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2015 年 11 月 26 日

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上午 10 時 04 分恢復聆訊

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出席人士：許偉強大律師及鄭欣琪大律師，為外聘律師，代表食水含鉛超標調查委員會

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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

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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

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鍾耀明大律師及許佐賓大律師，由的近律師行延聘，代表保華建築營造有限公司

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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

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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

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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

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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

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Q 殷先生：早晨，主席。喺樂女士繼續作供之前，我想提出一點嘅，就係樂女士喺呢個研訊入面係作為清河、彩福同埋紅磡二期三條邨嘅 contract manager 嘅身分嚟畀證供嘅，係講佢親身經歷喺呢三單工程所知嘅事實嘅。

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S 主席：係。

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T 殷先生：呢三條邨就同許大律師個當事人係即係冇關連嘅，當然我唔係話佢唔准問問題。如果佢係對喺呢三單工程入面所發生嘅事實有興趣，佢係可以問嘅，絕對。但係我希望啲問題唔好帶到咁遠，係帶到去唔關呢三單工程嘅事，因為對呢個研訊係冇乜幫助，而佢作嘅答案亦都

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係冇乜嘢證供嘅價值嘅啫。

主席：都唔一定嘅，視乎睇下問啲咩嘢問題喇，有一個--唔可以話，啊，只係准問呢三條邨嘅問題嘅。

繼續。

香港房屋委員會第十一證人：樂素芬（房屋署（清河邨第一期、彩福邨和紅磡邨第二期總建築師））宣誓繼續作供  
許佐賓先生繼續盤問

問：When public rental housing estates get old, are you aware that whole-scale replacement of plumbing would take place?

答：我知道就--你所謂 get bold, 即係已經出現咗鉛水問題之後？因為我唔喺 Works Division, 咁嗰十一條邨，因為有呢一個鉛水事件，需要到換喉個話呢，我覺得係需要嘅。

問：Are you aware that other public rental housing estates have had their plumbing replaced whole-scale?

答：冇需要。我唔 aware。

問：I just want to confirm with you that when EMD, Estate Management Division, when it went about replacing plumbing for public rental housing estates, it went about doing so with compression joints for copper pipes -- I just want to confirm with you that you are not aware of that?

答：我唔 aware。

問：Are you aware that in Singapore, in recent years, new-built public housing use compression joints if copper pipes were used?

答：我唔 aware。

問：I'll move to another topic. I believe you referred

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to the licensed plumber as a goalkeeper yesterday.

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答：冇錯。

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問：As far as an authorised person is concerned, would you agree that the AP's duty is statutory and is owed to the general public and the Buildings Department?

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答：根據 Building Ordinance 嘅要求，係嘅。

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問：Would you accept that the AP cannot relinquish his or her duty by relying upon the licensed plumber?

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答：如果根據 Building Ordinance 嘅定義，若果嗰個工程出現喺法例上，有差距嘅話，個 AP 冇錯，係要負責。不過因為呢一個水喉出現問題嘅時候，LP 本身亦都係根據呢一個法例，under Waterworks Ordinance 或者 Waterworks Regulations 底下，佢係有呢一個 statutory duty。

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問：Very well.

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許佐賓先生：May I ask our colleagues at the Secretariat to call up document U1/3, please.

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問：Can we go to page 12. In fact, could we scroll up to the beginning so the entire Inquiry can see what kind of document it is. Further down, please. It is actually a Hong Kong Institution of Engineers' document. Page 12, please. I just want to see the beginning, sorry. If you could go up to about paragraph 1, so everybody can see what it is.

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This is a Hong Kong Institution of Engineers' report on study of lead in drinking water in public housing estates.

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許佐賓先生：Can I now ask our colleagues to take us to page 15, please. We scroll down to paragraph 29.

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問：Ms Lok, please read paragraph 29 and then I will read it out.

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答：Okay.

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問：Paragraph 29 is actually referring to form WWO46, and paragraph 29 reads:

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"By virtue of part I, there was no provision that AP would be subsequently, let alone timely, informed on any communications between WSD and LP including those necessitating changes of the installation albeit AP was one of the parties jointly and severally responsible for the technical submission of the project."

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As far as WWO46 is concerned, Ms Lok, would you now accept that the AP is as much a goalkeeper as the licensed plumber?

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答：我會睇嗰個所謂責任問題，本身一個責任係要需要釐清嘅，所以即使個 AP、個 consumer 同埋個 licensed plumber，同樣一齊簽喺呢個 WWO4。三個關係本身嗰個責任係需要釐清嘅，如果 generally 咁睇，一個咁嘅 statement，冇錯，佢係 appear 喺呢一個 form，但係個 level of responsibility，我相信係要清晰理解。

Q

Q

問：Am I to understand that you mean there are now two goalkeepers or one?

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答：我始終都係覺得做嗰個 licensed plumber 係主要負責任。

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主席：樂女士嘅意思就係話，主要係 licensed plumber，咁佢嘅意思

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許先生：Much obliged.

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問：May I now scroll up to paragraph 23 at the bottom of page 14.

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Ms Lok, can I ask you to read paragraph 23. It stretches from page 14 to page 15.

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答：睇咗。

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問：Do you accept that -- allow me to read paragraph 23:

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"The TF [task force] believed that the reason for the applicants being specifically required signing part II alone is to ensure the applicants were duly put on notice for their endorsement of information contained in the part I."

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N

Here, the applicants, Ms Lok, do you accept, are the Housing Authority?

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答：我而家再睇本身張 form 裏面啲細緻先。

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問：Please do.

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答：裏面嘅內容同而家 paragraph 23 嗰度所講嘅，應該都係類似。

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問：Ms Lok, I have no more questions for you. I now defer to my learned senior, Mr Eric Chung. He has a few questions for you.

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主席：唔可以咁個喎，咁你咪三個 counsel，係問三次呀？咁跟住

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counsel 問完，就 solicitor 問呀？唔得個啲，一係你問晒佢。唔係，我呢度嘅規矩唔得吓。

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許佐賓先生：Mr Chairman, may I have a moment?

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主席：Yes.

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許佐賓先生：Mr Chairman, much obliged. I have no more questions.

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主席：唔該晒，請座，咁樣。

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殷先生補問

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問：樂女士，我想同你跟進番係有三、四個範疇，係各位代表唔同嘅人士嘅大狀問過你嘅問題。我首先因為許律師頭先同你講過，佢同你--就係咁問你嘅，佢話你同唔同意個 AP 呢“cannot relinquish his duties to the licensed plumber”，佢咁問你嘅頭先，你記唔記得？

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答：可唔可以再 repeat 呀？

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問：佢頭先，如果我有聽錯，佢問你就話，你同唔同意個 AP 唔可以 relinquish 佢嘅 duties to the licensed plumber，佢係咁問你嘅。

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答：Okay，係。

O

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問：我想問你幾個問題啫。

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答：唔。

Q

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問：AP 嘅法律上，法例上畀佢嘅責任係喺 Building Ordinance 入面嘅，啱唔啱？

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答：冇錯。

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問：Building Ordinance 入面，有冇提過關於水喉工程要合咩嘢規格嘅？

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答：應該佢係 refer to other statutory requirements。我記得佢內容冇講到去好細節關於個 LP 要做啲咩嘢嘢嘅。

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問：LP 要做咩嘢，係水務條例，...

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答：冇錯。

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問：...Waterworks Ordinance 講啲嘛？

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答：係。

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問：Waterworks Ordinance 入面，有冇提過 AP 嘅呢？

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答：呢個...

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J

問：我可以話畀你聽係冇嘅。

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答：係呀，呢個我唔記得。

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問：唔緊要，樂女士，我想...

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主席：我都唔係好知你想表達啲咩嘢嘢。

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殷先生：唔係，因為...

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主席：咁係咪即係 Waterworks 永遠都唔使供水畀你哋啲屋邨呢？

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殷先生：Waterworks...

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主席：因為你哋從來都 AP，原來你哋都唔需要，你哋有 AP 啲嘛。

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殷先生：唔係，因為我...

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主席：你哋 Housing 就有 AP 啲嘛，exempted 啲嘛，係咪？

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殷先生：佢 AP...

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答：我哋 building work 係 exempted 嘅。

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主席：係，exempted㗎嘛，theoretically，你哋 Housing 就有 AP 嘅，係咪？換句話嚟講，如果嗰個 form 係要寫 AP 嘅話，理論上佢哋就唔使簽嘅，即係冇得簽添喇，因為冇 AP㗎嘛。

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殷先生：我唔係講話佢簽唔簽個 form。

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主席：唔係，我知，我明呀，咁個問題就係佢哋完全係唔會簽㗎嘛。

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殷先生：因為頭先個問題，可能...

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主席：係呀。

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殷先生：...我錯喇。頭先個問題，好似係建基於話，AP 嘅 Building Ordinance，...

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主席：係呀。

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殷先生：...屋宇條例下面嘅責任，...

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主席：係呀。

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殷先生：...唔可以下放畀 LP。

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主席：係吖。

殷先生：我想釐清一點就係，AP 嘅屋宇條例入面嘅責任，...

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主席：係吖。

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殷先生：...係唔係講水喉嘅。

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主席：係吖。

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殷先生：而水--LP 嘅責任呢...

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主席：我就將你個論據就再推前少少啫，我嘅意思即係話如果你咁樣樣講嘅話，咁理論上呢個 housing estate 永遠都唔應該有淡水去供應比佢哋嘅，你明唔明我嘅意思？

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殷先生：我明，但係我唔覺得係一個--係可以將個論點推到咁樣。

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主席：即係你嘅意思--我嘅想話畀你聽嘅意思，就係雖然喺呢個 Building Ordinance 裏面，就有好--或者喺呢個 Waterworks 裏面，就有好 specific 咁樣樣講過 responsibilities，但係實際上你都係有 responsibilities 嘅。

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殷先生：我同意嘅。

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主席：如果有嘅話，你就基本上就係遞張 blank 嘅 form 上去畀水務署，如果我係水務署，就梗係將嗰張 form 打番回頭畀你喇，係咪先？

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殷先生：我絕對同意。

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主席：係囉，咁所以某程度...

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殷先生：邊個會簽落去個 form 度，...

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主席：係要...

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殷先生：...簽咗個 form 係有責任嘅。

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主席：係囉。

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殷先生：不過就建基頭先個問題，似乎係建基話喺屋宇條例入面嘅責任咁解啫。

N

N

主席：嗰啲我哋今日呢個專責委員會都唔係調查嗰啲喇，係咪？係囉。

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問：咁我想樂女士睇睇，關於琴日問過你有一個 WWO46 part I 嗰一部分嘅簽名嘅先後嘅問題嘅，你記唔記得琴日係問過呢啲問題？

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答：記得。

問：我想你睇番，你證人口供入面嘅附件 7，係喺 bundle B15.2，第 38772 頁。附件 7，係 38772 頁開始，就我想你睇 38773。你見呢個 38773 嗰個表格，上面係--而家我哋睇下半頁，你見到嗰個 licensed number 同埋下面嗰個電話，同埋傳真號碼，e-mail 呀咁樣，係用打字機打嘅，你見唔見到？

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答：睇到。

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問：如果我哋睇番嗰頁嘅上啲，講話關於嗰啲地盤嘅資料，同埋呢個 WSD approval letter reference 呀嗰啲咁樣嘅資料，冚嘢都係又係用打字機打嘅。

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D

答：係。

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E

問：我想問你一個問題就係，據你所知，呢啲資料...

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主席：等我一陣先。

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問：據你所知，呢啲打字機打嘅資料，係你哋--據你所知，呢啲資料用打字機打上去，係應該係你哋 Contract Manager 個寫字樓㗎，抑或係打好咗，畀你哋簽嘅呢？

J

J

答：肯定係 LP 打好晒，畀我哋簽。

K

K

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L

主席：繼續喇吓。

M

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問：咁我哋知道呢個 WW046 part I，係要跟埋一個 annex of materials 一齊上嘅，你揭去 38775、38776 你就睇到㗎嘞。

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答：冇錯。

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問：呢啲資料嗰個負責個項目嘅總建築師，係佢自己搜集同埋填落去㗎，抑或係其他人做嘅？

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Q

答：有可能個 CA 做。

R

R

問：係邊個做嘅呢，據你所知？

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答：應該係個 licensed plumber 或者係 main contractor 佢自己做。

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問：咁我想你帶去另一個範疇嗰度，就係講呢個 submission or approval 嘅。咁嗰呢一個環節，我就想你首先係睇一睇 bundle B2，B2。咁或者睇睇 B2 嗰度，有多個唔同年份嘅 Specification

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Library，我就想你睇 tab 26，第 635 頁開始。嗰個係 635 頁，你睇唔睇到？

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答：睇到。

D

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問：就係一個 Specification Library 嘅一部分嚟嘅，係關於 water supply PLU1 嗰部分。

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答：係。

F

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問：你如果睇佢嗰頁嘅最下方，左下方，你應該見到佢寫明係“Specification Library 2004 Edition”。

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答：冇錯。

H

I

問：我想你去睇睇呢，揭去第 644 頁。

I

J

答：係。

J

K

問：我未叫你去睇個內容之前，我想提醒你琴日，其實係有講過--我哋有一個環節呢，你嘅證供係講，咩嘢情況下係要畀 submission，同埋 for approval，同埋咩嘢情況下，嗰個承建商係要畀文件畀呢個總建築師睇；同埋咩嘢情況下，係要畀呢個物料嘅 actual sample 畀嗰個建築師睇嘅，你記唔記得呢部分？

K

L

L

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M

N

答：記得。

N

O

問：如果我有記錯，你嘅答案就係話，係要睇 specification，你記唔記得？

O

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答：係。

P

Q

問：我而家想你睇睇，譬如 PLU1.M120.4，講 copper pipes 嗰度。

Q

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答：係。

R

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問：你見到下面嗰 1、2、3、4 段，係冇提過 submission 嘅，啱唔啱？

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問：你揭到第 646 頁，PLU1.M160.4 嗰度，“Soldering Alloys for Copper and Copper Alloy Capillary Fittings 嗰度，又係

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1、2、3、4 冇講 submission 嘅，啱唔啱？

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答：冇錯。

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主席：你講個 submission 係 submission of documents，係咪？

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殷先生：我會睇到嘅。

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問：如果你睇到第 651 頁，你睇呢個 PLU1.M210.4，講 stainless steel type expansion joints 嗰度呢，你睇下 1、2、3、4、5，睇到第 6 段。

I

I

答：唔。

J

J

問：係睇 submission 㗎，睇唔睇到？

K

K

答：睇到。

L

L

問：佢下面，submission 仲會分類個啲，有 A 同 B，睇唔睇到？

M

M

答：睇到。

N

N

問：咁佢第 1A 嗰度呢，第 1 類佢就話：

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“Submit type hydraulic test certificates/reports issued by laboratories that comply with PRE.B9.570”.

