than soldering?

A. My understanding is that they were moving more towards soldering joints.

CHAIRMAN: That is in the year 2002? That is in the private sector?

A. In the private sector. I think at the time you could still have the pipes inside the walls. In that case, when the pipes are hidden inside the walls, if you made use of compression joints, then you would take up too much space and it would be difficult to have it inside the walls.

Then, for soldering joints, generally speaking it was more water-tight.

CHAIRMAN: What about press-fit? What about jointing by press-fit?

A. I think press-fit is a more recent development.

CHAIRMAN: When was it?

A. I think I can't say.

CHAIRMAN: Have we been using it in Hong Kong? You know what I am referring to?

A. Yes, I do. I suspect that it has been, but not on a large scale, because for press-fit, the working space required would have been much larger.

CHAIRMAN: Thank you. I don't have any other questions for you.

MR YIN: Another question. Mr Chairman, I've got a few questions to ask Mr Ng.

Re-examination by MR YIN

MR YIN: Mr Ng, I think probably you have already mentioned this in your evidence but I just want to clarify with you. You recall that you have said -- I'm not sure whether it was said by you or by your colleagues -- but then it was said that the Housing Authority, between 1995 and 2002, a certain material was used, that is uPVC-lined galvanised pipes; right?

A. Yes.

Q. The justification being -- may I confirm -- that is, before 1995 you didn't have uPVC lining; you used galvanised pipes, and then over a period of time rusting was found?

A. Yes, I suppose so.

Q. At the time you switched over to uPVC-lined galvanised

pipes, it was felt that the pipes could respond to the problem of rusting in fresh water?

CHAIRMAN: Say it again.

MR YIN: Instead of not having uPVC, you switched over to uPVC-lined galvanised steel pipes. On your part, I think you were trying to address the quality problem in fresh water, because at that time pipes were having an impact on the quality of fresh water, namely rusting, so it was addressed?

A. Let me supplement. In fact the Water Services Department did not allow for iron pipes anymore, and uPVC-lined steel pipes was one of the options.

Q. You went on to explain to us as to why, in 2002, copper pipes were also added to be available to the contractors to choose from. This is because you were of the opinion that the performance of copper pipes, that is what it could achieve when compared with uPVC-lined galvanised steel pipes were similar?

CHAIRMAN: No, because it was not available outside, and then during the renovations they were all using copper pipes.

MR YIN: Yes, but then at the time it was believed that for the two materials, the performance was more or less the same.

CHAIRMAN: What do you mean by "performance"? Of course, if

there was no difference, just in the case of transmission of water -- it depends on what you are trying to drive at. Please go to your question directly; ask your question directly.

COMMISSIONER LAI: According to this paper, P25-02, I think in the background it already tells you why there was a switch to copper pipes. Please go to paragraph 3. Yesterday, we handed out the paper P25-02.

It is said there that in the building industry at that time, copper pipes were also widely used and they are technically comparable to uPVC-lined galvanised steel pipes. At the same time, copper pipes are also more competitive in terms of pricing. So the reason was already given.

MR YIN: Yes. I want to address the point about being technically comparable. So I want to know whether it was believed that when compared with the uPVC-lined pipes -- in other words, for the uPVC-lined galvanised steel pipes, it didn't have any impact, any effect on the fresh water, using the copper pipes would be having no impact on fresh water as well?

A. For copper pipes, if the performance was worse than uPVC-lined pipes, then the consideration would have been different.

Q. I've also got one other question to seek your

clarification. That's in relation to why, in 2002, you had to revise the specifications and you added a line to say that leaded soldering material could not be used for the jointing.

Let us turn to what we have read yesterday. It was said that for the Architectural Services Department of the Hong Kong government, for the 1993 edition, it was already mentioned that we should not use leaded materials. Do you recall?

A. Yes.

Q. So let's turn to -- and in fact the chairman has asked you to read that -- in the year 2000, that is for the HA 2000 version, it only mentions use of jointing materials based on lead would not be allowed.

A. Yes, I recall.

Q. Let's go back to the ASD's 1993 edition of their General Specification. Please refer to 19.55. Two points are made, would you agree, because of the first sentence:

"(In English) The use of jointing materials based on red lead will not be permitted."

(Via interpreter) The second sentence:

"(In English) Solder used for jointing copper or copper alloy potable water pipes shall be lead-free and to BS 864: part 2, table 17."

Two points were made?

A. Yes, two points here.

Q. So they are talking about two different sources of materials; right?

A. Yes, I suppose so.

Q. Is my understanding correct: prior to 2002, I think you have only got the first statement, first sentence here, in the HA specification, but at that time you didn't have the second sentence, the reason being that at that time you were not using copper pipes?

A. Yes, I think so.

Q. In other words, the sentence regarding solder used for jointing copper or copper alloy potable water pipes did not apply, because at that time you didn't use copper pipes for potable water?

A. Yes, I think so.

Q. Is it your evidence that in the year 2002, you were simply adding this particular requirement to the contracts because you have decided to use copper pipes and therefore what previously was not applicable would now be applicable?

CHAIRMAN: I don't quite understand. Would you like to put it again? You said it was added to the specifications or added to the contract. Which point would you like to talk about?

MR YIN: The specifications of the HA.

A. Yes, you may say so.

MR YIN: I have no other questions.

CHAIRMAN: Thank you, Mr Ng. You have finished your evidence. You may be excused. Thank you.

(The witness withdrew)

(Audio interference)

CHAIRMAN: I think you have not switched off your mobile phones. That's why our digital recording is being interfered with and why we have such noises. So it's better if you switch off your mobile phones. You have the luxury of LiveNote. Otherwise, if I have to listen to the audio recording, it will be impossible for me to listen to it, so it's best for you to switch off your mobile phones or have them on flight mode.

MR YIN: Chairman, may I take a little bit of time to deal with the next witness?

CHAIRMAN: What is the problem?

MR YIN: I have to see if he is here yet.

CHAIRMAN: In that case, we will wait here for him.

(Pause for 2 minutes)

The next witness is Mr Yu or Mr Ho?

MR YIN: Mr Ho.

MR WILLIAM HO WAI LIM (affirmed)

CHAIRMAN: Please take a seat, Mr Ho.

Examination-in-chief by MR YIN

MR YIN: Mr Chairman, my understanding is that Mr Ho is not just in charge of Kai Ching Estate. He is in charge of maintenance of fresh water supply systems in all public rental housing estates.

I will now read out Mr Ho's witness statement.

(Paragraphs 1 to 31 were read in English)

Mr Ho, you heard me reading out your written statement. Do you have anything to say to correct it or anything?

A. No, thank you.

Q. Would you like to have it accepted as your evidence in this hearing?

A. Yes, please.

Cross-examination by MR KHAW

MR KHAW: Mr Ho, first of all, in your witness statement, you have referred to your work with the Housing Department. Starting in the year 1978, you joined the HD in that year, so you have worked with the HD for a long time. Currently, your post is with the Estate Management Division.

I want to know, when did you join the Estate Management Division?

A. You mean the EMD? In 2003, the name was changed, and ever since I have been with the EMD.

Q. In the year 2003, the name was changed. What was it

before?

A. In the year 1998, if I remember correctly, there was a reorganisation of the Housing Authority. Before that, for the new buildings, they came under the Building Branch, and they also maintained the new buildings. In the year 1998, the Estate Management took care of estate management and maintenance.

Q. So, when you talk about the estate management or property management, you started to take up this work in the year 1998?

A. Yes. The work nature the same but then the name is different.

Q. We have heard many witnesses telling us that they have come from DCD, Development and Construction Division. Now, for the Housing Department -- you have been with the Housing Department for so many years -- have you ever joined the DCD and worked with them?

A. No.

Q. In paragraph 4 of your statement, you have said that the purpose of the statement is to talk about the 11 affected estates. Is my understanding correct: for your division, that is EMD, the EMD is also responsible for the estate management of many other estates; is that correct?

A. Correct.

Q. For the scope of your work, say, for example, take your division as an example, do you divide your work on a district basis, so that you take care of certain districts?

A. Yes, indeed, six regions or six districts.

Q. You are responsible for Kwai Chung District?

A. Correct.

Q. For the 11 affected estates, they come from different districts, so I want to know about your personal involvement, as far as the EMD is concerned, for the 11 affected estates, you had a direct involvement?

A. No.

Q. So which estates have you been involved in the EMD with?

A. Kwai Luen.

Q. For the other 10 affected estates, when you wrote this statement, you asked the colleagues for EMD responsible for those estates and they told you the information?

A. I talk about the general things like the specifications. Such things I did play a role.

Q. If I may ask you to clarify the work flow. In your statement, you have told us that after the building works have been completed, after the construction work has been completed, it will go to your division, you will test it and inspect it and accept it. Now, the DCD will finish the construction; it will be handed over to

you. I want to know whether there is any communication, say for example in the course of construction, they might have come across a problem, thinking that when the building is put to use there may be a problem. Will they hold meetings to draw your attention to such matters?

A. Yes.

Q. During the construction stage, you already have such meetings with them, or it will be upon completion of construction, then such meetings will be held with you?

A. We have a meeting to facilitate exchanges within the headquarters.

Q. Let me make myself clear. In the process of construction, that is the DCD is still working on it, with workers on the site, will they already start holding meetings with you, telling you about the progress and drawing your attention to things that you have to pay attention to upon construction, or would it be the case that it is only when the whole thing has been completed, then they have a meeting with you and inform you of the things?

A. Important progress would have been related to us when they were still underway.

Q. Can you in brief terms, and as far as you can tell, what were the important matters that have been related to you

concerning Kwai Luen?

A. Like when it will be completed.

Q. I want to know whether, in the course of it, did they discover that certain materials had to be given special attention when it came to maintenance? Was such reported to you?

A. I am not quite clear. What do you mean?

Q. That is, in the course of construction, all that they would report to you would simply be about when it would be completed and nothing else?

A. At my level, that is it.

Q. I would also like to know, when you take over the estate management, I know you have repair-on-demand service, that is when the tenant complains, then you will go to handle it, and you have also got routine inspection to check for the condition of the flats. So my question is, as far as Kwai Luen is concerned, I want to know, at the time, when you were involved in the day-to-day maintenance or day-to-day management, did you find that certain materials used in the construction were found not in compliance, or over time it was found that certain materials were found to be problematic and you had to take follow-up work to rectify the situation?