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P

睇到嗎？

Q

Q

答：睇到。

R

R

問：嗰度就係講話文件要 submit，係咪？

S

S

答：冇錯。

T

T

問：咁佢 B 嗰度--而且佢 A 咁寫“Submit type hydraulic test certificates/reports issued by laboratories”，就即係話你唔使問佢，佢都要做㗎嘞？

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B

答：啱。

C

C

D

D

問：咁如果你睇 B 項，佢就話“Submit for approval installation...”，最後嗰度就話“upon request”，你見唔見到呀？

E

E

答：睇到。

F

F

問：係咪即係呢一個，就佢唔係一定要自己做嘅，但如果你問佢擺呢，佢就要畀咁解吓嘛？

G

G

答：正確。

H

H

I

I

問：咁我哋下一個 PLU 呢，下一個 spec.，PLU1.M220.4，就講“stainless steel flexible connectors”。

J

J

答：唔。

K

K

問：你揭去後面，第 2 段，即係 652 頁嘅下方，你睇到第 2 段，又係講 submissions。

L

L

答：睇到。

M

M

問：又係咁嘅情況吓嘛？

N

N

答：冇錯。

O

O

問：咁呢個下面個 spec. PLU1.M230.4，“Rubber type expansion/flexible joints”，你睇第 653 頁嘅第 2 段，又係咁樣吓嘛？

P

P

答：係。

Q

Q

問：但係我哋睇到下面 653 頁，下槪講“pipe brackets and sleeves”。

R

R

答：係。

S

S

問：“Pipe brackets”嗰度，PLU1.M410.4，pipe brackets，你睇第 6 段，佢呢度就講：

T

T

U

U

“Submit sample of the pipe brackets and anchors for CM's approval prior to installation.”

V

V

B

B

C

咁似乎就即係第一，佢而家係講物料嘞。你哋呈上物料，樣辦，  
啱唔啱？

C

D

答：啱。

D

E

問：但係就有提文件，啱唔啱？

E

F

答：係。

F

G

問：咁亦都有話係 upon request？

G

H

答：係。

H

I

問：咁據你嘅理解，即係話佢要呈上樣辦，但係唔係一定要呈上呢個文件，  
但係就唔使問佢，佢都要做嘅，我咁理解啱唔啱呢？

I

J

答：呢個直情寫明係要呈上呢一個 sample，咁所以佢係要依足去做嘅。

J

K

問：咁睇完晒呢幾段，我理解你琴日個證供話要睇 spec. 嘅意思，係咪話  
其實個 Specific. Library 入面嗰幾千樣嘅物料，每一段都有清  
清楚楚有冇要求 submission for approval。如果有嘅話，佢會  
寫明，究竟你要 submit 嗰個係樣辦吖，抑或係文件。同埋亦都有講  
明，係唔使問，佢都要畀，或者問先至要畀，抑或有提過呢？完全冇  
提過 submission，即係佢唔使畀嘅，係咪咁解？

K

L

M

答：呢個理解係正確㗎，因為個 specification 嘅要求就係咁。

M

N

問：咁琴日，就講到話呢...

N

O

P

主席：我想喺呢度問一問，呢個 pipe brackets 呢，有啲乜嘢咁特別？  
特別到一定要 submit sample 呀？

P

Q

答：因為如果講到個功能上面，個 bracket 本身好重要，碼住一個喉喺  
個牆身度，佢可以係承受到嗰個壓力嘅。

Q

R

S

主席：係吖。

S

T

答：同埋個 bracket 本身，佢亦都有個 specification  
requirement，包括佢個 strength 喇。

T

U

V

U

V

B

B

主席：係吖。

C

C

答：佢例如好似 stainless steel，佢個 content 喇，咁呢啲好重要  
D 嚟。

D

D

主席：係吖。

E

E

答：所以入咗呢一個喉碼之後，我哋就放存喺呢一個 sample room 嗰度，  
F 日後就係擺佢呢一個作為一個樣辦去驗收嘅。

F

F

G

G

主席：唔係，我明吖。理論上，如果你有晒 1、2、3、4、5，如果嗰個  
H contractors 跟住嗰啲咁嘅 specification，6 係唔使㗎。即係  
H 有啲咩嘢原因呀，你明唔明呀？因為我哋嗰啲 solder materials，  
又有 1、2、3、4 㗎嘛，係咪？

H

H

I

I

答：係。

J

J

主席：已經定晒喺度㗎嘞，好穩陣㗎嘞，咁嗰度就唔使 submission 嘅。  
K 但係因為呢個 pipe bracket 呢，即係我就覺得就有少少奇怪，  
K pipe--呢度講緊啲 pipe bracket，就即係整咗入個牆，箍住條喉  
嗰啲㗎嘛，係咪？

K

K

L

L

答：係呀，好重要㗎。

M

M

主席：係囉。

N

N

答：係呀。

O

O

主席：係囉，即係我哋要--因為點解我咁問呢？

P

P

答：係。

Q

Q

主席：我就其實就諗到一個原因點解要 submit sample，因為我哋以前  
就成日見到嗰啲，冚嚟都係生鏽嘅，你明我意思喇，係咪？

R

R

答：我明你意思。

S

S

主席：因為我即係你--總之你去到啲公廁，商場嗰啲廁所，嗰啲整個新嘅  
T 廁所出嚟，嗰條喉嗰個 bracket 永遠都係生鏽嘅，我細個嗰陣時候  
T 喇，係咪先？

T

T

U

U

答：細個就可能係咁。

V

V

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主席：係囉。

答：而家大個呢，就因為個社會進化。

主席：唔係...

答：物料嚟講呢，就始終因為係個 stainless steel 係好嘅。

主席：係吖。

答：咁除咗個 specification requirement 喺 1 至 5 講清楚佢個 content 之外，其實入埋呢一個物料，再確立埋佢個 appearance，咁係重要嘅，因此佢有呢一個即係功能上嘅需要，係要 full proof。

主席：唔係，因為你其實--即係我見到你 PLU1 裏面有好多樣嘢㗎嘛，但係零零舍舍，即係我就覺得奇怪，「啊，呢個有啲咩嘢咁特別呢？點解要 submission 呢？」如果你話「啊，我有咗 1、2、3、4、5，都已經可以 en」--如果個 contractor 跟足 1、2、3、4、5，跟住唔會需要 6 㗎嘛，你要 6，就一定係有個特別嘅原因。

答：如果再諗多少少，即係除咗功能上嘅要求之外，好可能個外觀都重要嘅，因為佢露個喉碼出嚟畀見光嘅地方㗎嘛。

主席：咁理論上啲 copper pipes 都好重要㗎，因為你啲全部都係 mounted on external surface 㗎咋嘛？

答：唔。

主席：係咪？因為你唔係...

答：都係嘅。

主席：...藏咗喺裏面㗎嘛。

答：都係嘅。

主席：係咪呀？

答：唔。

主席：即係係囉。因為你 PLU1，我嘅理解就係話，譬如好似上面個個

B

B

C

C

stainless steels，上番去少少。頭先我哋睇過嗰個 stainless steels 嗰啲咁嘅嘢，我想問下，佢要 submission，呢度，係咪因為係第一次用，或者新，你哋 explore 緊用 stainless steels 去做水喉，所以你要個 submission 呢？

D

D

E

E

答：呢個我都唔係好清楚。

F

F

主席：唔。

G

G

答：不過就知道喺個要求上面呢，個 contractor 係需要畀埋呢一個喉碼。

H

H

主席：好嘞，...

I

I

答：咁--唔。

J

J

主席：...唔清楚，得。

K

K

黎先生：我想問一樣嘢。

L

L

主席：唔。

M

M

N

N

黎先生：嗰啲般大狀就係將好多嘅分別，items 呢，係將佢搵出嚟畀大家睇，有啲就要 submission，有啲就 upon request 咁樣樣，我想問下樂女士，之前你知唔知道有啲咁樣樣嘅 descriptions 㗎？咁樣樣嘅分別嘅寫法㗎，個別嘅項目？

O

O

P

P

答：佢背後嘅理念，我就唔係好太清楚，不過喺執行 contract 嚟講，的確係有喉碼嘅 submissions 嘅。

Q

Q

黎先生：即係喉碼--除咗喉碼，其他嗰啲 items 呢？頭先都講咗好多嘅 items 喇，係分別處理係唔同嘅。

R

R

S

S

答：喺個 spec. 裏面，要求亦都嗰個 draw-off valve，即係嗰個洗衣機嗰個...

T

T

黎先生：唔，係吖。

U

U

答：...--嗰個嘅閘掣。

V

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黎先生：頭先佢亦都講咗幾個唔同嘅 examples 喇，譬如啱啱就呢個 stainless steel 嘅 expansion joints，呢啲你之前你知唔知道嗰個嘅 submission 嘅 requirement 咁樣樣？

答：哦，呢個都知嘅，因為本身如果係用到 flexible joint，都係一個比較--係有佢特別嘅要求㗎，係有一啲 movement 要 allow 嘅時候，咁變咗要擺個 sample 上嚟，睇埋 upon request 呢，我覺得都合理。

黎先生：Okay, yes, okay。

問：樂女士，跟進一個問題，頭先你答兩位委員嘅。就係我聽到你講，關於喉碼嗰度，你就話 appearance，即係佢個樣，都係一個考慮嚟嘅，係咪？

答：係。

問：咁之前可能你唔喺度，你有個同事就講過話，點解喉碼--我唔知係咪咩，我有睇過成個 PLU1，但係你有同事話，PLU 入面，樣辦要畀 sample 嘅呢，要畀樣--只有兩個 item 嘅啫，兩樣嘢嘅啫，一個就係喉碼，一個就係嗰個 washing machine 嗰個 draw-off valve，就係呢兩個嘅啫。

答：我見到另外有一個所謂 uPVC-lined 嘅 GI pipe 都要 submit 嘅，不過如果個 project 本身冇用呢隻物料，係唔使 submit 嘅。

問：係。咁你個同事之前嘅證供就話...

主席：點--但係唔係，我想問，咁點解 uPVC-lined 嘅 GI pipe 又要 submit 呢？

答：因為呢隻 product 都比較特別啲嘅，本身都係一個轉換，由 GI pipe 轉做 uPVC-lined GI pipe，係一個新嘅一個 transition，一個轉變。

主席：呢一個講緊 95 年喇。

答：95 年。

主席：因為 95 年開始就唔準再用...

答：GI.

主席：...GI pipes 咁嘛，如果用 GI pipes 呢，就一定要有 lined 嘍，咁 lined 嘅通常都係用 uPVC-lined 嘍喇。

答：係呀，冇錯。

主席：係囉，咁點解即係--即係我就想問嘞，點解 are you--即係如果你咁講嘅話，點解 GI pipe with uPVC lining 就一定要 submit 個 samples 呢？係咪因為驚佢哋唔 confirm to 嗰個 standard，驚佢哋會有鐵會走出嚟呢？雖然係咁樣樣，所以就--因為你--我淨係想知--因為你哋理論上就係話「啊，我哋啲 spec. 就寫晒落去嘞，如果佢跟嘅話呢，就一定冇事。」但係就有啲你哋就要交 sample，有啲就唔需要交 sample。咁所以我哋而家就喺度 explore 緊，究竟有啲乜嘢嘢，咩嘢 rationale behind 一個產品係要交 sample，有邊一個產品又唔需要，咁有啲咩嘢原因呢，係咪？一定有原因㗎嘛我覺得，係咪？即係唔會無端白事㗎嘛。

好嘞，如果你話，譬如好簡單，你 95 年轉呢個要 uPVC-lined 嘅 GI pipe 嗰陣時候，你哋 anticipate 可能會有啲 quality 嘅問題，所以要佢 submission，咁冇問題。好嘞，咁但係個問題，就係去到譬如 2002 年，當你哋轉嘞，又諗住 uPVC-lined 嘅 GI pipe，因為出面啲水喉舖、五金舖買唔到，係咪？咁於是你哋又要轉嘞，咁好嘞，咁呢個轉嘅時候，就要用銅喉嘞，但是銅喉就從來都有要求 submission of samples，咁就更加唔需要講跟住落嚟啲 soldering joints 呀啲。

所以我就想知道究竟你哋嗰陣時候嘅諗法係點樣樣，有啲咩嘢 rationale 啫？

答：我估計因為其實喺個市場裏面，或者係普遍個 industry，都用開 copper pipes 嘍，佢唔係一啲咩嘢嘅新產品，只要你符合嗰個 British Standard，同埋個 specification requirement，本身亦都有需要話特別做一啲嘅 sample submission。要...

主席：咁當 1995 年 introduce 呢個 GI pipes，有 lining 嘅時候，係咪係一個全新嘅產品，出面係完全冇人試過嘅呢？

答：呢個真係比較新嘅，因為一個 GI pipe 裏面，唔想佢再釋放呢一啲

B

B

C

C

鐵鏽嘅話，有呢個 lining 裏面係保障。甚至我哋都要求，就算你 submit 個 sample 都好喇，喺地盤嗰個攪啞都好重要㗎。因為如果個攪啞本身佢配咗之後，嗰個 lining 係受到影響嘅話，其實唔多唔少都係走番去嗰個問題，都會有一啲嘅鐵鏽嘅情況。

D

D

E

E

主席：唔，好。

F

F

答：咁因此就算連攪啞嗰個工序，都要喺 site 嗰度做 demonstration。

G

G

主席：Okay，唔該。

H

H

繼續喇。

I

I

問：樂女士，或者我哋既然講到 uPVC-lined GI pipes，你睇睇 PLU-- 第 647 頁，PLU1.M190.4。647 頁。

J

J

答：係，睇到。

K

K

問：呢個其實頭先我哋睇過幾個 spec.，個 submission requirement 都係擺喺最後嘅。如果你睇呢個 PLU1.M190.4，uPVC-lined GI steel pipes and fittings，submission requirement 係擺第一嘅，你見到嗎？

L

L

M

M

答：係，睇到。

N

N

問：而且好詳細下嘅，即係佢要嘅嘢好多嘅個 submission。

O

O

答：係。

P

P

問：咁頭先你--尤其是你睇到呢個羅馬數目字第 (vii) 項，佢個 sample board 講到好詳細話要 "showing quality, cross sections and logo" 呢啲咁嘅嘢。

Q

Q

R

R

答：冇錯。

S

S

問：係咪即係話其實 GI pipes，可唔可以我咁理解呢，就根本係市場上唔係一個好普遍流行嘅物料，所以你--即係佢唔係話成行成市嘅，所以你哋要睇得著緊啲，係咪咁樣吖？

T

T

U

U

答：喎。

V

V

B

B

問：而且...

C

C

D

D

主席：呢個係咪一樣嘅先？呢個係 steel 同 iron，又有少少唔同個喎。

E

E

殷先生：Galvanised steel，我嘅理解就係 GI pipes。

F

F

主席：即係等如 GI pipe 嘞，係咪㗎？係咪真㗎？

G

G

殷先生：我嘅理解係。

H

H

答：係 GI pipe，不過有個 lining 喺裏面。

I

I

主席：係呀，我知。唔係，即係 steel，係咪即係等如 iron 啫，我想知道？

J

J

答：係吖，係。

K

K

L

L

殷先生：據我所知，佢有少少 ductile iron，就係講另外一樣嘢。

M

M

主席：佢有少少唔同個喎，如果我嘅理解冇錯嘅話，steel 基本上 alloy 嚟㗎嘛，係咪？Iron 就係 iron 喎。係呀，係呀，殷大狀，係呀。

N

N

殷先生：但係我理解所謂 GI pipes，係其實個個都係講緊鍍--中文係鍍鋅鋼管，唔係鐵喉。

O

O

P

P

主席：即係我話畀你聽，即係 95 年嗰個陣時候就係 GI pipe，係咪？而家呢個就係講緊 GS pipe，咁我唔知有冇分別，可能有分別都唔奇，可能有分別都唔奇。

Q

Q

R

R

因為我話畀你聽，steel 同 iron 就唔同。

S

S

殷先生：我明白。

T

T

主席：係囉。

U

U

殷先生：但係我嘅理解，就所有人講 GI pipes，係講緊 galvanised steel。

V

V

B

B

主席：可能你錯個喎。

C

C

殷先生：我唔知點解佢咁...

D

D

主席：可能你錯，不過唔好理佢，繼續喇，唔。

E

E

F

F

問：咁或者睇埋呢個 649 頁，佢羅馬 (xi) 個度，講 "Test No. 1"。

G

G

答：係。

H

H

問：佢咁就有一項，就話：

I

I

"Sample pipes shall be inspected for small imperfections which intrude on the minimum thickness or which can be addressed out such that the thickness after dressing remains within the tolerance limits specified by the manufacturer."

J

J

K

K

即係其實呢一個項目，呢一個物料，你咁係睇得好緊下嘅。

L

L

答：冇錯。

M

M

問：咁講番其餘嗰個你啲同事提過嘅嗰個 washing machine draw-off tap 同埋嗰個 pipe brackets。

N

N

答：唔。

O

O

問：就喺 PLU 入面，係可以講係不尋常嘅，因為係要樣辦嘅。

P

P

答：係。

Q

Q

問：咁我哋知道 PLU2，即係講嗰啲潔具嘅，就好尋常咁話要睇辦嘅。

R

R

答：係。

S

S

問：咁之前你嘅同事嘅證供就話，個理由就係睇辦唔睇辦呢--有冇要求睇辦，就取決於嗰件物料嘅樣。即係嗰個 appearance 係唔係係一個 design feature 嘅嘅，係一個 concern，咁理解啱唔啱？

T

T

答：呢個都係正確嘅。

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問：咁你哋其他嘅同事似乎就係--我理解個證供就係話，點解 pipe bracket 同 washing machine draw-off tap 或者 valve 係特別之處呢，就係 PLU 入面嘅眾多物料之中，呢兩樣係有 standard design 嘅。

答：噃可以咁講，fittings。係呀。

問：所以你哋就要睇辦，...

答：係。

問：...你同唔同意，咁理解？

答：我唔知嗰個所謂 standard design 係 refer to 乜嘢。

問：即係我哋知道譬如銅喉咁喇，講番。

答：唔。

問：喉就梗係一條鉛嘅管嚟喇？

答：哦，okay。

問：冇乜花款嘅啫。

答：係，啱。

問：嘎。

答：係。

問：但係似乎就話 pipe brackets 咁，係好多唔同嘅花款，而且冇話一個普遍有一個 accepted 嘅 generally accepted 嘅 design，係咪咁解？

答：係吖，因為佢要做出嚟嘅，真係，唔。

問：咁我想問番你，你琴日嘅證供就有講過，譬如銅喉咁，我哋啱啱睇過，冇要求 submission 嘅。

答：啱。

問：佢但係實際上，喺運作中，佢哋差唔多係約定俗成，一定會畀...

B

B

答：sample.

C

C

問：...sample 畀你哋嘅。

D

D

答：係，係，係。

E

E

問：咁我記得你琴日講個理由，你就話過，係因為個 contractor 想攞個 assurance，你記唔記得係你咁講？

F

F

答：可能有講過，唔記得咗。

G

G

H

H

問：我咁樣理解啱唔啱呢，樂女士，其實合約上講咗話個 specification，而有要求 submissions，而家 submissions 我係涵括咗呢個文件或者樣辦都好，如果佢有要求 submission，淨係寫個 spec.嘅，理論上個責任就完全喺嗰個承建商嘅身上，佢要睇下佢買嘅物料啱唔啱 spec.，咁講啱唔啱？

I

I

J

J

答：啱吖。

K

K

問：咁即係如果佢搞錯咗，佢要預飛，可唔可以咁講？

L

L

答：當然喇。

M

M

問：但係佢如果遞咗上嚟畀你睇過，而你對過話「啱嘞，得嘞，啱 spec.」咁，佢就唔使負責，可唔可以咁講呢？

N

N

答：唔可以咁講，因為始終個 main contractor，無論佢有冇上辦都好，個責任都係喺佢嗰度。

O

O

P

P

問：係。如果佢嘅--用嘅物料同個辦係符合嘅--即係如果你哋對 spec.睇漏嘢，咁佢唔使負責個囉嗎，啱唔啱？

Q

Q

答：我唔...

R

R

主席：再講多次。

S

S

T

T

U

U

問：如果個 spec.有五個要求咁先至算喇，佢遞張證書畀你，其實唔符合嗰五個要求，符合咗四個啫，但係你哋啲同事就睇漏眼，照過咗佢，

V

V

B

B

界咗佢話冇問題，approved。

C

C

D 答：我唔同意，個 main contractor 都係佢嘅責任，ensure 個 product。如果佢背後有個 intent 去做啲即係違規嘅，專登話有 deliberation 嘅話，就更加唔可以接受添。

D

D

E

E

問：我唔係講緊違規，因為我想返番去你琴日話，可能佢想擺個 assurance。

F

F

答：係。

G

G

問：我想理解所謂擺個 assurance 係咩嘢解啫。

H

H

I 答：呢一個可能就係--即係我覺得如果個 contractor 本身佢有履行佢嘅責任，全部做足晒嘅話，佢唔上辦，okay，fine。佢再上咗個辦嘅話，佢想 make sure 就係話「噏，喺呢個 contract，我用呢一個物料，你都接受。」咁我哋冇理由唔接受㗎，所以我哋亦都會接受，如果佢已經跟足晒呢一個要求。即使係個 spec.裏面唔要求佢 make samples 都好，而佢係做咗嘅話，咁大家都可以有個互相即係一個--一個更加即係確立到呢一個產品可以用得著。

I

I

J

J

K

K

L

L

問：咁其實就有--可唔可以咁講呢？我哋頭先睇過有啲 spec.，就講明話問唔問擺 submissions，佢都要做嘅。

M

M

答：係。

N

N

O

O

主席：長話短說。

P

P

殷先生：噏。

Q

Q

主席：實際上就有 assurance，心理上就有 assurance，講完，唔。

R

R

S

S

問：我哋頭先睇過有啲 spec.，就講到明，問唔問你擺 submissions，你都要做嘅。

T

T

答：係。

U

U

問：有啲 spec.就講到明話，有一啲嘢，就要問你--可以問你擺，你就要

V

V

B

B

交出嚟。

C

C

答：係。

D

D

問：咁其實如果係冇提過--即係個 spec.入面冇提過話要做 submission，而嗰個 contractor 遞畀你睇，...

E

E

答：係。

F

F

問：...其實嗰個只不過係可以咁講，係多此一舉嘅，冇咩嘢作用嘅咁樣。

G

G

答：可以咁講嘅。

H

H

問：而你哋又唔係話特別去佢--即係你又冇要求佢擺嚟睇，不過佢遞畀你，咁你咪睇囉？

I

I

答：係呀。

J

J

問：嘎，咁。而...

K

K

答：佢做多一步冇罪嘅。

L

L

問：而佢一遞咗畀你睇完，如果佢畀個 sample，畀個樣辦你睇，你就會上嗰個 sample board 㗎嘞？

M

M

N

N

主席：問多一條題目就有罪㗎。

O

O

殷先生：我問完㗎嘞，...

P

P

主席：好，咁...

Q

Q

殷先生：...我想搞清楚呢部分。

R

R

主席：唔。

S

S

T

T

問：即係其實係一個習慣性，慣手勢咁，如果佢遞個樣辦上嚟，你就擺上個 sample board？

U

U

答：冇錯。

V

V

B

B

問：咁個 sample board 上咗呢，就入嗰個 lock-up sample room？

C

C

答：喺。

D

D

問：咁就唔係話你係特意話諗住呢啲第二日要拎個樣辦去比拼嘅，要 check 嘅，咁先至擺上去個 board 度，入個 sample room，唔係咁解嘅？

E

E

F

F

答：唔係咁解嘅。

G

G

問：我仲有一個環節想問啫，就係你記唔記得琴日下晝有一個問題就纏繞就係問點解一啲個 Specification Library 已經有提過嘅嘢，你哋都好似似乎喺嗰個合同入面都複製去提問呢？

H

H

答：係。

I

I

問：你記唔記得呢部分？

J

J

答：係，係，係。

K

K

問：我記得應該係關於紅磡邨嘅。咁我想你睇睇--喲，你唔好問你面前嗰個 2004 嘅 Specification Library 先。

L

L

答：好。

M

M

問：我想你比對嘅。我想你睇睇紅磡邨嗰個合同，就喺 Bundle B10.1 嗰度嘅。我想你睇 B10.1 嗰個 23095 頁開始，呢個就係紅磡邨嗰個合同，關於 PLU1 同 2 部分嘅條款。

N

N

O

O

答：係。

P

P

問：我哋見到嗰度寫住“PLU1 WATER SUPPLY”，有個 index，你見到嘛？

Q

Q

答：係。

R

R

問：上面佢就叫做“ADDENDUM NO. 1”嘅。

S

S

答：係。

T

T

問：如果我哋揭去 23100 頁，...

U

U

答：係。

V

V

B

B

問：...我哋就係去到講銅喉嗰部分。

C

C

答：啱。

D

D

問：我未--我而家想你睇一睇就係想你其實將呢一頁比對番呢個 2004 嘅 Specification Library 嗰個 bundle, B2 嗰度。

E

E

答：係。

F

F

問：你揭番去 644 頁，你就會見到呢個關於銅喉嘅部分嘅，你見唔見到？  
644。

G

G

答：睇到。

H

H

問：你睇睇 644 嗰個 spec. 嗰個 number, 就話“PLU1.M120.4”。

I

I

答：係。

J

J

問：你見喇？

K

K

答：睇到。

L

L

問：咁你睇番“120.4”，對上就仲有一段添嘅，叫做--你如果睇番 643 頁嘅下端，“PIPES, FITTINGS AND JOINTS”呢一個 section, 呢個部分，第一個 spec. 係有個“GENERAL”嘅，...

M

M

N

N

答：係。

O

O

問：...咁就“All pipes and fittings shall: conform to this Specification”, et cetera, et cetera; 你見到嘛？

P

P

答：睇到。

Q

Q

問：咁先至到第二個 spec. 先至講 copper pipes。

R

R

答：冇錯。

S

S

問：你而家睇番 Bundle B10.1, 23100 嗰頁，...

T

T

答：係。

U

U

問：...你見到 under “MATERIALS”嗰度，“GENERAL”，“PLU1”呢個 “M010.X”其實就講係“DELETED”個啲，係唔係？

V

V

B

B

答：啱。

C

C

問：即係講嗰個“GENERAL”嗰個 section，頭先-- sorry，我其實頭先想睇個 Specification Library 嗰頁係睇 642 頁嗰個“GENERAL”嗰個 section 先至啱。

D

D

E

E

答：係。

F

F

問：你再睇番“MATERIALS”，“GENERAL”嗰度，“PLU1.M010.4”，Bundle B2，642 頁。

G

G

答：係吖。

H

H

問：嗰度嗰個“GENERAL”嗰個 section 係有個 spec. 係“PLU1.M010.4”嘅。

I

I

答：啱。

J

J

問：而家你睇番嗰個 contract addendum 嗰度，B10.1 Bundle，嗰個 23100 嗰頁，...

K

K

L

L

答：係。

M

M

問：...“PLU1.M010.X”，佢係“DELETED”嘅。

N

N

答：係。

O

O

問：咁而且你睇“PIPES, FITTINGS AND JOINTS”嗰一個 spec.，佢呢個 number 都有少少改動嘅。因為你記得到頭先睇 Bundle B2 個 644 嗰度，佢就咁“PLU1.M120.4”，...

P

P

答：唔。

Q

Q

問：...但係呢度就“PLU1.M120.B”嘅，你見唔見到？

R

R

答：唔，唔，睇到。

S

S

問：你如果再睇落去個 spec.，喺，有個 table 喇，有個表喇，...

T

T

答：唔。

U

U

問：...個表係一樣嘅，...

V

V

B

B

答：唔。

C

C

問：...跟住第 2 段、第 3 段都係一樣嘅。

D

D

答：係。

E

E

問：但係我想你睇睇第 4、第 5 段，即係呢個 addendum 入面 23100 嘅呢個“COPPER PIPES”嗰個 spec.嘅第 4、第 5 段，...