A. Not that I recall.

Q. Now let me talk about the past five years. Let's not go

too far back into history. Have you identified any serious problems, that is post-construction, and for you people in the estate management, you go to the estate for repair maintenance -- have you ever found materials not in compliance or after it has been put into use a certain material has been found to be problematic? Have you?

A. Yes, I have.

Q. What about the more serious cases? What are those more serious cases that are still fresh in your memory? Which are the materials involved? Can you give some examples?

A. Say, for example, tiles coming off from the external wall.

Q. Is it because of the defective materials, the quality of the materials, or is it a matter of poor workmanship?

A. Workmanship.

Q. Other examples in which the materials are defective, in the past five to ten years?

A. I don't think so. I don't recall.

Q. You don't remember, or have you ever come across such cases? Well, we are talking about a huge construction project. Even for home renovation, for a simple domestic unit, there are still certain things that you need to rectify. Given such a large housing

construction project, for the past five to ten years, you don't recall having to deal with defective materials?

A. Yes.

Q. Can you give some examples?

A. Say, for example, waterproof materials.

Q. What are they?

A. For the roof, for the waterproofing materials.

Q. You mean on the rooftop?

A. The waterproofing materials on the rooftop.

Q. What else?

A. Leakage from the edge of the window frame.

Q. Yes? Can you recall some other examples? First of all, let's deal with the waterproofing materials on the rooftop. So is it a case of defective material, when you went there to examine?

A. Yes.

Q. What's the nature of the problem? The materials delivered were not in compliance with the specifications, or what?

A. There's no way to tell whether it was in line with the specifications, because it has already been covered up.

Q. Yes. When you found that the material was defective, would you instantly check with the DCD, that is you would like to find out whether the materials submitted

were the same; would you have covered such a step?

A. We would tell the DCD that we encountered a problem, because they are professionals for new buildings. We were not on the site when materials were delivered to the site during the construction stage. There's no way for us to query whether the materials were proper.

Q. No, it's not for you to query. I'm still talking about your work. When you found that a material was defective -- say, as what you have said, there was a case of defective waterproofing material on the rooftop -- my question is simple: would you then, in the light of this incident, talk to the DCD colleagues, telling them that, "Such materials were defective; would you like to check whether they were in compliance with the specifications? Was it the material that you have approved?" Did you do that?

A. Yes.

Q. Now, for the waterproofing material on the rooftop, what was the answer you received? Were you told that it was different from the specifications or the wrong materials were delivered? Do you recall?

A. For such details, the new building colleagues may not tell us.

Q. New building colleagues? Just now you said, for rooftop waterproofing, when did the problem arise?

A. I said in the past five to ten years.

Q. Yes. So, for the roofing problems on the rooftop, when did it happen?

A. We found out when we inspected the buildings for acceptance.

Q. I was saying, in the past five to ten years -- was it recently or more than ten years or what? What's the time frame? Because just now you said, for new buildings, you would not receive such information. Here, let's say we are talking about waterproofing on rooftop, the problem, when did it happen?

A. I was just giving an example. It might not have happened at Kwai Luen.

Q. Yes, I know it may not be Kwai Luen. I am just saying, in the last ten-year period, you say such a problem happened, so I want to know when approximately this happened. A year ago, two years ago, or when?

A. It happens often. That's all I could say.

Q. So you can't pin it down to a time frame?

A. No.

Q. But you recall this happening? Apart from waterproofing on rooftop, in the past ten years, could you recall any other materials found to have problems and then you had to follow up with the DCD? Were there such other cases?

A. Perhaps tiles falling off external walls.

Q. Yes, that one we covered earlier. What about other cases to do with materials, so you need to do some work because of the defective materials? Were there such other cases?

A. I think most have to do with this sort.

Q. Now, when you find a problem with materials, just now I said maybe you would check with the DCD whether the materials are in compliance with the specifications, for instance, and of course you would then hire repair contractors to carry out repair works; right?

A. No.

Q. No? Then how does it work?

A. Usually, in a new building contract, there is a maintenance period. We refer the case to the new building colleagues; they will find the main contractor and get them to do the work.

Q. Okay. What if it's past the maintenance period, that is the warranty period, and then you find problems? Then you will engage what you call the district term contractors to carry out repair works; right?

A. Basically, yes, except for latent defect.

Q. Except what?

A. Latent defect.

Q. If you find problems, like the examples you gave, let's say waterproofing problems on rooftop, and you follow up

with DCD and they find the main contractor to remedy it, if it's still within the warranty period, or if it's past the warranty period, then you would use your own contractors to carry out the repair works. Now, for such cases, after they happened, would you still sit down together with the DCD to do some sort of an appraisal meeting, that is for this case, what lessons are to be drawn for the buildings; do you have such meetings?

A. At the headquarters, there are exchanges. For every estate, there won't be exchanges on each and every estate, but rather it would be on the whole, say for this period there are certain issues we need to pay attention to, yes, there are such exchanges.

Q. Paragraph 16 of your witness statement. It says here:

"All plumbing works are specified in compliance with the Water Authority's requirements."

Then it says:

"(In English) In selecting materials and specifications, the EMD exercises additional care and control on the works arrangement as we are working in occupied premises. We need to ensure minimum disturbance to our tenants/occupants during the execution of works and we also need to take into consideration the safety and protection of works in

occupied domestic flats ..."

In other words, you have to make sure you don't cause too much disturbance to the tenants or occupants. At the same time, you want to make sure they can live there safely.

Now, on paragraph 17, I have some questions about fresh water supply works:

"(In English) The parts used in our M&I works ..."

That's maintenance and inspection.

A. Maintenance and improvement.

Q. Oh, sorry, "improvement".

"(In English) ... to the fresh water supply system are as follows:

Inside flat: copper pipes with compression joints;

Common area: copper pipes ... with compression joints or other mechanical joints ..."

Now, in your whole statement, you use the present tense. So can I ask you this. Let's go back to Kwai Luen Estate as an example, maintenance and improvement works that you carry out. Now, originally copper pipes were used with soldering materials. But how come, when it comes to maintenance and improvement, you are talking about compression or mechanical joints rather than soldering joints?

A. For the Kwai Luen case, no piping works were done, and

also for Kwai Luen, it's still not passed EMD; that means the EMD is not involved in doing any works here.

Q. In your statement, you said at the outset it covers the 11 affected estates. You mentioned that the parts used in M&I works, you mentioned compression joints rather than soldering joints. Can I ask why that is the case? Let's say for Kwai Luen or other estates, during construction, soldering joints were used for the copper pipes, and in M&I, you use compression or mechanical joints. How come this happens; can you please explain?

A. In our General Specification, that's how it's put.

CHAIRMAN: What do you mean?

A. In the EMD's General Specification, these are the two joints used.

MR KHAW: Let's get this right first. General Specifications, there could be many interpretations. Specifications means -- even during the course of work there could be specifications. Your DCD colleagues and the main contractors will have to follow those specifications; right? Now you are talking about after construction, and then when the EMD takes over, there is a different set of specifications; is that what you are saying?

A. Yes, because the circumstances are different.

Q. Yes, please continue.

A. Because for maintenance works and the new-build works, they are different. In new building works, they can do anything they like, but for maintenance works, there are occupants in the units. So apart from following the law, in paragraph 16 we pointed out that we have to minimise the disturbance to tenants. Let's not even talk about danger.

So the reason why we are not soldering joints, because if we do soldering, there will be fire sparks and that might damage furniture of the occupants, and after the works there could still be some smell of smoke and tenants would not accept that. That's why, in the spirit of maintenance, we would rather go for the more troublesome process.

Q. For compression and mechanical joints, when they are used for repairing copper pipes -- now, this specification, when does it come into force?

A. In 2013, in the General Specification, it is clearly stated in section 18.

Q. 2013? How come in 2013 there was such a change? Before 2013, before this change took place, your M&I works still used soldering joints?

A. No, no.

Q. What did you use then?

A. Before 2013, the specification was the 1989

specification, the General Specification. It covers different joints.

Q. Which joints, please?

A. For the specification at the time, under the plumbing section, it included potable water plumbing and drainage, aboveground drainage.

Section 14. So, in the specification, under "Plumbing", it says compression fittings or another fitting could be used. But that's the General Specification. When we issued the district term contract, DTC, we have Particular Specifications. Particular Specifications will override the General Specifications. In the Particular Specifications, what's stated there is the same as the 2013 General Specification. In other words, if it's jointing copper pipes, it's either compression fittings, (a), or (b), mechanical jointing.

Q. So are you saying that before 2013 and after, for M&I works, where copper pipes are concerned, for fresh water supply system, you do not use soldering joints?

A. Correct.

Q. For these repair works, have you ever used soldering joints?

A. I heard it was used but I have not used it myself.

Q. When was that, do you know?

A. I do not know.

Q. You heard soldering joints were used. On which estate, do you know?

A. It's very rare. Some colleagues, when they had to do minor repairs.

Q. In other words, say for an estate, when M&I works were carried out and soldering joints were carried out, it was not that it was -- it was not in non-compliance with the certification; correct?

A. Under very exceptional circumstances, if they use it, they have to ask the general manager.

Q. Paragraph 18 of your statement:

"(In English) The EMD requires that jointing material must not project into bore of pipes or fittings. Compression fittings or other mechanical jointing system approved by internationally recognised approval authorities are specified for jointing of copper pipes."

The next sentence is what I want to ask you about:

"(In English) Soldering for copper pipe connections is generally not used in M&I works except at isolated locations due to site constraints or availability of suitable joint components to match existing installations."

Is that what you mean? That is, when soldering is

used, it would be in these circumstances?

A. Yes.

Q. On estate management, would it lead to confusion if you do that? What I mean, that is during construction works you do soldering joints; during repair, you do not use soldering joints. But in repair, sometimes you could use soldering joints. So, when it comes to the management of all these tasks, would it lead to confusion?

A. No, it won't.

Q. Assuming -- you talked about a warranty period, right?

A. Yes.

Q. All of a sudden, if it was found that there was something wrong with the plumbing, and then you referred it to the DCD, and then you will ask the DCD to follow it up with the main contractor. Now, for the main contract, it was the use of soldering joints. Now they have to use the compression joints to carry out the maintenance. Is that what you mean?

A. No. For our EMD specifications, that covers the EMD contractors only.

Q. Well, in this case, there's another layer here. During the warranty period, if you refer the matter to the DCD for maintenance, about the copper pipes of the plumbing system, then they will still use the soldering joints,

because the specifications, your specifications would only apply to post-warranty period works; right?