F

F

答：係。

G

G

問：...你比對下嗰個 Specification Library 2004 edition 嘅第 644 頁，係咪唔同嘅？

H

H

答：冇錯。

I

I

問：我想問一問你，你知唔知道呢個 spec.叫做“PLU1.M120.B”，加個“B”字係咩嘢解，你知唔知？

J

J

K

K

答：個 annotation 我就唔記得咗，不過如果如有，個 project 本身，喺個 standard...

L

L

問：或者我咁講，睇下你記唔記得，...

M

M

答：係。

N

N

問：...話我啱定唔啱。據我嘅理解，佢係咁嘅，個 Specification Library 四年先至大更新一次。

O

O

答：啱。

P

P

問：譬如 2004，跟住個版本係 2008。

Q

Q

答：冇錯。

R

R

問：但係佢 2004 至 2008 之間係可以每六個月都會有啲嘢改下都唔定嘅。

S

S

答：啱。

T

T

問：佢每一次改，佢每一個 revision，第一次，譬佢 2004 年嘅 specification，佢第一次改，有嘢改呢，嗰個改動嗰個 spec.就叫做“A”，...

U

U

V

V

B

B

答：啱。

C

C

問：...第二次改就叫做“B”，...

D

D

答：“B”，係。

E

E

問：...第三次改就叫做“C”，係咁樣樣嘅？

F

F

答：係，啱，啱，啱。

G

G

問：如果係個 project specific 嘅，擺落去.....

H

H

答：就叫做“P”。

I

I

問：...叫做“P”，係嘞。

J

J

答：係嘞，我記得嘞，而家。

K

K

答：唔。

L

L

問：咁仲有“X”，頭先睇過，“X”就即係 deleted 咁解，係咪？

M

M

答：係啱。

N

N

問：仲好似有個“N”嘅，就話最近嘅，係咪？

O

O

答：New 咁解。

P

P

問：係。

Q

Q

問：咁即係話--噏，我可以...

R

R

S

S

殷先生：主席，我有一頁紙想加落個 bundle 嘅，因為而家--因為喺呢個紅磡邨嗰個 contract 係一個 excellence 嚟嘅。我有啲 copies，

T

T

嘎。

U

U

呢一頁紙，我哋睇到係講個 specification 嘅。即係佢話畀我

V

V

B

B

C

C

D 哋聽，喺紅磡邨嗰一個項目嗰個合同，當佢話係 incorporate 嗰個 specification，係 incorporate 邊個 specification。如果你睇，首先睇睇左下角，佢畀個 contract number 你係“20080016”嘅。

D

D

E

E

F 主席，如果你揭去 Bundle B10.1，第 22956 頁，我哋見到呢個係個“CONTRACT BOOKLET”嗰個 title page，佢講“HUNG HOM ESTATE PHASE 2”，你見到嗰個“CONTRACT NO.”就係呢個“20080016”嘞。

F

F

G

G

H 主席：你慢慢。

H

H

I 殷先生：係。嗰頁嘅 two-thirds 嘍，下面。

I

I

J 主席：未出到。

J

J

K 殷先生：22956。

K

K

L 主席：係。

L

L

M 殷先生：係，係。Two-thirds down the page。

M

M

N 主席：“CONTRACT NO.”，係。

N

N

O 答：唔。

O

O

P

P

Q 殷先生：係。咁所以睇到呢一頁，我頭先遞上呢一頁，就係講緊同一個 contract，喺同一個 contract 入面擺出嚟。咁你見到佢嗰度話“Specificat” -- 第一段，“Specification referred to in the Articles of Agreement and Conditions of Contract shall be deemed to include all of the following: (a) The Hong Kong Housing Authority Specification Library 2004 Edition”。所以佢嗰個 contract 本身--你見到嘛，樂女士？你睇唔睇到？頭先嗰頁，你有冇睇呀？有冇人畀你？

Q

Q

R

R

S

S

T

T

U 答：冇。

U

U

V

V

B

B

般先生：Sorry，畀埋證人吓，呢一頁。

C

C

D

D

答：唔該。

E

E

問：你見到呢張--頭先我哋對過個 contract number，所以你信我哋喇。

F

F

答：可以。

G

G

問：呢一頁就係喺紅磡嗰個 contract 入面，佢話畀我哋聽個 specification，如果你睇第1段(a)嗰度，...

H

H

答：唔。

I

I

問：...佢就話「如果我喺個合同入面講到 specification、提到 specification，就係講嗰個 Specification Library 2004 edition 嘞。」你睇到嘛？

J

J

K

K

答：冇錯，係。

L

L

問：咁即係話如果喺個合同度冇專登再加嘢嘅話，就用我哋頭先睇 Bundle B2 嗰個 2004 版本嘅 Specification 為準嘞，啱唔啱？

M

M

答：啱。

N

N

問：但係如果去到簽呢個紅磡邨--即係紅磡邨二期嗰個發標書嗰日，有啲嘢已經改咗嘞，個 specification 度，去到 revision B 咁喇，...

O

O

答：係呀。

P

P

問：...咁就唔可以就咁靠個 Specification Library，啱唔啱？

Q

Q

答：啱。

R

R

問：咁所以你哋就要特別寫嗰個新嘅 spec. 落去個 contract 入面，係咪咁解？

S

S

答：啱，replace。

T

T

問：其實我哋頭先見到嗰個 addendum 個作用就係咁嘞。佢即係個 Specification Library 有改動嘅嘢，你就去 override 咗佢，係咪咁解？

U

U

V

V

B

B

答：係呀。

C

C

D

D

殷先生：主席，我有其他問題。

E

E

主席：唔該晒。

F

F

G

樂女士，畀完證供，可以走得嚟嘞。

G

H

H

答：唔該。

I

I

主席：唔該晒。

J

J

或者我哋 take 個 break 先，二十分鐘，跟住先至下一位證人。

K

K

殷先生：係，okay。

L

L

M

M

上午 11 時 05 分聆訊押後

N

N

上午 11 時 27 分恢復聆訊

O

O

出席人士如前。

P

P

殷先生：主席，下一位證人係仁（欣？）安邨嘅總建築師容德玲女士。

Q

Q

主席：好呀。

R

R

殷先生：翁。係翁，唔係容。

S

S

主席：翁德玲，仲有兩位 architects。

T

T

殷先生：係。

U

U

主席：唔。

V

V

B

B

C

C

D

香港房屋委員會第十二證人：翁德玲（房屋署（欣安邨總建築師））以本地話宣誓作供

D

E

主席：請坐，翁女士。

E

F

殷先生：係，我而家讀出翁女士關於仁（欣？）安邨嘅書面口供。

F

G

主席：好呀。

G

H

H

I

殷先生主問

I

J

MR YIN: This is the witness statement of Yung Tak Ling Sonia,  
Chief Architect of Yan On Estate.

J

K

K

L

**COMMISSION OF INQUIRY**

L

M

**WITNESS STATEMENT OF YUNG TAK LING SONIA**  
**CHIEF ARCHITECT OF VAN ON ESTATE**

M

N

N

O

1. I, YUNG TAK LING SONIA, 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. The statement addresses matters relating to one of the "Affected Estates" being Van On Estate.

O

P

P

Q

Q

R

2. I am a Registered Architect employed by the Housing Department (HD}, which is the executive arm of the Housing Authority (HA}, currently holding the post of Chief Architect/4 and Contract Manager (CM) of the building contract for the construction of Van On Estate since November 2013. The Contract Manager who was involved in the contract administration for the

R

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**BACKGROUND INFORMATION**

M

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N

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construction of Van On Estate from January 2009 to completion and part of the maintenance period until July 2012 was Mr. CHEUNG Kun Sing, post holder of Chief Architect/1 at that time. Mr. CHEUNG took pre-retirement leave in June 2015 and now resides in the United Kingdom. I have direct knowledge of the project since taking it up in November 2013 and make this statement based on project records and discussions with colleagues.

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.

4. For the purposes of this Statement I refer to the different work stages as Pre-contract, Construction and Completion.

5. In the Hong Kong Housing Authority, a Chief Architect serves as the Project Manager, Design Team Leader and/or Contract Manager (CM) for a number of public housing projects from inception to completion stages, including all associated housing-related infrastructures and supporting community facilities, providing steer and leadership for the projects. Through delegation of authority, contract administration and site supervision were discharged by the CM's Representatives and Site Inspection Team. The CM's Representatives and Site Inspection Team carried out their duties with reference to the Master Process Manual (DCMP).

6. The Chief Architect and Chief Building Services Engineer are involved in managing the design and construction for plumbing installation works of buildings.

7. The gross site area of Yan On Estate is 2.23 hectares. This development comprises the construction of three domestic blocks of 40 domestic storeys with flat production of 2,587, two small single storey blocks for retail facilities, an open car park with shelters, ancillary facilities and associated external works.

8. The HA awarded the building contract (contract number 20080006) to Yau Lee Construction Company Limited ("Yau Lee") on 27 August 2008. The contract sum was Hong Kong Dollars Seven Hundred and Ninety Eight Million, Nine Hundred and Forty Five Thousand, Ninety Seven and Seventy Cents (HK\$798,945,097.70).

9. Yau Lee commenced the contract works on 28 August 2008 and the Contract Manager certified the substantial completion of building works on 11 March 2011.

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.**

11. The HA entered into a contractual relationship with Yau Lee by direct written contract. According to the General Conditions of Contract (GCC) as supplemented by the Special Conditions of Contract and the Specification, the Contract Manager acts as the administrator of the Contract and this role is taken

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**CHIEF ARCHITECT**

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up by a Chief Architect. Under the contract, Yau Lee was fully responsible for carrying out of the works required. Yau Lee, with its domestic subcontractor and nominated subcontractor, proceeded with plumbing installation works on site, and gave continuous supervision, provided all necessary superintendence by providing a management team during currency of the Works, Yau Lee named a competent and authorized agent who was constantly on the Site on a full time basis dedicated to the superintendence of the Works.

12. During the duration of the building contract of Yan On, the Contract Manager was the then Chief Architect/1. The Contract Manager delegated the administration of the contract to a Senior Architect and Architect within the section. They acted as the assistant contract manager and contract coordinator respectively. Senior professionals and professionals of other disciplines were delegated the authority as CM's Representatives to administer part of the contract works in their respective areas of expertise as necessary. The CM's Representatives and Site Inspection Team carried out their duties with reference to the Master Process Manual (DCMP).

13. The Contract Manager gave periodic supervision. The responsibilities of the CM's Representatives and Site Inspection Team in site inspection were outlined in Master Process Manual (DCMP). The Contract Manager maintained an adequate level of inspection to carry out the checks, inspections and tests according to the provisions of the contract. Inspection percentages were determined from time to time by the Contract Coordinator (the Project Architect) and endorsed by the Assistant Contract Manager (the Senior Architect). Inspection percentages of the nominated subcontract

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were recommended by the Senior Building Services Inspector and approved by the Senior Building Services Engineer.

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14. A list of the HA staff who were involved in this contract is now produced and shown to me marked "**Exhibit [1]**".

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**CHIEF BUILDING SERVICES ENGINEER**

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15. At the start of the contract, the then Contract Manager delegated to the Chief Building Services Engineer, as the CM's Representative, the duties and powers vested in the Contract Manager under the Main Contract insofar as they concerned 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).

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16. The Chief Building Services Engineer was assisted by a team of building service staff to discharge his duties. The Project Building Services Engineer was delegated by the Contract Manager as the CM's Representative and was responsible for the administration of Building Services Nominated Subcontracts (including Fire Services and Water Pump Nominated Subcontract), with the assistance of the Project Building Services Inspector.

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**HOUSING AUTHORITY CONTRACT MANAGER'S REPRESENTATIVE AND SITE INSPECTION TEAM**

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17. The Contract Manager for the building contract was supported by professionals of various disciplines who

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were delegated with the authority under the contract as CM's Representatives. Through the delegation of authority, contract administration and site inspection were discharged by the CM's Representatives. CM's Representatives and Site Inspection Team stationed at site carried out periodic supervision. Site inspections were carried out as laid down in the "Master Process Manual".

18. Under the overall supervision of the Contract Manager, the Site Inspection Team conducted periodic and random checks on materials and workmanship for conformance to 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 appointed Knight Frank Petty Limited to supplement the Site Inspection Team's resources and conduct a final inspection of the completed builders works for the domestic blocks. Knight Frank Petty Limited was responsible for inspecting the completed works and checking the materials and workmanship, particularly for flat-to-flat inspection, for conformance to Specifications.

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**MAIN CONTRACTOR**

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20. As is common in HA's projects, this building 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, complementing the performance-based specification, site inspection and testing of various materials and construction process, while taking into account laws and regulations, industry/trade practices, past experiences and risk management. The HA and I believed that the widely accepted and used soldering materials should have complied with relevant requirements. Checking for the presence of lead in solder or lead in water was not included in the site inspection system and therefore we did not check for the presence of lead in soldering materials.

21. Yau Lee, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Yau Lee 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. Yau Lee 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.

22. Under the terms of the contract, Yau Lee 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

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by the specifications, Yau Lee should also provide all necessary superintendence by providing a management team during the currency of the works, and name a competent and authorized agent who should be constantly on site on a full time basis dedicated to the superintendence of the Works. Yau Lee established its Contract 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, Architectural Quality Control Coordinator, Structural Quality Control Coordinator, Site Agent, General Foreman, Block Foreman, Building Services Engineer and Safety Officer etc.

23. Yau Lee was permitted under the contract to sublet a part of the Works. The subletting of any part of the Works did not relieve Yau Lee from any of its liabilities or obligations under the contract. It is 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.

24. The Contract specifications did not stipulate the specific roles and duties of the Licensed Plumber (LP) which is a statutory requirement for the installation of the plumbing system on the basis that these were all prescribed under the Waterworks Ordinance (Cap. 102) except that the engagement of an LP is mentioned in the specification clause PLU1.W110. The service of a Licensed Plumber is usually provided by the plumbing domestic subcontractor. The HA did not have any direct contractual relationship with the LP.

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**DOMESTIC SUBCONTRACTOR AND NOMINATED SUBCONTRACTOR**

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25. The contract permitted Yau Lee to sublet the Works to their selected domestic subcontractors or to those nominated by the HA.

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27. In this contract, Shun Cheong Electrical Engineering Company Limited was the nominated subcontractor for fire services and water pump installation overseen by Mr. Leung Chi Kwong, Eric, the Chief Building Services Engineer. Concerning the responsibilities of this nominated subcontractor, Mr. Leung is in a better position to provide details.

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**LICENSED PLUMBER**

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28. The roles and Responsibilities of the Licensed Plumber are stipulated in the Waterworks Ordinance and Waterworks Regulations. The Licensed Plumber (LP) for the plumbing installation of this contract was Mr. Ng Hak Ming. The responsibilities of the LP for the

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**MAJOR PROCESSES FOR THE INSTALLATION OF FRESH WATER SUPPLY SYSTEM**

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plumbing installation of this contract included notifying the Water Authority of the commencement date and scope of plumbing works to be carried out at Part I of the Form no. WWO 46. The LP had to notify the Water Authority of the completion of plumbing works and requested for inspection and approval by the Water Authority at Part IV of Form WWO 46. He also had to supervise the execution of the plumbing works on site.

29. The Contract Manager relied on Yau Lee to monitor the service of the LP and would expect the LP to execute his duties under the Waterworks Ordinance and Waterworks Regulations.

30. 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.

31. The major processes for the installation of fresh water supply system mainly involved application for the Water Authority's permission to proceed with the plumbing installation, submission of plumbing material proposal and procurement of the approved 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 certificate regarding water supply connection, and monitoring and maintenance of the Fresh Water Supply System.

Application for the Water Authority's permission to

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proceed with the plumbing installation

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Submission of plumbing material proposal

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Execution of Plumbing Installation

35. After receipt of the Water Authority's approval for commencement of the plumbing works, Yau Lee, with their domestic subcontractor, Ming Hop, proceeded with plumbing installation works on site. Yau Lee was obliged to provide all necessary superintendence during the currency of the Works and gave continuous supervision to ensure the Works were executed in strict accordance with the statutory requirements and specifications to the satisfaction of the Contract Manager.

36. The plumbing installation on this project was common to most HD 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 rooms or pipe ducts of each domestic floor, including booster pump room serving uppermost floors and 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.

Housing Authority's Periodic Inspection

37. The Contract Manager with the support of project senior professionals and professionals as the Contract Manager's Representatives, site clerk of works, work supervisors, building services inspector etc., gave periodic supervision and such inspection as necessary to ensure that the works met specified requirements. The Chief Building Services Engineer provided the engineering support and gave periodic supervision of the site works, including vetting of the materials submission, pump and valves

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Testing and Commissioning

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

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38. During the course of the contract, Contract Manager's Representatives conducted quarterly assessments under Performance Assessment Scoring System (PASS) with Yau Lee on-site to assess the quality of works including Yau Lee's performance in plumbing installation works and management of their domestic subcontractors. Based on records, Yau Lee's scores for plumbing works were generally satisfactory.

39. Upon completion of the plumbing installation, Yau Lee, with their domestic subcontractor, Ming Hop, cleansed and disinfected fresh water inside service upon completion of the installation for the fresh water supply system. They conducted the required testing and commissioning of the system, which was performance based, in the presence of HA Site Inspection Team.

40. Having completed the testing and commissioning of the plumbing installation works with satisfactory results, Yau Lee submitted the completed Part IV of Form no. WW046 to the project architect for signing. With the advice from the Site Inspection Team that the plumbing installation were satisfactorily completed and the correctness of the meter positions, the project architect signed Part IV of the Form no. WW046 on 10 December 2010, and Part II of Form no. WW0132 on 6 January 2011 applying for the Water Authority's connection for water supply to the development. Copies of the forms are now produced and shown to me

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marked "**Exhibit [4]**".

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Water Supplies Department's Inspection and Issuance  
of Certificate regarding water supply connection

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41. According to the document submitted by Yau Lee on 14 September 2015, Water Supplies Department tested the water samples taken at the potable main and fire services main on 24 January 2011 based on the eight parameters. The testing of lead content in water was not included. The remarks of the Water Examination Reported stated satisfactory for potable purpose and suitable for fire-fighting purpose. Yan On Estate was completed on 11 March 2011 which was before the issuance of the WSD Circular Letter No. 2/2012 in August 2012. Water sampling test at inside service was not required at that time as we believe that this practice followed the then prevailing WSD Circular Letter No. 6/2002. The copy of the Water Examination Report, the WSD Circular Letter No. 6/2002 and Circular Letter No. 2/2012 are now produced and shown to me marked "**Exhibit [5]**".

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42. Water Supplies Department inspected the completed plumbing installation on 26 and 27 January 2011 after receipt of the above signed Forms. With satisfactory inspection results, the Water Authority issued Certificates (Form no. WWO 1005) regarding water supply connection for the development on 11 March 2011. Copies of the forms are now produced and shown to me marked "**Exhibit [6]**". I was advised by HD's site staff and Project Architect that HD was not invited by the LP and WSD to attend the final inspections conducted by WSD.

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**Request 2; Explain the procedures, their respective  
roles and responsibilities and the respective roles  
and responsibilities of the main contractor.**

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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

43. Before commencement of plumbing works, the project architect and LP signed and submitted to Water Supplies Department (WSD) in Form no. WWO 46 Part I together with an Annex showing details of pipes and fittings intended to be installed. 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.

44. Yau Lee did not enclose the Annex when submitting WW046 Part I to the project architect. Based on the Annex in "**Exhibit [4]**" submitted by Yau Lee on 14 September 2015, there were 15 items of plumbing materials intended to be installed, all complying with the statutory requirement.

45. The LP submitted Part I of Form no. WWO 46 to the Water Authority in September 2009. The Water Authority returned Form no. WWO 46 Part III to the LP October 2009 stating that "permission was given for you (LP) to proceed with the plumbing detailed in Part I and at the Annex".

Material submission and variation approval by Contract Manager

46. Materials used in this Contract were governed by the Specification forming part of the Contract between the HA and Yau Lee. According to the Specification, materials used in fresh water supply system should be

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in full compliance with all statutory requirements together with any revisions or amendments, 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.

47. The specification 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 Yau Lee 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 Supply (Water Fittings) Regulations, United Kingdom (formerly known as the Water Byelaws);

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

(d) Category D- Bearing the Water Authority Stamping

48. The use of soldering alloys for copper and copper alloy capillary fittings used in this contract should comply with Specification Clause PLU1.M160.4 as follows-

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i) *Comply with 85 EN 1254:Part 1:1998, Table 6 Sections II and III;*

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ii) *Use of integral solder fittings is permitted provided they comply with 85 EN 1254:Part 1:1998;*

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iii) *Use only lead-free category solders;*

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

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49. In this contract, Yau Lee proposed to use "FRY" 99C Lead Free Solder under the Material Submission Form ref: MOS/040/A/PLU-007 on 15 January 2009 together with material catalogue, testing report and job reference. According to the technical data provided by Yau Lee, Fry 99C complied with BS 1254-1 and was stated to be "lead-free". The copy of the sample submission document is now produced and shown to me marked "**Exhibit [7]**". The project building services engineer approved the material upon the recommendation of the Project Clerk of Works.

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51. The approved materials complied with the statutory and specifications requirements. After excess lead was found in drinking water in Yan On Estate, the CM's Representatives and Site Inspection Team have

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Site supervision for plumbing installation

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verified the plumbing materials installed at site against WSD's record and found them generally in order. A table listing the materials originally submitted to the Water Authority in the Annex to Form no. 46 Part I in September 2009 and the checking findings is now produced and shown to me marked "**Exhibit [8]**".

52. Upon delivery of materials to site, Yau Lee 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 materials delivered to site by Yau Lee, the materials were stored in the plumbing domestic sub-contractor's lockable workshop at site. Some of the soldering works for the pipe joints would be executed in the workshop while the remaining would be executed in-situ.

53. In this 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 Yau Lee and LP. If we were aware of the risk of presence of lead in solder and its implications for the drinking water quality and in turn, the associated health risk, we would have checked the materials delivered to site.

54. For the plumbing installation of the fresh water supply system under the domestic plumbing sub-contractor, Yau Lee provided continuous supervision by their site supervision team to ensure compliance with specification. During the plumbing installation period in this contract, based on records, there were numerous work trades, including paving, drain laying, plastering and finishing, painting,

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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 350 workers every day.

55. The periodic and sample checks carried out by the HA Site Inspection Team would need to cover all these activities and works. A number of inspection guides were developed to facilitate the HA site inspection team to carry out the inspection. The inspection of water supply 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. For the works executed by the domestic plumbing subcontractor, the HA Site Inspection Team conducted recommended percentage checks on the above items. For plumbing works involving above ground water supply pipes, it was specified that 100% checking was required for pipe testing and cleaning of water tank/pipeline while 10% check was applied to pipe sleeve, materials, type and dimensions, pipe joint, pipework installation, valves, taps, strainers, pipe bracket and caulking pipe sleeves.

56. Soldering materials have been regarded as an insignificant 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: the flow rate, water tightness, pressure resistance, mechanical strength and endurance, and blend water extreme temperature.

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57. The HA operated a Performance Assessment Scoring System (PASS) to quantitatively measure the contractors' performance including compliance of materials and workmanship with contract requirements. In so far as fresh water supply system was concerned, contractor's performance on type and size of pipes, pipe brackets, pipe sleeve, soundness, plumb, level/fall was assessed. Compliance of materials with specified requirements 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 Company Limited.

**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**

58. Yau Lee, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Yau Lee 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.

59. Pursuant to the Specification 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 (CITA).

(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 (CITA).

60. The monthly report, namely, record of traded test worker was prepared by Yau Lee and checked by HA Site Inspection Team. The checking was based on records of Yau Lee's Access Control and Recording System. The Trade Tested Workers information from Yau Lee was also forwarded regularly to the Construction Industry Council for verification of the workers' identity and qualification.

61. The HA 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.

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**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**

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62. Yau Lee, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Yau Lee 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.

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63. The HA was not aware of the possibility of lead in water, and did not conduct any laboratory tests for lead in water before July 2015. With the promulgation of WSD Circular Letter No. 2/2012, the HA had considered that conducting laboratory testing for the eight mandatory parameters specified by the Water Authority would suffice. The HA has 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 test. Soldering materials have been regarded as an insignificant 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. There had been a general lack of awareness of the risk they pose. Had the HA been aware of such risk, it would have been effectively controlled through our Quality Assurance Regime both at contract level and at corporate level.

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64. Due to the above reason, the HA Site Inspection Team was not required to verify the materials delivered to site and check the lead content of the soldering material during the execution of plumbing installation as it was believed that the widely

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accepted and used soldering materials should have  
complied with relevant requirements. Further,  
copper pipes have been used in the fresh water supply  
system in Hong Kong for decades. Since it was not a  
new material or technology and there was no prior  
indication or alert of any particular health risk  
associated with the materials of the copper pipe fresh  
water supply system and there was no statutory  
requirement for testing of lead in water by the Water  
Authority until the Incident, the HA have followed the  
established practice of focusing on the functional  
performance of the water supply installation i.e. pipe  
fixing and alignment and water tightness of the system,  
when carrying out visual inspections and water test.

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65. Lead free soldering material was specified with  
approved sample complying with contract requirements.  
It appears to me that lead solder was used by Yau Lee  
without permission and in breach of contract.

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66. Based on the available information, I cannot say  
specifically how lead solder came to be used in Yan  
On Estate and by which party such material was allowed.

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**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**

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67. Before August 2015, I was not aware of the presence  
of excess lead in water of Yan On Estate water supply  
system. In August 2015, 5 out of 69 water samples from  
Yan On Estate were found with lead content exceeding

the World Health Organization (WHO) standard of 10 microgram per litre. I only learnt after the excess lead was found in drinking water in Kai Ching Estate that the WHO's prevailing standard for lead content in drinking water was 10 ug per litre. Before July 2015, neither I nor the HA was aware of the WHO guidelines on the drinking water quality at the consumption point.

68. After excess lead was found in drinking water in Kai Ching Estate and Kwai Luen Estate Phase II, the Government Task Force led by Water Supplies Department was formed to investigate the cause of excess lead in water in Kai Ching Estate and Kwai Luen Estate Phase II. 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 II, and copper alloy fittings also leached lead but did not result in excess lead in drinking water.

#### Lead Solder Joints

69. "FRY" 99C Lead Free Solder was submitted by Yau Lee and approved by the project building services engineer. Pursuant to the contract provisions, Yau Lee could determine whether they themselves procured the materials, including piping and fittings and solder for copper pipes etc., or instructed the subcontractors to order the materials.

70. 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. The contract specification did not require the contractor to provide such documents. We expected that Yau Lee would procure and use "lead free" solder

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for the plumbing installation as the soldering material was widely accepted and broadly applied in the jointing of copper pipe works in Hong Kong. Before excess lead was found in drinking water, we were not aware of the risk of presence of lead in soldering materials.

71. After lead was found in soldering joints in Yan On Estate in August 2015, I requested Yau Lee to investigate why lead soldering material was applied in the fresh water supply pipes. It appears to me that lead solder was used by Yau Lee without permission and in breach of contract. I believe there was no irregularity in the contract specification, material selection and approval stage. Yau Lee submitted the Investigation Report to the HA on 21 August 2015. But I am not able to validate the correctness of the said Investigation Report. In the Investigation Report, Yau Lee stated that they sub-contracted the whole plumbing installation works including materials (i.e. solder material inclusive) and labour to Ming Hop. The service of the licensed plumber was provided by this tier of sub-contracting and Ming Hop further sub-contracted the works including labour and solder material to Wing Hing.

**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**

72. 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

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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.

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73. I am aware of and agree with the recommendations made concerning immediate and long term enhancement measures on the installation of fresh water supply system -

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I. During construction

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(a) Main contractor is required to-

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

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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.

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(b) Housing Authority project team is required to-

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

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ii) conduct random audit checking upon material delivery to site after the main contractor's completion of checking for

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lead free content in solder joint.

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II. End of construction

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(a) The main contractor is required to-

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

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

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iii) collect water sample -

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- 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 WW046 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;

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- 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;

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

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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.