A. Our specifications would only apply to what happens after the warranty period.

Q. In other words -- maybe I am repeating myself but let me put it to you again. When we look at the maintenance system as a whole, something within the warranty period, then you go to the DCD. If they go to the main contractor, then they would use soldering joints. You would agree to that; right?

A. They will make good what is not proper, within the contract.

Q. That's according to what you know. If you go to the main contractor, and all along the main contractor has been using soldering joints, and even when you find a problem, if it is within the warranty period, they will use the soldering joints; that's what you know?

A. (Chinese spoken).

CHAIRMAN: Don't be so long-winded, Mr Khaw.

MR KHAW: The last point I want to ask about is in paragraph 20. You have said that the EMD vets and approves the submissions from the district term maintenance contractor. I want to know whether you have a list so that they know which samples have to be submitted and which not.

A. Yes, there is.

Q. Lastly, paragraph 29, the Quality Water Supply Scheme for Buildings. An application to receive such a certificate means that water testing would be required and then there are certain parameters, and then you apply to the WSD, so as to receive a certificate if the test is passed.

I would like to draw your attention to a paper or document, B2.1. Please go to page 1158.153. We see a form here for the application for Quality Water Recognition Scheme. That's about the Quality Water Supply Scheme for Buildings. This is about Hung Hom Estate.

If I can ask you to go to page 1158.156. Do you see this paragraph: "Supported by building owners/incorporated owners ..."? Here, you see the chop from the Housing Department. For this part, my understanding is that it has been signed by a colleague in the Housing Department in support of this application; is that the case?

A. Yes.

Q. I want to know, for a colleague to sign such a document, would it be someone from your department or from other departments?

A. For this estate, yes, we contracted out, so it is not

for estates managed directly by us, yes.

Q. Did you yourself or did your colleagues see anybody signing such documents?

A. I haven't, myself.

Q. I suppose your colleagues would have come across such documents?

A. Yes, it's possible.

Q. If I may refer you to this document -- we have got supporting documents here. 1158.163, please. This is annex I, one of the attachments. There is a table, the second item being WHO Guidelines for Drinking-water Quality, 2nd edition, volume 3. Footnote 2: Guidelines for Drinking-water Quality, 2nd edition, volume 3.

Have you read this document yourself?

A. No.

Q. What about the Housing Department? Was this document circulated to your colleagues, for your perusal?

A. I am not sure.

MR KHAW: I have no other questions.

CHAIRMAN: Let's have our morning break. 20 minutes. So let's come back after 20 minutes. Thank you.

(11.24 am)

(A short adjournment)

(11.48 am)

CHAIRMAN: Please continue. You have no more questions?

Cross-examination by DR WONG

DR WONG: Mr Chairman, I do have a few questions.

Just now, Mr Khaw referred you to paragraph 17 of your witness statement. For common area, I would like to ask you a question. For pipes 75 mm and above, then you will use ductile iron pipes, but for those below 75 mm, then just copper pipes. Please tell us why there is this distinction.

A. For larger diameters, copper pipes cannot withstand the external forces, but for ductile iron pipes, they are more durable.

Q. For common areas, when you have to carry out M&I works, would you be using copper pipes more or ductile iron pipes? That is, I want to know whether you have more having diameter above 75 mm or the other way around. I am referring to the common area.

A. I think more are below.

Q. Thank you. Paragraph 18. You have said that in very rare circumstances, you would also using soldering materials but that's not common?

A. Correct.

Q. When you use the soldering materials, what is your process? Do you have any safeguards to make sure that your soldering materials will not contain lead? So when you do have to resort to soldering materials, what is

the procedure?

A. My understanding is we are talking about a minor repair, when you use soldering material, say for example the original solder joint is broken, and so we have to mend it. In our specifications, we have already said that it must not project or protrude into the bore of pipes. You can only do it on the surface.

Q. When you use the soldering materials, are there specifications to say whether it should be lead-free or it can contain lead? Even if you are talking about lead, you have to use a small amount of soldering materials. Do you specify whether it can contain lead or not?

A. I don't think it should.

CHAIRMAN: But is there really a specification?

A. For the plumbing section, we didn't have soldering.

CHAIRMAN: Not even now?

A. No.

DR WONG: If I may turn to another area. Mr Khaw has already asked you to talk about paragraph 29, that is Quality Water Supply Scheme for Buildings. Is it true that you only entered estate management in 2003? Weren't you involved in estate management prior to 2003?

A. All along, I have been with estate management. There was only a change in name.

CHAIRMAN: Pause here. If I may ask a question. The DCD builds the buildings. In the year 2002, if solder is to be used, it should be lead-free. So, if I understand correctly, and according to what you have said, you are saying that from 2002 up to now, 2015, for your estate management, when you carry out maintenance, your manual, your instructions, your specifications do not specify that they have to use lead-free solder?

A. I can only repeat to say that in the area of plumbing, we do not have soldering joints, either compression joints or mechanical joints.

CHAIRMAN: So this will never appear? I don't quite understand. In the beginning, you use solder joints, but when it comes to maintenance, you never use it. It doesn't make sense at all.

A. The reason being that during the construction stage, no tenants are living there, but during maintenance, we do have sitting tenants. Other than taking into account the legal requirements, we also want to minimise the nuisance caused to the existing tenants.

CHAIRMAN: Yes, we understand, there will be the smell, there will be the sparks. You can ask them to stay away for a period of time. "We are carrying out the works, please stay away." When you nail a nail or you carry out something on your wall at home, you can't avoid the

nuisance.

A. If we ask the tenants to stay away, I am afraid the progress would be even slower. When we have a sitting tenant, the spirit of our maintenance work is to minimise the nuisance.

CHAIRMAN: Yes, I understand. If you tell the tenants, "I come here to make good the defect", he will reject you, but of course we know there will be such people, there are always such people, but can you not advise them to be facilitating, stay away for a period of time so as to avoid the smell, they can come back. Now you are saying it is better not to use solder and that you would rather use compression joints?

A. We have people-oriented, customer-oriented spirit.

DR WONG: I ask you to turn to paragraph 29. In the year 2003, you were already with the estate management, but let me say this. Prior to 2002, the WSD hasn't launched the Quality Water Supply Scheme. Is it your understanding that it was only launched in 2002?

A. Yes.

Q. Prior to 2002, did the estate management take the initiative to test water? In other words, had it not been for the Quality Water Supply Scheme for Buildings from the WSD, you yourself would not have taken the initiative to test water?

A. My understanding is that we would not have tested water for no cause. Unless it was found that the water was turbid, or prior to 2002 it was found that the water pressure was inadequate.

Q. Now, for water safety, prior to 2002 you didn't do anything at all, unless you found that it was turbid? You talk about safety of water instead of replumbing?

A. My understanding is that if a housing estate has had a history of 12 years or more, when there is a problem, then a few tests will be carried out to see if copper pipes -- no, to see if pipes have to be replaced.

Q. What tests did you carry out?

A. Five tests: water flow, water clarity, water pressure, and reduction of bore and also visual inspection, to see whether it is yellowish.

Q. I think we are referring to the former GI pipes. Prior to 2002, when water was tested, then that would be the parameters.

I haven't got any more questions.

CHAIRMAN: Thank you. Does anybody have any questions?

Cross-examination by MR PENNICOTT

(All questions from Mr Pennicott were in English)

MR PENNICOTT: Mr Ho, good morning. You may want to put the headphones on.

A. (In English) Yes.

Q. Mr Ho, I represent China State, the main contractor for two of the affected estates, Kai Ching and Hung Hom. I just want to ask you a couple of questions, also, I am afraid, in relation to paragraphs 17 and 18 of your statement.

Mr Ho, we are agreed, I think, that when substantial completion of the works is completed on any particular estate, there is then a two-year maintenance period; do you agree?

A. (In English) Agree.

Q. Do you also agree that during the course of that two-year maintenance period, the tenants will move into the units?

A. Yes.

Q. During that maintenance period, when the tenants are in occupation, if there is a problem with a soldered joint on a copper pipe, the repair would be carried out by the main contractor, and he is entitled to use solder to repair that joint; do you agree?

A. Yes, I agree.

Q. At the end of the two-year maintenance period, responsibility for maintenance and improvement transfers back to the Housing Authority, and they contract that obligation to a district term contractor; is that right?

A. Yes.

Q. Your specification to that district term contractor, which I have not had the opportunity of looking at, but as I understand your evidence, it's that if there is a defect on a copper joint, previously soldered joint, it will be repaired by a compression joint; is that right?

A. Correct.

Q. Can you tell us what's involved in converting a soldered joint into a compression joint?

A. The two parts will be separated and then there will be solder joints, because before you start work you have to suspend the water supply, so you have to cut open the pipe. There is water interruption.

CHAIRMAN: But you then put in a solder joint? I think just now that's what you said.

A. Oh, I'm sorry, compression joint.

MR PENNICOTT: So the process must be this, must it not, Mr Ho: you shut off the water, because you are going to repair the pipe -- you can't repair it with water running through it; is that right?

A. Yes.

Q. You then presumably clean off the solder?

A. When we cut open the pipe, then that pipe will no longer be there.

Q. So you actually replace the pipe altogether or just

repair the joint?

A. Even the pipe itself would be repaired.

CHAIRMAN: Do you actually know how it is done?

A. This seldom happens.

CHAIRMAN: So you haven't seen it?

A. We just repair the particular part.

MR PENNICOTT: Can I repeat the chairman's question, Mr Ho: have you any first-hand professional knowledge of how you, as it were, repair the soldered joint by replacing it with a compression joint? Do you know?

A. I agree that I have not myself seen it on the site.

Q. In your witness statement, you say in paragraph 18 that soldering for copper pipe connections is generally not used in M&I works, except at isolated locations due to site constraints.

That seems to be an acceptance, Mr Ho, that at least on occasions soldered joints will be used by the term contractors. Is that right?

A. Correct.

Q. But if I have understood you correctly, in the answers you gave to Mr Wong just a moment ago, there's nothing in your specification to the term contractors which deals with solder joints; is that right?

A. Yes.

Q. Mr Ho, finally, you say soldered joint may be used in

situations where site constraints dictate. Can you give us an example of a site constraint where a soldered joint would be used?

A. For example, where there is no space, but as far as I understand, say at the corner, but as far as I know, for cases where soldered joints have been used, it's because colleagues saw that at the soldering joint there was damage, so they had to patch it up outside of the pipe. And when they do that, they have to get special approval. The district colleagues have to inform the contract manager. As to how the soldering is actually done, they must give a method statement.