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問：翁女士。

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答：係。

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問：係，你剛才聽過我朗讀過一次你嗰個書面證供，你有冇需要更改或者修補？

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答：沒有。

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問：你願唔願意採納佢作為你嘅證供？

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答：願意。

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問：我只有一樣嘢想問下你，唔知你答唔答到我哋。因為喺呢個研訊入面，我哋知道1995年，水務署係發咗指引，係唔准用一啲入面 unlined，冇 lining 嘅鋼管水喉嘅。

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答：唔。

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問：後來亦都房委員嘅項目曾經喺95年至到2002-03年間，係採取咗一啲叫做 uPVC-lined 嘅 galvanized steel pipes，後來先至再改用銅喉。咁喺呢個研訊入面，我哋好多時聽見有人講話 GI pipes，或者--unlined GI pipes，或者係 uPVC-lined GI pipes，似乎“GI”係解“Galvanized Iron”咁解。我想你可唔可以喺呢方面話畀我哋聽，“Galvanized steel pipes”同埋“GI pipes”係咪同一樣嘢，抑或有分別嘅？

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答：喺呢樣嘢上高，我自己並唔清楚，其實一個叫做“Galvanized iron pipes”，同埋一個“Galvanized steel pipes”實際上有冇分別。因為呢個可能係同呢個物料上高嘅 chemical composition 有關係，亦都可能係因為呢啲物料喺供應商上高，佢哋一個 trade name 亦都唔出奇。所以如果你真係要問到呢個物料上高有冇差別嘅話，其實要睇番當其時呢個物料裏面，manufacturer 裏面講嗰個成分係點樣樣。

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問：係。但係我哋睇到，譬如嗰個 Specification Library 入面，講水喉嘅，佢就有講 uPV--我哋講譬如2004個版本，佢係有講 uPVC-lined galvanized steel pipes 嘅。

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答：係，正確。

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問：似乎有講 galvanized iron pipes。

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答：我哋喺 2004 版嗰一個 Specification Library，裏面講嗰個 uPVC-lined GI pipes，係一個當其時我哋喺一個 fresh water supply system 底下裏面用緊嘅一個物料嚟。佢就係一個即係--我唔用個 chemical composition 係 iron 定係 steel，總之係一個鐵喉嚟嘅，裏面佢搵咗一浸膠喺裏面，我哋就叫佢做一個“uPVC-lined pipes”。個目的就係避免嗰啲水同嗰個鐵喉管本身會接觸，係透過有個 lining 去保護條喉管。咁啲水係經過個 uPVC lining 去輸送，咁呢一個，就當年呢一隻物料係我哋咁樣選取去採用，喺個食水系統裏面。

問：我想同你澄清就係你哋個 Specification Library 入面，只係講一種呢啲 uPVC-lined pipes 嘅物料咋嘛？

答：係。

問：我哋可以睇睇個 Specification，或者可以幫到你。你如果睇文件夾嘅 B2，第 647 頁。646 先喇，或者。其實我哋可以喺 640 開始嘅，640 就見到係 PLU1，講“WATER SUPPLY”，你見到。

答：唔。

問：640 頁，...

答：係，見到。

問：...就“WATER SUPPLY”。你攞到 642 頁，就開始講“MATERIALS”。

答：係。

問：跟住 644 就講“COPPER PIPES”。

答：正確。

問：“COPPER PIPES” and then “COPPER PIPE FITTINGS”。

答：唔。

問：你再攞去 646，下方，就去到“PLU1.M170.4”，就講“DUCTILE IRON PIPES AND FITTINGS”。

答：正確。

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問：咁嗰度講“IRON PIPES”喇。但係 647 頁，“PLU1.M180.4”就講  
“GALVANIZED STEEL PIPES AND FITTINGS”。

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答：唔。

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問：“PLU1.M190.4”就講“UPVC LINED GALVANIZED STEEL PIPES  
AND FITTINGS”，見到嘛？

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答：見到。

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問：似乎--你揸到 653 頁，就講完水喉啲嘞，冇嘢講啲嘞。

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答：Okay，係，明白。

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問：In fact 去到 651 頁就講完水喉，因為似乎“PLU1.M200.4”就係最  
後一個講水喉，跟住嗰啲係講 expansion joints。

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答：係，正確。

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問：咁似乎講 galvanized，即係鍍鋅嘅喉管，只係有講-你唔好理佢係  
uPVC-lined 抑或 unlined 好喇，似乎講鍍鋅嘅管，管道，就淨係  
有講過 steel pipes，冇講過 iron pipes 嘅，啱唔啱？

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答：啱。

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問：但係正常你哋所謂術語上成日講話“GI pipes”、“unlined  
GI pipes”或者“UPVC lined GI pipes”，你所指嘅就係呢個  
PLU.M190.4 同理 180 嗰度講嗰啲物料，係咪？

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答：係，正確。因為如果我哋睇番呢個 Specification Library 裏面，  
其實有 reference 佢有一個叫“GI”或者“galvanized iron  
pipe”嘅，所以喺我哋合約嚟講，引用呢個 Specification  
Library，就只會睇番呢一啲嘅合約條款裏面講番嘅 pipes  
materials。

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問：但係似乎即係日常嘅術語入面...

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答：術語我哋就叫“GI”嘅。

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殷先生：我有嘢問。

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許偉強先生盤問

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問：翁女士，我想首先問一問你，就係就住呢一次嘅鉛水事件發生之前，我哋一路討論緊嗰啲焊料，即係焊接呢個銅喉嘅物料，咁我哋而家都知道有“FRY”呢隻牌子，係 lead-free，British Standard，呢啲咁嘅資料。我想問下你，就係喺呢個事件係發生之前，對於呢啲咁嘅焊料，佢可能有一種叫做「錫線」，你有冇聽過？

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答：冇聽過。

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問：有一種叫做「錫條」，你有冇聽過？

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答：冇聽過。

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問：冇聽過。我就想你睇一睇就係文件夾 B15.3 嘅 39170，唔。

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K

答：唔。係，好，唔該晒。

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L

問：係。39170，就係我哋可以睇到，你見到上面佢有個嚟嚟寫住“Major Job Reference”，跟住右邊，見唔見到有個叫“Prosperity Building Materials Co Ltd”嘅？

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答：見到。

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問：係嘞。以我所知，就係即係呢啲文件，就係當時有利呈交一啲材料界房署嘅時候，佢應該都係包括咗一啲有關嘅文件嘅。咁呢個係可能係其中一份即係夾咗入去嘅文件嚟嘅。

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答：係，冇錯。

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Q

問：其實就呢一份文件，我想即係知多少少嘅啫，其實都係。我想知道就係--我哋見到呢一個“Prosperity Building Materials Co Ltd”，以你所知--首先，呢件事發生之前，你都應該係有聽過呢一間公司嘅，係咪？

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答：冇特別嘅印象。

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問：冇特別嘅印象，係。我想問下你，房署會唔會有一個特定嘅一個名冊或者一個名單，就係話例如就住可能總承建商佢擺嚟嗰啲物料係 from 邊啲 suppliers 嘅，即係邊啲供應商嘅，你哋會唔會有個名冊

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嚟，你會知道？

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答：冇嘅。

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問：冇嘅，係咪？

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答：係。

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問：我想又問下，就係你自己本人，事件發生之前，有冇睇過呢一個文件？  
即係就住 Prosperity Building Materials Co Ltd，呢一個  
G 文件，有冇睇過？

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答：冇睇過。

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問：冇嘅，係。因為--即係佢都借咗你哋個名嚟即係做一做宣傳喇，都，  
I 嘎，見到「房署」同埋即係「建築署項目」咁樣，入面都即係舉例說  
明咗有邊啲項目咁樣嘅。

J

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答：唔。

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問：我又想問下有冇--你知唔知你哋房署會唔會，除咗經過總承建商之  
L 外，會唔會自己去聯絡呢啲供應商係擺物料，就做一啲你哋嘅工程嘅  
項目，有冇啲咁嘅情況㗎？

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答：我哋物料嘅採購其實都係透過一個合約係由總承建商去提供畀我哋  
N 嘅。有啲情況，我哋會想知道一啲物料嘅資料，譬如我哋喺設計嘅時  
間，我就住可能話我一個大堂，我想做一啲即係我哋叫做瓷磚嘅鋪  
O 製，我想要個效果係點樣，要啲咩嘢顏色。嗰個情況底下，我哋會聯  
絡某一個 supplier，叫佢提供一啲咁嘅樣辦畀我哋去睇，去幫我  
P 哋喺設計上高可以即係揀得清楚少少，我哋譬如話希望做到啲乜嘢。  
咁好多時就會係呢類型，我哋就會聯絡啲係供應商。

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問：係。即係如果我有理解錯，就話就住某啲物料，可能你哋喺呢個施工  
R 過程之中，可能你哋房署都想知多啲嘅，...

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答：係。

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問：...有關嘅物料，咁可能例如用嘅時候，會唔會有啲特別嘅地方需要  
T 注意呀咁樣，點樣可以用得更加有即係效益呀咁樣；可能喺呢方面，  
你會想佢哋更加畀多啲資料你哋嘅？

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答：諗，...

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主席：呢個係講緊喺個 design 嘅 stage 嘅。

答：呢個就係 design 嘅 stage。

主席：係。

問：Design 嘅 stage？

答：係嘞，冇錯。

問：係，明白。我想問一問，就除咗你剛才講 design 嗰個 stage 之外，以你所知，例如房署嘅職員，另外會唔會有其他嘅情況，佢哋會聯絡例如一啲供應商，就係有關一啲建築材料，即係佢哋嗰個--例如個成分，點樣用，等等嘅；有冇啲咁樣嘅溝通㗎？

答：我自己本人喺房署一路都係做即係工程項目，我就有參與呢類嘅即係--譬如係我哋想搵啲新嘅物料，喺啲項目嗰，咁係點用。但係--即係我相信就係假如我哋去到話去應用一啲新嘅物料，舉番個例，我哋頭先喺合約，Specification Library 裏面都睇到我哋有一隻叫做 uPVC-lined 嘅 galvanized steel pipes。咁即係都可以想像，就係當年我哋如果話我哋唔再用 galvanized steel pipes 去做呢個食水供應系統，而我哋要想搵一個替代品嘅時間，亦都理解到，啊，原來市場上高有呢種叫做 uPVC-lined galvanized steel pipes。咁我哋要睇下我哋呢個物料係咪適用喺房委會嘅工程上高，係有理由去接觸一啲供應商，去認識呢個物料，...

問：好。

答：...咁然後睇下係咪適用。

問：如果有呢啲咁嘅情況，係需要接觸供應商嘅話，通常由房署例如邊一個部門嘅同事會接觸佢哋㗎？

答：應該都係我哋有啲即係--中央組別嘅同事去即係--因為你睇到，譬如我哋講緊由當年我哋選擇係轉變用一個 uPVC-lined pipe 咁樣，其實我哋都係由嗰個合約規範嗰度出發。我哋揀嘅材料，然後我諗，睇下我哋工程點樣進行，我哋將佢變成一個 specification，咁就會由番我哋做 specification 相關嘅同事，相關嘅專業同事，專業

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人員嘅同事會睇。

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問：如果咁講啱唔啱呢，如果係--如果就住呢方面去找承建商去例如商討一下，欸，有冇啲咩嘢 alternative 嘅 materials，等等嘅，呢個應該都係會係 Specification and Design 嗰個 unit 嘅同事睇番，好。

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答：供應商，係本身供應商嘅同事。

F

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問：唔。

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答：本身供應商嘅同事。

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問：供應商，對唔住，係。另外我想問一問，就係自從而家 7 月呢件事發生咗之後，我想知道房署有冇話去例如搵過一啲即係供應呢啲焊料嘅供應商，去問過佢哋關於例如，欸，究竟焊料，用銅喉嘅焊料，係有邊幾種；例如邊啲係符合規格，邊啲唔符合規格；你哋有冇做過呢一方面嘅工作？

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答：呢方面我唔清楚。

K

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問：好。我去另一個問題，就係喺你嘅口供入面，就有幾個地方，我見到你都有講到，就係話你哋房署當時都會係當咗啲焊料係作為一啲嘅 sundry item，即係一啲可能你講嘅係雜項咁樣。

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答：唔。

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問：喺方面我都想同你討論一下個情況。首先，我想問一問，就係如果我哋講啲雜項，或者我哋以啲小五金嚟到為例，因為你嘅例子，喺你個證人口供度，個雜項，你都係用咗啲小五金嚟到做例子，例如螺絲、螺絲帽或者一啲即係我哋所講嘅鐵線，...

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答：係。

Q

Q

問：...嗰啲 typing iron，嗰啲咁樣，就擺呢啲例子嚟討論下。如果我哋講緊呢一方面嘅 sundry items，就以你所知，喺合同上面，係唔需要冇 specifications，同唔同意？

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答：嗯，...

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問：即係唔需要話就住呢啲 sundry items 會有特別嘅規格或者係標準嘅？

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答：我諗又睇番個 specification 去睇，我哋--喺我個證人口供上高，我將呢個 soldering material 類比為一個 sundry item。但係喺我哋嘅 specification 裏面有提到關於 soldering 嘅要求係乜嘢，...

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問：係嘞，即係...

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答：...所以我就唔會話我合約裏面係冇特別講到邊個物料需要符合咩嘢規格。

G

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H

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問：係。我暫且將呢個即係一般我哋講緊嘅五金、嗰啲小五金，同呢個 soldering material 暫且分開一下先。如果我哋首先討論咗你嗰啲例子，即係小五金，螺絲、螺絲帽同埋嗰啲 tying iron 咁講喇，咁呢啲咁樣嘅物料，一般嚟講，我哋睇到 contract 就唔會有 specifications 嘅，同意嘛？

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答：我有--因為我哋成個 Specification Library 真係好多 clauses 嘅，我有搵過晒，所以我唔敢好確切話畀你聽，...