Q. So are you saying that if the term contractor concludes that he can't use a compression joint to do a repair, and therefore has to do a soldered joint, he has to get special permission to do that?

A. As far as I know, yes.

MR PENNICOTT: Okay. Thank you very much. I have no further questions.

CHAIRMAN: Are there further questions?

Cross-examination by MR HO

MR E CHUNG: I have a number of questions for Mr Ho.

A general question. Just now, Mr Khaw asked, over the past five to ten years, whether there were serious defect cases involving materials. You said maybe for

waterproofing on rooftop.

INTERPRETER: The speaker is not coming through very well. He is not speaking into a microphone. The interpreter cannot hear him very well.

MR E CHUNG: (Chinese spoken). There are many estates where the tiles kept falling off; do you remember that case?

A. Yes.

Q. That case dragged on for a long time. In the end, how was it dealt with? Can you be brief? Was it during the maintenance period or was it the DCD who dealt with it?

A. Briefly, a task force was set up at the time.

Q. A task force was set up to deal with it?

A. Yes.

Q. So do you understand it to be a workmanship problem or design problem or both?

A. Both.

Q. Both? Okay. So you no longer use homogeneous tiles afterwards?

A. Yes.

Q. So after that incident there was the task force, it took a long time for the case to be dealt with, and then you changed the specifications and you no longer use homogeneous tiles; is that your understanding?

A. Correct, that's my understanding.

Q. Let me switch to another subject. I understand --

I will refer to you which paragraph -- now, there are about 1,188 estates completed and under management. How many chief property managers do you have, at your rank, that is?

A. District, six. Six regions.

Q. You are one of the chief managers?

A. Yes, correct.

Q. This Inquiry is about 11 estates. For other estates, they don't have the problem. For estates under your management, how many estates? For estates under your management, not just limited to the 11 affected estates, how many estates do you manage under your portfolio?

A. Close to 20 estates.

Q. How many blocks? 200, roughly? 300?

A. Over 100 blocks.

Q. Okay, fine, over 100 blocks. Why am I asking you this? Let me first give you the context. In the Waterworks Ordinance, bundle C2, item 11, page -- schedule 2, clause 17. We looked at it once before. Page 1172, please. In 1172, Waterworks Ordinance -- Waterworks Regulations, rather -- there is mention of capillary fittings and compression fittings. It's under BS 864 -- now it's been changed -- it was before. So there's mention of compression fittings here.

Is it right to understand it this way: for

compression joints, they have been used for a long time within the Housing Department? Now, in your impression, in your understanding, since you joined the Housing Department, was the HD already using compression joints during the maintenance period?

A. Yes.

Q. Fine. Now let's look at another document. B3.2, item 66. Page 2387, please.

We can go back to page 1 first. Here, this is a Housing Department document. This document was submitted to the Review Committee.

On your maintenance statistics, let's look at the table. I mentioned a figure, it came from here, 1,188 blocks. To the left, in the centre, there's mention of the flats, "In-flat", and then another column is "Common Area", that means the public corridors or the lift lobbies.

If you look at the number of units where copper materials were used and where non-copper materials were used, or joints rather, 1,188 minus 351, that means all of them were using copper pipes, and for copper pipes, there is a distinction between compression joints and soldering joints. Compression joints account for a large percentage.

Can I ask a straightforward question: apart from

pipes, other things also under your maintenance -- let's say if you find in the specification there is a certain material or some works that keep seeing problems, how do you inform the maintenance department so they can change the specifications? How do you do it? What is the workload; can you explain?

A. There is the R&D unit, research and development unit, at the headquarters. This unit gets regular feedback from the DCD.

Q. I remember some questions being asked, that is the Housing Department does not have a dedicated research and development unit, so the R&D unit, which one are you referring to, under which division?

A. EMD.

Q. So does it straddle across development, construction and EMD, or does each division have its own R&D?

A. It's under EMD.

Q. So you don't have your own R&D?

A. This is a central R&D unit.

Q. What is the rank of the person in charge of the R&D unit?

A. Senior professional.

Q. A senior maintenance surveyor, at that rank?

A. Right.

Q. So if you have problems, you tell him; right?

A. Yes.

Q. In the process of changing the specifications, would they consult you again; do you know?

A. Yes, they will. There are working groups.

Q. So coming back to my question, you know the joints have been used for many years, that is the compression joints. They are also in the Ordinance. Of course, there is a difference in the work process with soldering. In terms of performance, is there a serious water leakage problem with compression joints?

My thinking is if there is a problem -- you might have dealt with it already, but I would just like to ask you -- if it is done properly, there's no problem. So if it's done properly, there's no problem.

The chairman asked -- not you but another witness earlier -- in Singapore, they use a press-fit approach. The press-fit method, how is it different to the compression joint; do you know?

A. No, I don't.

Q. Now, from the management point of view, have you considered this: do you compare yourself to the Singaporean experience in management and repair, at the HD level, at your own level?

A. At the HD, relevant colleagues would do the comparison.

Q. So there is comparison?

A. Yes.

Q. Now, the compression joints have been used for a long time. You do not believe there's a performance problem?

A. No.

Q. Let me put it this way. I just mentioned it now. In terms of maintenance, there are two parts: common areas, with more space, and then there are units occupied by occupants. The chairman just asked you, whilst people would renovate their own units too, but in terms of soldering the approach may be different, but for corridors, the corridor is usually long, so the pipes are usually also long, lengthy. My understanding is, if we just use compression joints, is it efficient -- is it difficult to do the works?

A. I don't understand why it's difficult. It can be done.

Q. So it can be done; there wouldn't be any operational problems or you haven't been told of those problems? So you don't think there's a problem with compression joints, so you don't tell the maintenance division to change the specification; you are satisfied with its performance?

A. Yes, it's just that it takes longer.

MR E CHUNG: I have no further questions.

Questioning by THE COMMISSIONERS

CHAIRMAN: Are there other questions? No.

Can I ask you, the research and development, it is purely a unit under the estate management. In other words, if you come across any problems in your day-to-day work -- now, this R&D unit, what does it do, exactly?

A. It deals with issues that need to be researched into in detail, or specialist issues, like the handling of asbestos or, say, recently, the drying racks, changing the iron grilles, and so on, iron gate, that is. And also the new Fire Safety (Buildings) Ordinance, that's something rather new. So we need to have close liaison with the Buildings Department on that. So that's what the research and development deals with primarily.

CHAIRMAN: So that's -- I still don't get it, actually. It's to deal with issues that you come across on a daily basis, or -- I don't know -- you mentioned fire safety. So you know there would be something new coming up, so you would do some research first, or how does it work, actually?

A. Well, there could be both cases. Maybe there's a new piece of legislation. The Housing Department is a major stakeholder so we always move before the industry. Say for fire services legislation, we need to talk to the Buildings Department, which is about the fire engineering approach, and there is also feedback on

day-to-day issues. If district colleagues find a problem that is common, say, to almost all districts, in other words it's a rather general phenomenon, then we will refer it to R&D for detailed research.

CHAIRMAN: Say for copper pipes, we know that starting in the year 2002, the Housing Authority and Housing Department started to introduce the copper pipes. I want to know, before that, were people in the research and development asked to be visionary and try to foresee problems likely to arise in relation to maintenance and repair?

A. I think at the time there was the technical development. I think the function was similar and they were responsible for the research.

CHAIRMAN: When you talk about the technical development, what sort of technical developments were they looking into?

A. Say, for example, when we have got new materials.

CHAIRMAN: Well, we know that you used the galvanised steel pipes and later on you switched over to copper. I think, for the HA to introduce copper, then of course your maintenance/repair people would be asked to see if you anticipated any possible repair/maintenance issues. I suppose that would have taken place?

A. Yes.

CHAIRMAN: And you have the so-called technical development?

A. Technical development.

CHAIRMAN: So a person or who was responsible for the work?

A. There was a senior, and three professionals, senior building surveyors.

CHAIRMAN: Three professionals, who were they?

A. They were all surveyors, surveyors as well.

CHAIRMAN: So they have to see, when copper pipes were used instead, they had to foresee what sort of repair/maintenance issues would be involved. They would have to find out whether it would involve very difficult or complicated technical issues, and then probably they have to talk to, say, CDC or DCD; they had to have exchanges with the DCD; right?

COMMISSIONER LAI: As far as the organisational structure is concerned, I want to know whether technical development comes under the EMD.

A. Yes, the EMD.

CHAIRMAN: I asked you this question because, on 15 January 2001, there was the meeting of the Quality Water Supply Scheme for Buildings, and we have seen the minutes, and it was copied to a person called BY Wong. I think he was somebody from the estate management; right?

A. Yes.

CHAIRMAN: That's because for that paper dated 15 January

2001, I think that paper was about Quality Water Supply Scheme for buildings. It was said that when copper pipes were used, then there would be the problems of soldering materials, because that problem was discovered in the USA, the UK and Europe.

I think we can show you this document, I think it's in A or F.

MR KHAW: A2.

CHAIRMAN: Page number?

MR KHAW: 858 of A2.

CHAIRMAN: Yes. Dated 15 January 2001. Scroll further down, and then you will see that paper 7 was discussed. Then you can see that there was this person called Wong Bay. Scroll further down. Further down, please. Then somewhere it says that paper 7 was discussed.

It doesn't matter. We don't have to go further. We can go directly to paper 7. Yes, here, it is said that this paper was discussed. Let me show you ACQWS paper. Can you find it? ACQWS Paper No. 7. F1. Page number?

MR KHAW: 30.

CHAIRMAN: That's about quality of water in buildings. Then there is a paragraph stating what I have just repeated. I cannot recall the specific paragraph. You just scroll downwards. Somewhere towards the end -- yes. It has been highlighted.

On 15 January 2001, this issue was raised. At the time, your Mr Wong attended the meeting. So my question is: when he went back, was this discussed? Was this studied? Because in the year 2002 you started to introduce the copper pipes.

A. I do not recall.

CHAIRMAN: Was it ever discussed? As far as you know, was it ever discussed within the estate management department?

A. I don't remember.

CHAIRMAN: Thank you. I have no other questions.

No other questions? All right. Thank you.

We are finished with your evidence-taking, so thank you.

(The witness withdrew)

Who is the next witness?

MR YIN: Mr Yim Ka Ho. He is from the Housing Department. He is the building surveyor for Kai Ching. He is the building surveyor from the EMD.

CHAIRMAN: I want to know whether he has any direct relevance. Is he also somebody whose purpose is to enable us to know more?

MR YIN: Well, it's about the defects liability period of maintenance. Just now, Mr Ho talked about the post-defects liability period. For this colleague, he

oversees defects found during the warranty period.

CHAIRMAN: So what is the relevance?

MR YIN: So that's about the maintenance.

CHAIRMAN: Well, I don't think we need to know. Strictly speaking, it has got nothing to do with our terms of reference.

MR KHAW: Just now, I thought for certain issues Mr Ho may not know very well. Since both belonged to the EMD, I may have a couple of questions for Mr Yim.

CHAIRMAN: What questions?

MR KHAW: First of all, about the knowledge about quality water supply. Just now, from Mr Ho's answers, he said that he could not recall the WHO paper. So I would like to know whether Mr Yim has anything to add.

CHAIRMAN: I don't think so. Anything in particular?

MR KHAW: No, maybe not.

CHAIRMAN: I cannot think of anything. For the Housing Authority and for the Housing Department, I think the evidence is clear: nobody has read the WHO Guidelines. They just relied on the parameters from the WSD.

MR KHAW: Yes. For the earlier witnesses, they are from the DCD. For these two gentlemen, they are from the EMD. So we just want to know whether there are differences between the two divisions.

CHAIRMAN: That doesn't matter. It's fine if you call him.

But I don't think you have to read out his witness statement. I don't think so. You just ask him questions directly, if you have questions for him.

MR YIN: You don't need either, do you?

CHAIRMAN: Yes, unless it is something special.

So let's invite this gentleman. Sorry, what's his name?

MR YIN: Mr Yim Ka Ho.

MR YIM KA HO (sworn)

CHAIRMAN: Please be seated. The lawyer of the Commission of Inquiry has a few questions for you, Mr Yim.

Cross-examination by MR KHAW

MR KHAW: In the last part of your witness statement, there is a part on application under the Quality Water Supply Scheme of the Water Supplies Department. So I would like to ask you some questions on that first.

I understand if you want to make an application you have to submit documents to the WSD, and these documents will include water testing results. B2.1, page 1158.153.

Just now, we asked another witness -- this is a form, a standard form, which is about a renewal application. In other words, approval was given before, so this is the application to renew the approval. It's on the Hung Hom Estate. Point 154, "Hung Hom Estate";

do you see that? Then at point 156, we see a chop of the Housing Department. It proves that the Housing Department staff support this application. In other words, this application is supported by you; right? You see it?

A. Yes.

Q. Usually, when we talk about such applications, your colleagues who sign and stamp the application, they belong to the EMD?

A. Yes, it's from EMD, you can see here, an EMD colleague.

Q. There are some appendices to this form. Appendix 3, or 163, rather. 163 here, annex. Do you see "WHO" in the middle or in the table?

A. Yes.

Q. The second item in the table, "WHO Guidelines for Drinking-water Quality"; do you see it?

A. Yes.

Q. 2nd edition, volume 3, that's what we see, and there's a footnote, footnote 2: Guidelines for Drinking-water Quality, 2nd edition, volume 3. Do you see that?

A. Yes.

Q. Now, have you personally seen this document?

A. You mean the second document under the notes? No, I have not seen it.

Q. You or your team, say, within the Housing Department,

have you ever asked what this document is about? Because this is one of the documents you submit, as mentioned.

A. According to the heading of the document, it's just that when we draw samples, there are certain methods to follow in drawing water samples. Now, for water quality samples, we don't just ask any colleagues to draw the samples; we will engage an accredited laboratory to draw the samples. The lab would know what methods to follow, so they would deal with it.

Q. Understood. So you rely on the lab to follow the WHO standards, and you would not look at the WHO standards yourself?

A. Because these are accredited laboratories, they do this work specifically for us. They are the experts in the field, so they will follow the guidelines.

Q. So your department will not look at the WHO Guidelines' content?

A. Personally, I have not read that document.

Q. There was mentioned just now the EMD, under it, there's an R&D unit, that is research and development unit. This R&D unit or department, would it obtain from time to time information on global standards, say in relation to the safety of building construction or danger posed to occupants, harm to their health, undesirable effects

on health, and so on? For such global standards, at the R&D department, would you obtain such information?

A. Well, I am not in the R&D. I am in frontline estate management. I think they should take note of that. Because I am not involved, I really cannot speak for them.

Q. Now, in the whole EMD, say R&D receives certain information, let's say it's on certain international standards, would this be circulated to the whole EMD? Would there be such a practice?

A. Well, the R&D unit is responsible for research and development. It will probably receive a lot of information. But I believe it may not pass on all information it receives. It might not circulate all information. It may consider the information or research into the information and see if it's relevant to maintenance or repair or to other aspects of EMD work, and if they think it's worthy of our attention then maybe they will share it with us.

Q. Now, I know you joined the Housing Department in 1996. Were you in the EMD all along?

A. Yes.

Q. So, in all these years, until just before the lead in water incident, in your recollection, the use of soldering materials for copper pipes or the danger of

lead in soldering materials, do you remember if there was ever any discussion or circulation of information?

A. I do not have that recollection.

Q. Another question. In the past ten years, you worked in the EMD. Was there any case that during the construction period, there were materials not in compliance with the building specifications, and problems arose, so you had to deal with them? Do you recall any such examples?

A. You mean during the construction period, not in compliance with specifications?

Q. Well, building materials, there could be over 1,000 types of building materials. For example, tiles on external walls, tiles used in flats. So building materials. That is, after the construction is completed, after you take over the management, have there been any cases that the building materials were not in compliance with the building specifications, so your attention was drawn to it?

CHAIRMAN: Before you answer the question, can I ask this: to what issue is it relevant, what issue we have to determine it is relevant?

MR KHAW: Because I read about building materials on site, there would be inspection, 32 types of materials that need to be inspected on site.

CHAIRMAN: Yes.

MR KHAW: So I would like to take this opportunity to find out, maybe over the years they have dealt with major problems with building materials, and when they deal with it would they have any communication with DCD?

CHAIRMAN: Okay then, continue.

A. The EMD, we are in charge of estate management and repair, of course. Let's say we receive information or feedback from the estate, we will pass it on to the DCD. But if you talk about specific materials, I can't say. But when we get feedback from the estates, we will pass it on to the DCD and they will check whether it's in compliance with the specifications or contracts. And so it's for them to decide; we just pass on information.

MR KHAW: I'm not talking about the process which you follow, but I am saying in the past five or ten years, were there any relatively serious cases involving building materials and you had to handle them? Were there such examples? Just now, the other witnesses gave some examples that they included tiles falling off external walls, waterproofing on materials on rooftop. Now, in your experience, were there other materials, that is after the completion of the construction, were there any cases you had to deal with any particular building materials, maybe because the building materials

used were not in compliance with specifications?

A. Tiles on floors, that's the more obvious example.

Q. Any other cases?

A. That's all I can think of for the time being.

Q. In managing estates, if you find a problem related to building materials, would you have any communications with the DCD?

A. Yes. We will give the feedback to the project architect.

Q. Let's say in the course of construction -- let's first look at the construction process. Now, on material supply, maybe they have to tell you certain materials have been used, and maybe they feel that in future there is a high chance that problems may arise. Now, would they let you know, during the course of construction?

A. Well, not for individual projects, rarely so.

Q. So you mean you talk about cases, the blocks you have taken over, and if you identify problems then you will communicate with the DCD?

A. Yes.

Q. So, in the course of communications, say in the past five to ten years, was there ever any discussion about problematic materials, and then you might remind the DCD to inspect those materials more frequently during construction? Was there such discussion?

A. Well, there are many projects involved in many districts. If you talk about my own experience, my own awareness -- as I said, we are responsible for managing estates, if there is anything to do with repair, we may pass on the feedback and then it's up to DCD to consider.

MR KHAW: I have no further questions.

Cross-examination by MR E CHUNG

MR E CHUNG: I represent the department. I have two questions for you.

You mentioned the quality of water scheme. Have you ever heard about an Advisory Committee on the Quality of Water Supply? So Advisory Committee on the Quality of Water Supply; have you heard this committee?

A. Yes, I have.

Q. In 2002, I think this committee was led by the Water Supplies Department, two assistant directors from the Housing Department attended. One of them was from EMD, Mr Wong Bay; do you know him?

A. Yes, I know Mr Wong Bay.

Q. And the other, Mr Chan Siu Tack?

A. I think that was later on.

Q. I think the ranking was assistant director?

A. Yes.

Q. Just now, the chairman mentioned the part of the meeting

of the Advisory Committee, there was a discussion dedicated to a report. Apart from that case, usually, after a meeting, would you be given information or have you never received any information?

A. Maybe at the meeting they talk about many different things.

Q. Yes, I know that. That's why I am not specific. I am just asking you whether there's ever any document on water quality in relation to maintenance that's been passed on to you, because 15 years ago it was.

A. We never saw the meeting minutes, but maybe if it is about quality of water supply, maybe it's already been embedded into something else, to tell us to follow the instructions or whatever.

MR E CHUNG: So you mean the original document was not given to you?

CHAIRMAN: Please, don't speak so quickly. If you ask a question, you want him to hear you, and when he gives an answer, you want to hear him, but if you are both talking at the same time then nobody can hear anything. I know you want to ask a series of questions but we can't hear, so please ask them.

A. You see, now you don't even remember what questions you have asked yourself.

MR E CHUNG: Is there a document, a copy of the document the

Advisory Committee passed to you?

A. No, I haven't received it myself.

CHAIRMAN: You mean the meeting minutes, they would not be passed to them?

MR E CHUNG: Now, is there a document given to you that refers to this meeting and you are asked to take note of the discussion or to follow up on something?

A. No, I don't have such recollection, but it's possible that in our guidelines there are items that need to be taken care of. Maybe it's mentioned there. But I couldn't recall exactly.

CHAIRMAN: 2002, the Housing Authority introduced copper pipes. We know that in 2001, at a meeting of the Advisory Committee on the Quality of Water Supply, as referred to by this counsel here, at that meeting, from the Housing Department there was an assistant director in charge of estate management, who attended the meeting, and at that meeting there was discussion that overseas, especially in the USA and the UK, when copper pipes were used, the soldering materials contained lead and that was a major problem.

So a direct question to you: have you ever received such information?

A. I don't have such recollection, not at all.

CHAIRMAN: And your research and development, according to

what you know, has never studied anything about the soldering materials?

A. I don't think I can answer this question.

CHAIRMAN: As far as you know.