K

K

問：好。

L

L

答：...就係一般嚟講，譬如一粒螺絲，有冇 specification，我真係唔敢講。

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問：好。如果我哋咁講，就係--一般嚟講，如果我哋講番啲小五金，螺絲、螺絲帽嗰啲咁樣，或者 tying iron 呀咁，一般呢啲，對房署嚟講，你哋都唔需要話對佢呢一啲咁嘅材料就作一啲例如 sample 嘅檢測或者審視嘅，同唔同意？

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答：同意。

Q

Q

問：但係就就住 soldering 嘅 material，你哋就係有做一個檢測同埋審視嘅，對於佢哋嗰個 sample 嘅 submissions 係有特別做檢測同審視嘅，同意嘛？

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答：因為喺合約條款上高，我哋並冇要求承建商係即係提供呢個物料、samples 等等做 approval 嘅。

T

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問：係。

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答：但係我哋都見到，喺現實嚟講，我哋一般工程項目，啲承建商都會提供呢啲資料，要求一個審批嘅。

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問：係，我明白。我從你嘅口供亦都睇到，就係話合同就唔需要呢一個咁樣嘅--即係對焊料唔需要呈交呢啲咁嘅 sample 畀你哋去核實或者去審視嘅咁樣。

答：係。

問：但係你都講出，as 一個 practice，即係作為一個實務嘅一個情況，你哋係有咁樣做到嘅咁。

答：係。

問：我想問嘞，就係以房署嚟講，以房署嘅角度嚟睇，你哋都係覺得，因為呢個係一個 practice，即係做咗一段時間，而供應商亦都一路畀緊你哋，你哋係咪都覺得係有呢個需要去作一個咁樣嘅檢視呢，對呢啲佢呈交嘅 sample，係有咁到需要，係咪？

答：我諗即係如果我哋從一個合約管理人嘅角度去睇，雖然喺我嘅合約條款裏面冇做呢一個要求，但係如果承建商去提交一啲咁嘅 submission 畀我，話畀我聽係符合合約裏面嘅要求嘅，咁我覺得我去睇，然後我去認識，呀，原來承建商打算用呢一個物料，符合到合約要求嘅，咁變咗喺我自己去處理番，喺呢個合約管理嘅角色裏面，我又會覺得我又會多啲資訊去掌握，多一啲信心...

問：係，冇錯。

答：...喺個合約上高同埋個質量。

問：即係多啲資料畀你，當然係...

答：係呀。

問：...即係感覺良好啲嘅，自我感覺良好啲喇。但係個問題就係如果我哋行之有效，即係呢個咁嘅 practice，即係佢又畀，你又睇，咁都行之有效，你覺得都係做咗一段時間嘞。如果例如喺一個情況底下，例如個總承建商，咦，佢就住 soldering material，係冇攞到 sample 嚟啲咁。咁你覺得房署個做法應該都會--你哋都會搵一搵啲職員去問下，「喂，咁耐都一路有嘅，不如問下佢有冇囉」，都會咁樣嘅做法㗎，係咪？

答：我諗未必會問啲。

問：未必會，嘎。

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答：因為我哋會即係按番合約裏面，冇咁嘅需求，我哋亦都有特別需要去做。

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問：即係就算呢個係一個做咗都幾耐嘅 practice，你都唔覺得有需要要問佢嘅，而雖然呢樣嘢，你剛才講，有係好過冇？

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答：我諗應該咁樣去睇。我哋去執行一個合約嘅時間，冇錯，合約條款裏面寫咗一啲嘢。如果我哋喺一個合約進行期間，我哋察覺到有啲嘢係異常嘅，咁就算個合約裏面冇要求，我哋都會問承建商，其實係乜嘢物料，發生乜嘢事。

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問：唔。

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答：因為我哋真係有一個責任去知道個合約係真係按住個合約條款嘅要求去進行。但係以另外一個--另一方面嚟講，假如喺個過程裏面，我哋唔察覺到有任何嘅即係不尋常，又或者有任何嘅警示，就話，咦，某啲物料可能出事㗎，咁我哋就唔會話專登去再問呢一方面嘅資訊嘅。

J

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K

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問：好，係。如果我咁講啱唔啱呢，即係就住例如可能一個物料，例如如果佢喺合同嗰度冇訂明總承建商係咪真係有個責任，將嗰個物料個實物呈交，作為一個 sample submission 嘅，咁房署嗰個角度就會係話，係倚賴總承建商去畀嗰個物料定係唔畀個物料嘞？即係你哋自己係有一個準則嘅、有一個規定，佢哋需唔需要交嚟，可唔可以咁講呢？

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答：因為喺呢個合約執行上高，我哋都係睇番個合約裏面嘅要求係乜嘢。咁總承建商佢按佢嘅合約要求，佢如果滿足到嘅話，其實我唔會即係專登去捉佢，就係「喂，你即係」--「諗，雖然冇講，我都想知好多樣嘢，你就嘔晒出嚟。」咁我諗我哋唔會咁樣做。

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問：好。

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答：嘎。

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問：睇一睇你個證人口供第 56 段，即係 39057。56 段就係講番，即係都係一路講緊嗰個問題，sundry item 嗰個問題，就係你話“Soldering materials have been regarded as an insignificant sundry item, similar to the iron tying wire used for fixing steel reinforcement, screws, bolts and nuts”，啱唔我哋講過喇，...

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答：係。

問：...“etc., which was not measured separately in the Bills of Quantities.” 咁樣嘅，咁就入面跟住就講話“The soldering material, the extent to which it was lead free, was not covered in the inspections so no ... tests were carried out.”咁樣。呢度帶出咗兩個問題。一個問題就係話嗰啲 soldering material，你當時就當咗係一種 insignificant，即係可能細眉細眼嘅 sundry items。呢個係第一樣嘢。第二樣嘢，亦都道出咗就係話嗰個 soldering material 就有話特別喺個 bills of quantities 嗰度去 measure 嘅咁。因為就住係 soldering material，我哋知道係連工包料嘅，咁所以就唔需要喺個 bills of materials 嗰度-- sorry, bills of...

答：Quantities.

問：...quantities 嗰度特別去即係界定咗咁樣。即係你講出咗兩個問題喇。我個問題就係而家--即係而家我哋嘅做法，事件發生咗喇，soldering material 都仍然唔會係 separately measured 喺個 bills of quantities 嘅，係咪？

答：係。

問：都唔會嘅？都係連工包料嘅，而家？

答：我哋做一個 BQ 嘅時間，就係由 Quantity Surveying 嘅專業嘅同事去做嘅。咁我唔係好掌握到嗰部分，但係我理解佢哋就叫做有啲 standard method of measurements，咁係就住一個建築工程項目裏面，去點樣去將當中用嘅物料等等，拆細嚟組織呢一個咁嘅 BQ 嘅。咁喺佢哋當中裏面，佢有一個咁嘅恆常嘅做法，對於呢一類我哋所謂嘅 sundry item，有佢哋嘅處理。所以你話日後我哋喺呢個 soldering material，係咪一個 separate 嘅 price item，咁呢樣嘢就我真係不能作答。

問：唔。

答：但係就...

問：現時嘅做法呢？而家嘅做法呢？即係自從你知道咗鉛水事件之後，有冇特別話就住呢個 soldering material，佢要--「啊，不如將佢唔好--即係應該要去 separately 去 measure 嘅，應該，係咁樣

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做」，會唔會有咁嘅做法，例如係？

答：我諗--我唔知有冇呢個做法。但係我又覺得事情就並唔係因為我係咪一個 separate measured 嘅 items，而導致嗰樣嘢唔符合即係我哋個規格嘍嘛，所以就我覺得佢究竟係咪喺個 BQ 裏面 measure 咗，係兩回事嚟嘅。

問：係。咁...

答：又返番去...

問：唔好意思。

答：...我個 statement 裏面講，即係好可能係未必寫得好準確，咁就係即係講到話因為佢係一個 sundry material，咁 insignificant，咁所以我哋就要有做到一啲 testing 嘅。咁呢一樣嘢其實就建基於當時我哋對於呢一個焊料，正如我哋今年 7 月之後睇到，即係含鉛其實即係會帶嚟啲即係水，因為佢會釋出鉛落咗啲水，跟住帶嚟一個健康嘅問題，影響等等。呢個認知係我哋今年先至有嘅。

如果喺當年裏面，我哋冇呢個認知，我哋真係會將呢一個物料，覺得恆常都用緊，從未聽過有問題嘅情況底下，我哋就有採取任何嘅行動去做一啲 testing，去證實呢個物料係符合我哋規格嘅。

問：明白。即係你嘅意思係咪咁呢，即係如果係就住呢一段嚟到睇--即係我哋唔好咬文嚼字去睇即係邊個起因，邊個人攞喇。如果係純粹係講 56 段嚟講，你覺得就住 soldering material 冇去攞嚟喺嗰個工程，施工過程之中，或者係佢物料送到嘅過程嘅時候，去做啲檢測，個原因最主要都係即係你哋當時就當咗佢係一個 sundry item，反而同呢個 BQ 嗰樣嘢，係咪即係 separately measured 呢樣嘢，就唔係一個咁直接嘅關係，係咪咁嘅意思？

答：我想再補充一樣嘢，就係雖然佢係一個 sundry item，或者將來我哋都繼續叫佢做一個 sundry item，但係如果我哋意識到呢一個 item 係喺我哋成個系統裏面係咁重要嘅話，我哋會做 testing。而喺番我自己個 witness statement 裏面，即係去答番 request number 6 裏面，我哋點樣去應對而家我哋面對嘅情況，我哋都係話我哋會做番一啲嘅檢測。

問：其實我講白啲喇。我問你呢個 sundry item 嗰樣嘢，其實係想問一

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問你，就係話呢個所謂“sundry item”，因為呢個 sundry item，而冇去做檢測，呢一個咁樣嘅說法，我想知道係一個後知後覺嘅講法，定係之前都已經有即係討論過，例如我想知道鉛水事件之前，你哋嘅部署，有冇就例如邊啲係 sundry items，或者焊料係咪屬於 sundry item 呢樣嘢，究竟有冇係一啲實際嘅討論嘅？

答：我自己本人有參與過任何呢一類嘅討論。

問：好。講番啱啱嗰個認知嘅問題，即係--因為啱啱你帶到出嚟，我順便而家食晏之前問埋。

答：好呀。

問：就住呢個水務規則，我哋都之前問過好多位其他證人，包括有多位嘅總則師嘅，咁都問過佢哋。咁就喺呢一個問題上面，我哋亦都問過總屋宇裝備工程師。咁我唔知我有冇理解錯喇，但係總則師答呢個問題嘅時候，畀到我嘅感覺，就同總屋宇裝備工程師答嘅問題就有少少唔同，即係裝備工程師似乎就比較直接啲。我而家就想試下再問你，就係第一，就係對於水務規則入面所講話嗰啲喉管，佢哋嘅--或者組件需要係符合英國標準，呢樣嘢，你喺呢件事發生之前都一定係有了解嘅，係咪？

答：有理解，不過並不深入。

問：係，並不深入。但係你一定要知有呢樣嘢，因為即係作為你成個總--成個即係 project 嘅總則師嘅話，你一定都要知道，啊，嗰個 project 入面，物料或者係個施工過程，邊啲係需要符合某啲嘅法律，咁你需要一定嘅了解嘅。

答：係。

問：我哋都知道就係話呢個英國標準係不斷更新嘅，咁我哋都要採用一個最新嘅標準，即係當時每一個 project 嘅時候，最新嘅標準嘅咁。咁我哋都係睇到就住--如果我哋講番而家呢一個仁（欣？）安邨為例，如果 2004 個 Specification Library 入面都講得好清楚，就係話係應該要符合 BS1254...

答：係。

問：...同埋都寫到明、寫到好白，就係要係 lead-free solder 嘅，係咪？

B

B

答：係。

C

C

問：咁我想問下就係話，啊，呢個 contract 咁樣訂明喇，當然法例亦都係有咁嘅要求喇，BS standard 嘅。

D

D

答：唔。

E

E

問：咁呢一個其實最主要都係話，第一，以一個常識嚟講，即係鉛係有毒呢樣嘢，你應該都唔會有異議嘅呵？

F

F

答：冇異議。

G

G

問：冇異議，係。咁而有呢啲咁嘅標準，我哋需要符合呢一啲咁嘅標準嘅時候，要用無鉛嘅物料，咁最主要嘅原因都係唔希望喺做水喉過程中係有啲含鉛、有毒嘅物料係走咗入去即係個工程入面，走咗入個水喉入面嘅；呢樣嘢，我諗你都唔會有異議嘅呵？

H

H

I

I

答：呢個推論係啱嘅。

J

J

問：推論係啱，咁你同唔同意？

K

K

答：我同意嘅。

L

L

問：係。如果你話唔想有呢啲咁嘅有毒嘅物料走入水喉入面，其實都係一個好常理嘅諗法，就係話都係唔想到時水喉出嚟嘅水，會畀一啲有害嘅物質污染咗；呢個你都會同唔同意？

M

M

N

N

答：我諗如果返番去以合約，即係欣安邨，呢條係叫欣安邨，咁去番當年，如果我哋對於焊料含鉛，而喺呢個水管系統裏面嘅水接觸到呢啲有鉛嘅焊料，而令到啲水係有鉛嘅成分嘅時間，導致有影響身體健康，我有呢個咁嘅認知嘅時間，我未必可以有咁多嘅聯想喇。

O

O

P

P

問：但係--純粹就住我--暫時唔需要冇太多聯想先。

Q

Q

答：係。

R

R

問：就住我剛才嗰個問題啫，嘎。

S

S

答：嘎。

T

T

問：就住剛才嘅問題，就係話，啊，有呢啲咁嘅標準做咗出嚟，係唔可以用含鉛嘅物料做水喉嘅咁。咁一個好簡單嘅推斷，就係話係唔想第時

U

U

V

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B

B

做咗啲水喉出嚟，經過水喉啲水係會被一啲有害嘅物料而污染咗。  
C 即係呢個係--係咪一個即係好常理嘅推斷呢？

C

D

答：我可以同意呢個推斷。

D

E

問：好。

E

F

答：同意嘅。

F

G

問：如果你咁講嘅話，我想你睇一睇你嘅證人口供嘅第 63 段。63 段嚟講  
就係話“HA was not aware of the possibility of lead in  
H water”。咁我想即係睇下點樣去理解呢個句子嘅。

G

H

答：唔。

H

I

問：剛才你答咗我啲幾個問題，咁亦都--啲幾個問題亦都係引伸到就係  
I 話，啊，有呢啲咁嘅標準，避免用某啲嘢，其實都係唔想即係...