A. As far as I know, yes.

CHAIRMAN: As far as you know?

A. I didn't know whether such a study had been carried out.

CHAIRMAN: But had they found a problem, you would have been notified; right?

A. Yes.

CHAIRMAN: No other questions? All right.

Thank you very much. You may be excused.

(The witness withdrew)

Who is the next witness?

MR YIN: The chief architect for Kwai Luen Estate.

CHAIRMAN: Why don't we come back after lunch? We will resume at 2.15.

(12.46 pm)

(The luncheon adjournment)

(2.18 pm)

MR YIN: Chairman, my next witness is the chief architect of Kwai Luen Estate Phase 2.

MS ANN MARY TAM KWAI YEE (sworn)

CHAIRMAN: Please take the chair.

Examination-in-chief by MR YIN

MR YIN: I now read out the witness statement of Tam Kwai Yee Ann Mary, chief architect of Kwai Luen Estate Phase 2.

(Paragraphs 1 to 86 were read in English)

Madam Tam, a moment ago you heard that I read out your witness statement. Is there anything that you would like to amend or to supplement?

A. No.

Q. Would you adopt this as evidence for this hearing?

A. Yes.

Cross-examination by MR KHAW

MR KHAW: Madam Tam, by way of some background information, when did you actually join the Housing Department?

A. It was -- I think it was 1980s or 1990s. I joined the Housing Department and then I left and then I joined again.

Q. 1980 or 1990?

A. 1989/1990 or something.

Q. When did you leave the Housing Department?

A. Two years after I joined.

Q. How long did you leave?

A. A couple of years, I left for a couple of years, and I joined again in 1995.

Q. You were the chief architect. When did you take up the post?

A. I said in the statement, 1 April 2014.

Q. It was from that time that you became the chief architect for Kwai Luen, and you became the CA5 (acting)?

A. Yes, CA5 (acting), 1 April 2014.

Q. What about your previous title or post?

A. I was senior architect before, and I was chief architect for a different posting, acting, in the Development and Construction Division.

Q. DD, Ms Ada Fung, gave a statement. I would like to draw your attention to that. B15.1, page 37508.

Paragraph 8, the second line:

"(Partially in English) To assure the safety of HA's developments, it is HA's general practice to not only make sure that the DCD's [that's your division] project procedures, specifications, testing and commissioning follow all the statutory requirements and international standards ..."

Have you got that, Ms Tam?

A. Yes.

Q. And paragraph 9, that's on page 37509, paragraph 9 -- have you got that?

A. Yes.

Q. "DCD [that's your division] implements a quality management system ..."

In the third sentence:

"(In English) There is a comprehensive set of measures developed, enhanced and enriched over time under the system."

Have you got that?

"(In English) These measures are subject to regular reviews, feedback and risk-based assessments, taking into account of the laws and regulations, international standards, industrial practices, availability of technologies, expert knowledge, past experience ..."

So, Madam Tam, there is a reference to the international standards. In your statement, there is no particular mention of international standards. I would like to take this up with you, Ms Tam. In your statement, paragraph 20, page 38015.

In paragraph 20, you referred to the Housing Authority for material approval. Site inspection, you would have regard to the laws and regulations, industry/trade practices, past experiences and risk management.

My question for you is that as chief architect and previously you were senior architect, for international standards, like we keep hearing the World Health Organization standards, in the Housing Department do you have any specific entity or any specific mechanism

whereby you would be able to get access to these international standards?

A. We don't have any specific division dealing with the international standards. I am not aware of having such a division. Let's say there is a project, we have a contract, we would look at the regulatory requirements, the law, the enactments, all the requirements that have to be followed.

Based on our usual practice within the Housing Department, we also work on the basis of the trade practices. International standards would be very broad, although you talked about water, but international standards cover a broad spectrum of things and it is impossible for us to delve into each and every one of them.

If, under the law, we have to follow the requirements, we would.

Q. So you are looking from the statutory point of view?

A. Yes, the British Standard, the materials, and so on, we would follow the requirements.

Q. Let me take you through another document: bundle A2, page 1230. Here in this document -- well, let me say this to you. In March 2010, the WHO published this document. The emphasis is on water safety in buildings.

To start with, it says that -- the preface of the

document is, in terms of the construction of buildings, there may be aspects that have implications on human health. And there are some guidelines promulgated there.

There are a couple of points that I would like to take up with you. It refers to the stakeholders, at page 19 -- page 1249. Paragraph 2.1 refers to the stakeholders. Paragraph 2:

"Stakeholders can include ..."

Do you see the bullet points there: building commissioners, developers, planning officers, architects and design engineers, and so on?

I don't propose to read out the entire paragraph, but there is one thing that is mentioned here, and that is the safety of drinking water. One of the areas of concern is the concentration of heavy metal in water.

Let me draw your attention to one of the paragraphs. Page 1288. In the middle of the page, can you see "Corrosion" there?

"(In English) A wide range of materials can be potential sources of chemicals through corrosion including metal pipes (lead, copper, galvanised steel and iron), solders, brass fittings ...", and so on.

It refers to the potential risks in buildings in relation to lead, and the implications on human health.

We are not simply talking about the safety of drinking water. It talks about the construction and management of the entire building. As chief architect of the Housing Department, were you ever made aware of these problems?

A. I never saw this document. I never heard of it. It can go into detail about the building materials, the water quality, and so on. Well, I haven't seen this particular document and we were not aware of this under the law.

Q. There were a couple of witnesses that we put questions to. Does the Housing Department have an R&D division, in particular in relation to development and construction; is there an R&D unit to deal with this area?

A. In the Development and Construction Division, we don't have a division dealing with research and development.

Q. Have you ever heard of, in your area of work, a design and standard unit?

A. Yes, I did.

Q. This unit, would it be responsible for research and development as well?

A. If, in the division we find that there are certain areas that we need to look at, Mr Yim, the chief architect for this division, might be assigned to take up the work.

It all depends on the nature of the incidents. If we are dealing with concrete, then there may be a chief structural engineer that would be assigned to do it.

Q. Were you ever involved in the work of this section?

A. No.

CHAIRMAN: I beg your pardon, sorry to butt in here. You talk about the design and standard unit. This is under DCD?

A. Yes.

CHAIRMAN: From what you said, it is not forward-looking. It's there to be reactive; is that the case? It would not practically identify any hazards and then conduct a risk assessment. It doesn't do that. It's only when problems crop up that something would be done; is that right?

A. I wouldn't agree with that, because this CD&S covers a broad spectrum of areas. It depends on what has to be scrutinised in the trade. If there are areas that have to be scrutinised, we would design a standard. In the Housing Department and Housing Authority, we are responsible for building PRH units, and we do a lot of design work.

Therefore, it is not sort of dedicated to the job of research. It has to cover a lot of work, design the flats, et cetera. Nowadays, we talk a lot about

environmental protection, so they will also study such matters.

CHAIRMAN: So, for the design and standard, it would be a very small part of the work done by Mr Yim? Is that what you are trying to say?

A. Well, when we designed the buildings, we would like to look at the provisions and standards of our public rental housing estates, so the design and standard has to be aware of that; say, for example, how the windows should be built, would iron gates be provided, or the offering of any other provisions. So they would look into such matters.

MR KHAW: Probably you have heard this before; that is, there was overseas experience, and I put the question to Mr Yim. In Scotland, there was the incident of lead found in drinking water, and then in Wales, again something happened. In the United States, there were suggestions concerning drinking water. Did you hear of them before?

A. No. Well, within the industry, we haven't been alerted to such matters.

Q. Now we are talking about R&D. This morning, we heard from your colleagues in EMD, that is the Estate Management Division. We were told that for the EMD, they have also got an R&D department. Have you heard

about that?

A. Well, I think they have got a post containing the words "R&D" in the title. As to whether it is a specific unit, I am not clear.

Q. Do you know about the work done?

A. Well, probably colleagues from the EMD can supplement. If they have referred to it, then it must be the case. I am not with that division so I can't tell clearly about the job specifications.

Q. For the R&D division -- now, for your division, DCD, you have got the design and standards unit. I want to know whether the R&D would talk to the design and standards, say for example about the standards that you want to meet or recent happenings in overseas countries that should be followed by you. So I want to know whether the two units have got such co-ordination or communication.

A. Well, for the DCD and the EMD, if there are issues that we want to discuss -- well, in fact a lot of posts will be involved. We try to rely on collective wisdom to solve our problems. My understanding is that probably it won't just be D&S and R&D talking to each other. I think a lot of people who are involved in projects will also be involved.

Q. As a chief architect with the Housing Department, for

the Waterworks Ordinance and the Waterworks Regulations, I am sure you are familiar with the requirements concerning buildings?

A. Yes, I am.

Q. Witness, please take a look of the WWO. Please go to C2/1160. Let's take a look at Regulation 20. Regulation 20 on page 1160 talks about the pipes and fittings, and they have to be of British Standard. Within the scope of your work, you have always been aware of the existence of such a standard?

A. Yes, we have to be of British Standard.

Q. Yes, that's in relation to pipes and fittings.

Let's go to 1172 of C2. Item 17 of this schedule. Mention is made about capillary fittings or compression fittings, they have to comply with BS 864. Within the WWR, when they talk about the British Standard, they are talking about the latest British Standard. So all along you would have knowledge about the evolution of the BS?

A. Well, I think I can put it this way. The British Standard covers many different materials. I won't say that I can follow each and every one of them. However, we have specifications to set out our requirements. Well, if it is found there is a difference, when colleagues are give approval they will study the matter further.

Q. We have looked at the case of Kwai Luen Estate. I don't think I need to bother you with the contract, but we know that the contract refers to the 2008 Specification Library. So there are certain requirements concerning copper pipes. And BS 1254 should be complied with, one of the specifications being that it should be using lead-free solder?

A. Yes.

Q. Would you agree with me if I put it to you that within the contract, it has been clearly stated that there is this stipulation, that is the soldering material should be in compliance with the BS, and it should be lead-free? I think the main concern is that we would like to follow the statutory requirement, that is the WWR.

A. Yes.

Q. Would you agree with me that the use of lead-free soldering material is for the following purpose, that is to prevent lead, which is a harmful substance, leaching into the water? Would you agree with me?

A. When we execute the contract, as the contract manager, we follow the requirements in the contract. As to the origin of the requirements in the contract, we include what is included in the Specification Library. When we run the contract, we understand from the information

that we should use lead-free solder. We didn't think about other things, because there was no information to suggest that water may contain lead.

So we didn't actually consider whether there should be lead-free solder and we didn't think about the risk associated with it. But then we will follow the contract because whatever is written into the contract must have been based on the WWO, and when a BS is superseded then it will be updated within the Specification Library and we follow suit, and we have not been made aware that there has been such a problem within the trade.

Q. Let's set aside the question about the trade. Let's make a simple point. I don't think you would disagree that -- generally speaking, we know that lead is harmful to human beings; you would not be in disagreement?

A. I think, when we were young, we were told that for children's toys, they should be free from lead. I think basically we obtained our information, our knowledge, from that. As to the level of lead that would constitute a risk, we haven't studied the matter.

Q. It isn't about the actual level of lead. It has been emphasised that there is a legal requirement that you have to follow the British Standard. The British Standard says that it has to be lead-free. So, when you

draft the contract, you say that it should be lead-free, because you know from your common sense that lead is poisonous and it should not be used in the pumping installations. Would you agree with me?

A. I am not responsible for the drafting of the specifications. So, for the intention of the specifications, I don't know. But recently my understanding is that when the British Standard is updated, then there may be a difference between two different standards. One may be clearer than the other. Then the drafter of the specifications, for the sake of the contractor and the project team, may want to make it clearer and have it drafted more clearly, in relation to the requirements of the BS. So that has been taken out from the BS. Say, for example, the previous BS stated clearly and then the following one may make it difficult to understand. That's what I guess and that's why it has been included.

Q. Let me try once again. In fact my question is simple.

When you draft a contract, you want to state clearly that it should be lead-free, because you don't want to have lead, because lead-containing material will leach into the pumping installations?

A. Well, I didn't draft this specification so I didn't know about the intention. All I know is we have to follow

the legal requirements.

CHAIRMAN: You are not a drafter, but from your witness statement, you have said that you have had the experience of 30 public housing projects, you've built 30 public housing projects, and was involved for over 30 public housing projects, from inception to design, et cetera, to completion.

A. Well, whatever is required by the law, we would have included it. But then, in the building industry, as to the origin of a certain requirement, there will be a knock-on effect, and as to the actual risk, it may not be known to us. We may not be aware of it.

Now, the trade may have been doing certain things for a long time, and for both the trade as well as the regulator, if we haven't been alerted by them, then we would have been following the practice.

CHAIRMAN: Well, we know that in overseas countries, they became aware of leaded solder materials. Are you trying to tell us that in Hong Kong, such a problem has never existed? That is, we never have this problem, but it so happens that in July 2015, this cropped up in public rental housing estates in Hong Kong. Because all along you have been saying the trade doesn't have this problem, it is unknown to us, the trade doesn't know it, we don't know, in other words, nobody knows -- in other

words, you are saying that in Hong Kong this has never been a problem?

A. I wouldn't say that lead in solder has never existed in the past.

CHAIRMAN: Only talking about Hong Kong?

A. Yes, I'm talking about Hong Kong as well. I think it was in the 1980s that copper pipes were introduced. In the market out there, one would test it before we would be able to identify the issue. We don't have the information. We were not alerted to this particular risk and nothing was brought up.

CHAIRMAN: Are you saying that it's never been a problem and therefore you are merely replicating the specification onto the contract and you don't know the actual reason? Is that what you say?

A. Whatever is in the British Standard -- the law says we have to follow the British Standard -- we would follow the British Standard.

CHAIRMAN: If I push you on this, I don't think you would be answering me at all. Please carry on.

MR KHAW: Kwai Luen Estate. Let's have a look at the contract: B4.2, page 3483.

Let's have a look at page 3405 first. That's Kwai Luen Estate contract booklet. That's on page 3405.

A. Yes.

Q. If you refer to page 3483, there is a specification:

"The Specification referred to in the Articles of Agreement and Conditions of Contract shall be deemed to include all of the following".

One of them is the Specification Library 2008.

If I may ask you to have a look at this contract. In the contract, there are certain things that are not following the 2008 specification exactly.

Let's turn to page 3547. Page 3547, 3548 and 3549, these three pages are in connection with the pipes, fittings and joints. And the materials that are used. Have you got that, Madam Tam?

A. Yes.

Q. I can't see anywhere here any particular specification regarding soldering materials; right? So in terms of soldering materials, the requirements for soldering materials, you have to refer to the Specification Library.

Now, for Kwai Luen Estate contract, there is no particular mention of soldering material. Why is it that all the requirements were not replicated from the 2008 Specification Library? Why do you have to make it so indirect? Why do we have to go to the Specification Library to find out about soldering materials?

A. That is the practice of putting together the

Specification Library. 2008, we had a library there. We would review that every couple of years, and in the interim period, if there are certain clauses regarding not just plumbing, maybe plastering and so on -- if in the interim period we see the need for updating, then the specification team would put together a new clause.

Let's say in 2010, during the tender period, if there is a new specification clause, we would include that. Although we would not replicate the entire 2008 Specification Library, we would just include those that have been added. So the things that have to be rewritten would be really small in number.

Q. Are you saying that for the Kwai Luen contract, PLU1, what is included are those that have been changed; is that what you are saying?

A. I think so.

Q. Change means things that are different from the 2008 Specification Library. If there are changes, you would highlight that, but otherwise you would not?

A. Yes.

Q. The reason I put this question to you is that the way you draft the contract would have relationship with the contract with the contractor and his subcontractors.

Let's have a look at K1/800. It's the contract between Shui On and the subcontractor. In this

subcontract, there are certain requirements that appear in the main contract. I would like to find out about these first. For these subcontracts, would the Housing Department require the main contractor, if they have a subcontractor, would you require the main contractor to submit the contract of the subcontractors to you?

A. No, there is no such a requirement, if there is a subcontract. It's only after the incident, when we conducted the investigation, that we asked Shui On to make available more information. Then we became aware of that. We don't have a direct contractual relationship with the subcontractors.

Q. Let me put this to you. If you do not ask to see the subcontracts, the main contractor and the subcontractors, when entering into a contract, how can you make sure that they measure up to the requirements of the Housing Department? And there is very little in the way of regulation, isn't there?

A. It is the duty of the main contractor to execute all the work under the contract. The way they sublet the project, it would be entirely for them to do. We are not doing construction management; it is the main contractor's duty to carry out the contract management, whoever they subcontract the project to, they may subcontract to certain people and they procure the

materials for the subcontractors, but whatever the case, it is the duty, the obligation of the main contractor as far as the Housing Department is concerned.

Q. Let's have a look at this subcontract. There are certain clauses lifted from the main contract. Page 857 is -- what you showed you, 857 to 859 is about the PLU1 requirements. Can you see that?

A. Yes.

Q. So if you do not require the subcontractors to make available the contract to you, and in the main contract it doesn't specify what are the material requirements. So, in the subcontract, things might not appear -- things might not be as clear. Would you agree with that?

A. All I can say is that the main contractor has an obligation. How they subcontract the project is their business. Main contractors do have experience to undertake the Housing Authority's contracts. Now, where do they write the requirements and should they print it out and so on -- they know very well what to do. The main contractors can touch on this in their statement.

Q. Are you saying that for the relationship between the main contractor and the subcontractor, whether the subcontractor would measure up to the requirements of the main contract, you put trust on the main contractor?

A. Yes, it is the duty of the main contractor.

COMMISSIONER LAI: Can I put a simple question: Madam Tam, you said a moment ago that you rely very much on the main contractor to work in accordance with the contract, and in your contract it is specified that they have to use lead-free grade soldering material. That's in the contract and you would expect the main contractor to follow the contract. If they subcontract the project, presumably they would include this clause in the subcontract? That's the contract between the main contractor and the subcontractor.

A. So this clause would appear in the subcontract to require them to use lead-free grade soldering material. I didn't hear well enough, but I think you are asking about the subcontractor.

COMMISSIONER LAI: You said you haven't seen the subcontract?

A. No, we haven't seen the subcontract.

CHAIRMAN: My question is, for the Housing Authority, they have a contract with the main contractor, and in the contract it is stipulated that there can't be any lead-containing soldering materials to be used, but you do not monitor the situation. You would expect that even if they sublet the project, they would have to abide by the content of the main contract, so we can see

that when the main contractor sublets the contract, they would remind the subcontractors that they have to follow the clauses of the main contract. It seems that the main contractor may not monitor the subcontractor in a way to make sure they follow the details of the main contract and to make sure that there will not be any leaded solder to be used.

So it seems to be that everyone is passing the buck onto somebody else or some other parties. The Housing Authority is passing the buck on to the main contractor and the main contractor would be passing the buck on to the subcontractors, and if the main contractor is aware that the Housing Department or the Housing Authority would not be monitoring the implementation of the clauses, then they can't be bothered because neither the HA nor the HD would be checking the use of leaded solder materials.

So the subcontractors know that nobody would be checking. Would there be such a situation?

A. Perhaps I will try to explain the matter from another perspective. Now, for the main contractor, there is this responsibility of continuous supervision, and for the HA, we have our site inspection team carrying out periodic supervision. So they have the responsibility of continuous supervision, so they have to make sure

that what's going on on site is in compliance.

We adopt a risk-based approach, so when there is a known risk then we will include it in our periodic supervision. Therefore, for on-site delivery, for certain items we do have on-site checking and verifications, but this will include materials with risk known to us. On the part of the contractor, he should have checked everything, especially things that they have submitted for approval. There is already a stipulation in the contract, so that's what has to be done.

As I have said in the witness statement, we are covering 1,000 materials, so we can only adopt a risk-based approach and then we deploy our resources. So we don't check each and every item of the 1,000 items.

For the main contractor, again he has this risk-based approach, to determine to what extent it will be checking the materials. But he has to make sure that he is in compliance with the contract.

COMMISSIONER LAI: So your expectation is that the main contractor will be carrying out 100 per cent checking, but then for the HA, when you go on to check the main contractor, it will be random? It could have been zero?

A. No, not random, not zero. We do have a criterion. Over

the years, we have got a site inspection system. We know the extent. We have manuals, we have guidelines, to inform our site inspection team as to the extent. So it has been built on our experience and it is built on the risks known to us and we have developed our system in this way and we follow the system.

So certainly we won't have the same sort of manpower for supervision as that of the main contractor. So it's on a needs basis, and the HA has a tender system, that is we engage a contractor to do the work and it has the duty of continuous supervision.

MR KHAW: On this point of continuous supervision or periodic supervision, I do have questions for you. First of all, this is about the samples of the materials and how they have been checked and how they have been approved. Earlier on, we have heard other witnesses, for the approval of the materials and their vetting. Well, we are talking about the stage prior to the bulk of them being delivered.

A. You mean sample submission?

Q. Yes, sample submission. PLU1 doesn't stipulate that samples need be submitted, except a couple of them?

A. Yes, except two of them.

Q. Mainly speaking, the main contractor will provide documents, not samples, documents, not samples -- for

PLU2, samples are needed?

A. Yes.

Q. I just wanted to discuss this matter to you, PLU1, as to when you need the samples and when not. For PLU1, a number of witnesses have earlier on said that for PLU1, yes, indeed, according to the specifications for the contract, samples have not been needed, but it is the trade's practice and it is the practice of the HA that quite a lot of materials are required in relation to sample submissions by the contractor?

A. You mean PLU1? We need -- we asked for it. If our contract requirement doesn't ask for it, that is if we don't ask for a sample submission, when they provide the material submission, unless I issued an instruction, otherwise they don't have to do it; they need not do it.

However, if they are willing to give it to us, we won't reject it.

Q. In other words, what your practice has been is that it depends on whether they want to do it or not. It's not for you to take the initiative to ask for certain materials to have the samples given. So, if they show it to you, you will have a look; if they don't, then you don't bother?

A. Yes. This is because the specifications are very clear. What we require would have been included, like PLU2, for

the sanitary appliances, we want to know about the look of the toilet, say for example.

Q. Yesterday, from the statement of the chief building services engineer, we have been told that you have a list or you have an instruction in relation to PLU1, as to which materials would require submission of sample from the main contractor.

Do you have recollection of such a list or such an instruction?

A. No. It must have been before my time, so I don't have such a recollection.

Q. Would you have given instruction to your colleagues, that is for this project there are certain materials that you would like the main contractor to submit samples, physically. So have you had the need to issue such instructions under PLU1?

A. Since 1 April, I have not issued such instructions to my colleagues, but then I was with them at the completion stage. Even if there had been a need for sample submission, it would have been done earlier. But I am not aware that they have given such an instruction. Usually, it would already have been written down in the specifications.

Q. Well, for PLU1, for leaded materials, do you have recollection, for PLU1 materials, can you recall which

materials have had their samples offered by the main contractor for vetting and approval?

A. I have to check my record before I can tell, because there is so much, but I think all along we have been talking about soldering. I have asked my colleagues to look up the information. It has been submitted, although we haven't got it in the contract.

Q. Yes, you are right, for soldering materials. At that time, you did receive from Shui On some samples. In addition, documents concerning the soldering materials, I think you have received them.

So please take a look of 38148 of B15.2. Page 38148, it is from the Housing Department, sample submission and approval form. A number of materials have had their samples vetted and approved. First of all, let's take a look at page 38148 first. Item 4, "Brazing alloys and soldering alloys for copper fittings system"; "Hot and cold fresh water supply system". You don't actually mention the name of that particular material.

However, if we turn to the back, page 38161, do you see Fry 99C lead-free solder wire?

A. Yes.

Q. Then we do see a test report, page 38163, from Nutek Systems Ltd. It issued this test report about Fry, the

brand name Fry. So you have the element composition test and then the content of lead was zero. I am sure your colleague must have received the physical sample, and on top you have received such information concerning Fry; correct?

A. Yes.

Q. For such samples or sample-related documentation, for the vetting exercise, I think the purpose is also to have it on record so that when the materials are delivered, at least you have some basis for you to check against the materials?

A. Well, in general, if we stipulate that sample submission is required, then there must be a reason behind it. Say, for example, a particular colour required for the wash basin, colours can vary or the paint has to be of a particular colour, so for those requiring sample submission, so upon delivery it will be checked, to match the colour, to check for the dimensions. But then for the soldering materials, for PLU1, there's no requirement for sample submission. But when it is submitted, certainly we will take a look.

So, for the material proposals, they will give us the testing report, and when it is approved, then it will be accepted. When they give us the sample, we will just go through the same process for samples. That is,

we will have it on the sample board and have it included in the sample room. Is it for further use? We have not asked for it in the first place.

This is different from the wash basin. For wash basins, we need to check against delivery. For this one, we haven't asked for it, so there's no reason for it.

Q. For this form to be filled, having looked at the sample, having read the test report, so you have done so much, you have vetted it, now you know that Fry 99 is fine; you have ticked against a number of check boxes. It's of no use, it's useless. The whole exercise is meaningless because, according to what you have said, you would not have used it to check anything.

A. Well, I can say this. Yes, basically, we haven't asked for it to be done. That is what is stipulated in the contract. We haven't asked for sample submission. It hasn't been asked to do this.

For this to be done, we keep evidence, we mark it. It won't be that we haven't asked for it and then we just turn it away. So we look at it and we have it recorded.

Now, in this case, so we can take it out and we show that there has been a submission.

So this is what has to be done in line with the

contract. At that time, we haven't asked for sample submission. This is because all along the trade, the HA, the HD did not know that this would constitute a problem.

Q. Would you agree with me that these materials are not what are required? You may have done a lot of work, and it wouldn't help with the industry?

A. It is helpful to the contractors. We don't require them to make the submission, but they would, for whatever reason, like to seek our approval, to see whether they comply with the contractual requirement which is to offer our assistance. As a counterparty, we would do that.

Q. Whether they comply, you put a tick there. Once this step has been taken, once approval has been given, this kind of approval would not help with the subsequent work; would you agree?

A. It is significant, because if the main contractor fulfills its obligation, then it would instruct the subcontractors to do that, to comply, and you would make sure that it would be achieved.

CHAIRMAN: It is something that the subcontractor has to deliver to the main contractor, and then the main contractor would have to deliver this to the Housing Authority. So we start from bottom up. Why do you have

to impose this from top to bottom?

A. Our relationship is with the main contractor. If the main contractor seeks our approval, we would respond to them.

MR KHAW: In actual fact, you were shown this Fry, approval has been given, but on site what is delivered is not Fry but Cry; nobody knows. Nobody knows; agree?

A. If the main contractor carries out its continuous supervision, it should know.

Q. At the end of the day, you would put the trust on the main contractor; is that right?

A. It is what the site inspection system is about. In the trade, it wasn't considered a risk, it wasn't considered an issue. Since the incident, we have already updated our inspection system and we would check the soldering materials on site. Our inspection form has also been updated since the incident. The industry also found this problem. We have been acting in accordance with the law. We didn't realise that there was the problem of lead in the water, and also the lead in solder which leaches into the water. It's not simply a question of whether lead was harmful to health. As a kid, we were aware of the lead-containing paint causing problem.

CHAIRMAN: Let me follow up on this. In your statement, lead is toxic. This is a general statement; you are

aware that lead is toxic; is that right?

A. In general, yes, but as a matter of fact, does it have to be a certain level that it would constitute harm to human health? And this is something that the expert would delve into. There is nothing like zero.

COMMISSIONER LAI: The chairman put a very straightforward question to you, whether lead is toxic, and you are aware that lead is toxic?

A. In general, yes.

CHAIRMAN: All right. The next question, listen carefully: are you aware that in many countries, lead did appear in water and problems did occur?

A. We didn't pay attention to that.

CHAIRMAN: You were not aware of that, you personally?

A. No, I didn't study this issue. I didn't think about this issue.

CHAIRMAN: My question is very straightforward. I will repeat it for you: do you know that in many different countries there were problems of lead appearing in water? Do you know that; "yes" or "no"?

A. I wasn't conscious of this issue.

CHAIRMAN: Do you know or do you not know?

A. Before the lead incident, I didn't know that.

CHAIRMAN: In other words, you didn't know that the water pipes were made of lead and therefore water contained

lead and you didn't know that; is that right?

A. When I was in school, I knew about it, but in our trade there was no mention of that, and in Hong Kong I wasn't conscious of this issue in this particular generation.

CHAIRMAN: Let me come back to my question: do you know that in many countries there were problems of lead being found in water? That's my second question. I am just repeating this for you. Do you or do you not know?

A. I did say I wasn't conscious of that. I wouldn't say I know; I don't know.

CHAIRMAN: So you didn't know about it. So you don't know about this question. Let me ask an open question. Do you know what causes the problem of lead being found in water in these various countries? What caused this particular problem in these particular countries?

A. I didn't read the report so I don't know.

CHAIRMAN: If I tell you that basically there are two causes -- one is the pipes are being made of lead; the second is the soldering material containing lead -- do you know that?

A. I didn't read the report so I don't know. As I have said, there are a lot of discussions of late and a lot of people are aware of that.

CHAIRMAN: As chief architect, I just find out about your knowledge. If you didn't know about what I talked about

a moment ago, let me put another question to you. Do you know that there are two types of soldering materials? One is lead-containing soldering material, the other one is lead-free soldering material; do you know that?

A. We know that when we make the connection, we require lead-free material. In the trade, they have been using lead-free material.

CHAIRMAN: So this is what you know about now. Previously, you were not aware of that?

A. We didn't know that somebody would use lead-containing solder.

CHAIRMAN: Since you don't know that some lead-containing soldering materials did cause water problem in other countries, then logically you wouldn't know whether the soldering material would contain lead or not; is that right?

A. I think I can put it this way. The incidents you mentioned have to do with drinking water and all the reports.

CHAIRMAN: No, it's got nothing to do with the reports. I am merely asking whether you know or you don't know.

A. The drinking water problem in other countries, I don't know. I am not conscious of that.

Regarding Hong Kong, in our projects we stipulate

that the soldering materials cannot contain lead, and this is something that has been used in the trade, so I wasn't conscious of the fact that there may be people who would use lead-containing solder in connecting the pipes. If the specification states lead-free, then by logical thinking there would be soldering materials that contain lead. You asked me whether I know there are soldering materials that are lead-free or leaded. In this particular case, for the pipes, in the trade practice we don't know somebody would use leaded soldering materials.

CHAIRMAN: Let me come back to the question that I put to you. So your level of awareness is merely at the first level: you know that lead is harmful, and that's as much as you know?

A. Under different circumstances, I'm not talking about water, as a person we knew that toys should not contain any lead paint, and that is the earliest that I learned about the harmful effect of lead.

CHAIRMAN: Well, leaded petrol has been replaced because in the air there is simply too much lead concentration.

A. Yes, that's an example.

CHAIRMAN: That's as far as we can go today.

MR KHAW: I want to take a rest.

(4.27 pm)

(The hearing adjourned until 10.00 am the following day)

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