I

J

答：係。

J

K

問：...有鉛嘅物質係進入啲水入面嘅咁。

K

L

答：唔。

L

M

問：咁如果你話知道呢方面嘅推斷嘅話，如果你而家嚟到講話「房署 was  
M not aware of the possibility of lead in water」，係  
N 咪一個唔係咁中肯嘅講法呢？

M

O

答：我仍然維持我覺得呢個--我呢個 statement 裏面呢個說法係中肯  
嘅。因為當其時其實以銅喉嚟香港用咗咁耐嘅時間，而房委會先至開  
P 始去轉用銅喉，擺喺我哋嘅食水供應系統裏面，我哋嘅認知就係用咗  
Q 咁耐，有任何嘢顯示話畀我哋聽會出問題嘅話，咁我哋當其時係真係  
認都有認過即係有--水會有鉛走咗入去呢一個 possibility 嘅。即  
係我會覺得，返番去當年，我哋有今日即係認知咁多樣嘢嘅時間，當  
R 年係真係有認過有呢樣嘢會發生。

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問：好。我哋講個 possibility，可能我哋講兩個層面。如果你話完全  
唔知道鉛有機會走入水啲度嘅，即係呢一個 possibility 嘅，即係  
S 我嘅理解，就係如果係咁嘅話，咁冇理由會有一個 contract  
T specification 講到明要用無鉛嘅焊料㗎嘛；你咁樣，同唔同意呢？

S

T

T

U

答：我會講就係我哋當年去認呢樣嘢嘅時間，我哋好相信業界掌握去點樣

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做呢個食水系統，應該用咩嘢適當嘅物料，咁然後我哋呢個 specification 嘞，因為我哋都係參考番 BS standard，符合呢個水務條例喇咁，咁亦都係喺番 BS standard，佢需要係無鉛嘅，我哋又如實將呢個無鉛嘅要求就擺番喺我哋嘅 specification 底下。

問：其實我要問你嘅嘢就係話，你講嗰個所謂個 possibility of lead in water，即係呢個咁嘅即係可能性，其實你唔係話真係講緊話，啊，其實你有個 contract specification，你都唔知道有呢一個--有機會水會含鉛吖，定係其實你係講緊話，「喂，我唔知道做咗 specification，嚟嘅料會係含鉛個啲」咁？即係其實你係講緊邊一樣嘅可能性呢？

答：嗯，...

問：即係第二個可能性係講緊，「喂，信錯咗人嘞。我信你會畀 lead-free 嘅畀我嘅，不過，喂，我點知你會畀係有 lead 嘅畀我呢」咁，係而家講緊邊個可能性？

答：我唔係好明白...

問：因為我哋講緊，如果你 contract 嘅 specification 入面，係講到明就係要 lead-free 嘅 solder 嘅咁。

答：唔喺。

問：如果你睇個 contract，既然係咁寫咗落去，你冇可能係唔知有機會如果話唔符合個 contract 嘅話，係有機會有鉛嘅物質會走入水度嘅。

殷先生：主席，我覺得呢個問題，個 foundation 係未曾 lay 咗嘅。因為點解我咁講呢？Specification 話唔用有鉛嘅焊料。但係你點樣係 link up with 話係因為鉛走落水嗰部分呢，我覺得佢係未將呢一部分嘅嗰個 foundation 係同證人去討論嘅。

因為我哋亦都知道，如果你睇嗰個 British Standard 嗰個附表嗰度，有 lead 同有 lead，其中一樣嘢會影響就係佢嗰個 withstand pressure 係可以去到幾多嘅。所以如果你要話個證人一睇，話個 specification 話無鉛，就等於係因為驚鉛走入水嗰一

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步，我覺得唔係當然嘅。

主席：我都唔係好 follow 你嘅 logic。

不過唔緊要，我想問一問我成日、我經常問啲幾個問題先。第一個問題，你都其實答咗㗎嘞，咁你就係知道鉛係有毒嘅，係咪？

答：係，知道。

主席：呢個知道喇。第二個問題，就係你知唔知道食水含鉛曾經嘅好--喺呢件事發生之前，2015年嘅7月之前，知唔知道食水含鉛曾經嘅好多嘅國家係出現過問題呢，知唔知道？

答：唔知道。

主席：唔知道。因此你亦都唔知道係乜嘢原因係導致呢啲好多國家係啲食水裏面出現咗鉛嘅原因，你係唔知道？

答：唔知道。

主席：換句話嚟講，如--我而家話畀你知喇，基本上就係有兩個原因，就第一，就係用鉛造嘅水管；第二，就係用鉛造嘅焊料--有鉛嘅焊料，應該咁講。

答：唔，嘎。

主席：Okay？呢兩個就係最主要就係曾經導致過好多國家係出現水裏面含鉛嘅原因嚟嘅。

答：唔。

主席：好嘞，如果你連--即係應該咁講，即係邏輯上推論，咁所以如果你連--如果你係唔知道焊料含鉛係曾經嘅第二啲國家係導致過食水出現問題嘅話，換句話嚟講你亦都唔會知道呢啲焊料裏面究竟含鉛抑或不含鉛係有啲乜嘢嘅影響嘅呢，有啲咩嘢分別嘅呢，即係喺呢件事之前，啱唔啱？

答：係，啱，啱，唔知道。

主席：當然而家你就知喇。

答：係。

主席：係咪？好，得，明白。其實我哋而家啲證據出咗嚟，就知道呢個焊料出現問題，曾經喺 93 年嘅美國已經 EPA -- 佢哋個 Environmental Protection Agency 已經出過一啲 notice 嘞；2000 年喺蘇格蘭有出過事嘞，同我哋而家所面對嘅一模一樣；2003 年喺英國嘅威爾斯亦都出現過呢個問題嘞。其實喺你嘅交上嚟嘅附件裏面，我見到就係喺呢個 39230 -- 39228 先，其實。呢個，我唔知係咩嘢原因，會夾咗喺你嘅 exhibit，即係你個--我相信就一定係有人交過啲嘢畀你哋房署，跟住你哋就夾咗喺你哋啲檔案裏面嘅。

答：呢一個係一個原整嘅 submission，我帶咗上嚟。

主席：係喇，係喇。咁--啊，係呀，即係當時...

答：Sample submission。

問：...main contractors 交界你哋嘅？

答：係。

問：咁呢度第 47 頁，39228 嗰度，就講到“PROTECTION OF POTABLE WATER SUPPLIES”，呢度就講“All water supply systems shall be designed, installed and maintained so as to prevent contaminants from being introduced into the potable water system.” 呢個就係大題目係咁樣樣講。

答：係。

主席：好嘞，跟住後面嗰度就講啲 jointing methods；首先，39229 就講緊 compression joints；但係我哋揭去 39230，咁人哋就好 specific 講到 soft soldered capillary fittings，其中跟住有幾個 bullet points，咁去到其中一個 bullet point，有個 table，就係話“A solder containing not more than 0.1% lead must be used. Compositions of some suitable 'lead-free' soft solders are given below”，跟住下低嗰個就可以 skip 咗佢；跟住再下低就話“The chemical composition of water in some areas may preclude the use of soft soldered joints.” 似乎--我哋知道呢間係一間澳洲公司嚟嘅，因為呢啲 copper pipes 全部呢間澳洲公司哋嘅。

B

B

答：係。

C

C

主席：似乎澳洲都完全知道晒個問題喺邊度。

D

D

答：諗，...

E

E

主席：你可能唔知？

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答：我...

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主席：唔係，所以我--因為你成日--即係我都想澄清一下，業界唔知呢，其實似乎如果咁講，好似香港啲業界唔知，抑或--我都唔知佢哋實際上唔知乜嘢。佢哋唔知道唔應該--應該用--佢哋唔知道應--唔好用無鉛嘅焊料，抑或唔知道啲乜嘢？

H

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答：我諗--業界--因為我哋一路做呢個水食供應系統，跟 BS standard 嘅，而 BS standard 底下係講咗 water for consumption 應該係一個無鉛嘅...

J

J

K

K

主席：係吖，係吖。

L

L

答：...一個焊料，所以我哋覺得業界應該係掌握呢一個...

M

M

主席：Okay。

N

N

答：...資料嘅。

O

O

主席：得。所以業界係完全知道當接駁呢個食水嘅銅管嘅時候係一定要用不含鉛嘅焊料，呢個係業界知道嘅？

P

P

答：呢個係我哋認為業界係知道。

Q

Q

主席：喺呀。所以你哋個 specifications 都寫到明係要係用 non-leaded 嘅焊料。

R

R

答：Lead-free，係嘞，lead-free、non-leaded 嘅。

S

S

主席：Okay，得。我又想問一問，因為你夾埋呢個 submission 上嚟，前面似乎有一個人就係做過一啲 query 嘅。咁呢個 query 就唔係 query 啲 solder，係 query 啲 flux。

T

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答：係，應該係喺嗰個審批材料嘅時間，你講緊，係咪？

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主席：係嘞。

答：我哋個 clerk of works make 過一個 comment 嘅。

主席：係嘞。因為--我睇緊 39131。因為其實由 39128 開始一路去到有一封信係要一間香--嗰個基本上佢澳洲嗰間公司，香港嘅分公司係答嘅。咁換--似乎就係要為咗滿足房署嘅一啲人嘅要求，就係於是明合就寫信去呢間公司，就要呢間公司就交一啲嘢出嚟，去證明嗰啲 flux 係 okay 嘅。即係我想問嘅問題就係當時你哋似乎房署裏面有人有啲 concern 嘅，係咪--你唔知？

答：我--係。我估呢，我就咁睇番呢一個文件裏面，即係畀我嘅即係資訊，咁就係當日個 clerk of works 收到呢一份由承建商呈交上嚟嘅即係物料嘅建議書嘅時間，佢就會對照番我哋嗰個合約要求，...

主席：係呀。

答：...咁去對番。咁似乎佢就睇到我哋嗰個 flux 上高，即係佢都喺上市，就喺文件 39131 上高，...

主席：係呀。

答：...佢就話「欸，我哋嗰個規格上高就話個 flux 係一個 non-corrosive type。」咁好可能就係當其時承建商提交上嚟嘅文件，喺呢樣嘢未必寫得好清楚，因為佢就寫係一個 pH value，就細過 2 咁樣嘅，咁所以就可能需要多啲澄清係去交代番關於 non-corrosive 呢一個要求，係咪都可以符合，咁所以承建商去要做番一--即係搵番嗰個供應商，做番一啲澄清。

主席：係呀，因為--似乎睇落嚟，我哋 39163 --我就其實而家睇番你哋嗰啲 form，其實嗰啲日子，我都唔知道究竟可唔可以倚賴嘅，其實，因為呢個 39163 嗰封信就係 2009 年 1 月 6 號就發出，咁呢度就 2009 年 1 月 30，咁似乎個先後次序係點樣樣，我都唔係好知道，不過總之就係--同埋我想問嘅問題就係有人喺呢個房署嗰度就係好細心咁樣樣係跟呢一個 specifications，有追問啲 flux，「究竟你哋符唔符合標準？」但係個問題我想問嘅就係，好嘞，咁跟住之後就有人再理嚟嘞，就有人再 check 嚟嘞？即係究竟佢哋實際上唔好講用 solder，佢用咩嘢 flux 呀，有人再理嚟嘞？即係 on paper，就完全滿足晒所有嘅嘢之後，咁跟住就究竟實際上點樣樣再--唔。

答：喺文件上高，39165 嗰一版，就有一間叫做“Cookson Electronics”

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嘅公司喇，咁樣去交代番關於呢個 flux 嘅物料上高，佢就係講番呢一個係一個 non-corrosive type 嘅 flux，"Powerflow Paste Flux"咁樣，咁所以我哋就--係嘞，我哋睇番...

D

D

主席：係，呢個就係 stand --唔係，呢個就係 standard 嘢嚟嘅。

E

E

答：係呀，係。

F

F

主席：因為你調番--因為呢間--其實你揭番去後面睇，你就會--即係 39166，你就知道其實呢封信--呢封嘢係 2006 年--基本上呢封--呢份嘢，呢個 Cookson 出呢份嘢，基本上就係所有嘅--佢話「所有交上嚟嘅我哋都見到嘅。」即係每一個工程交上嚟嘅都係呢封嘅啫，其實。

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答：唔。

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主席：呢個就唔係新嘅。

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答：唔。

L

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主席：因為個個都係交呢一份嘢上嚟嘅。

M

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係，返番去我頭先個問題，就係大費周章有人去問呢個明合就擺證明，究竟證明啲啲--證明似乎就係--「你用啲乜嘢 flux 呀？我哋而家有啲懷疑呀。」咁於是--睇落去就似乎好似明合，就於是就走去問呢個金特霸（香港）有限公司就擺啲證明。咁於是擺晒啲證明返嚟嘞，咁 submission 嘞，交晒上嚟嘞，咁跟住係咪同呢個 solder 一樣，呢個 flux 又係會擺咗喺嗰個 lock-up room 嗰度？

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答：如果有實物擺上嚟畀我哋批，即係作為一個樣辦去批核，...

P

P

主席：係嘞。

Q

Q

答：...係會擺咗喺嗰個 lock-up room。

R

R

問：咁跟住又擱埋一邊，咁跟係就係個 project 完咗之後就攞咗佢嘞？

S

S

答：如果我哋以實物嚟講，喺個 lock-up sample room 裏面，有啲我哋係需要係喺我哋做工程過程裏面，我可能要對一啲辦嘅，我哋就會返番去嗰間房度對囉。

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主席：係喇。

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答：咁有啲物料，我哋冇特別要去跟進嘅話，咁呢堆就可能只係作為一個紀錄就存放咗喺呢一間 lock-up sample room 裏面。

主席：如果我咁樣講公唔公平呢，其實做水喉嗰啲人全部都知道，當你接駁銅喉嘅時候，係一定要用無鉛嘅焊料去接駁，公唔公平呢？

答：我諗我有難度去講工人--嘅。

主席：唔係，用唔用咗就另外一件事先。佢哋係知道係要用無鉛嘅焊料先。佢哋用唔用就係另外一件事。

答：係，因為如果--我哋都睇到，今次，而家喺欣安邨遞交上嚟畀房委會呢一個咁嘅物料係由有利旗下，即係佢哋個 subcontractor，明合，整理，咁交界有利，然後有利 check 完，送番上嚟畀我哋嘅。咁所以就--最低都會去到即係 subcontractor 嗰邊，佢哋係掌握呢樣嘢，我哋嘅要求係咩嘢。

主席：好呀。咁我哋食完晏之後再繼續，好唔好？好。

下午 1 時 09 分聆訊押後

下午 2 時 30 分恢復聆訊

出席人士如前。

主席：繼續，許大律師。

許偉強先生：好呀。

香港房屋委員會第十二證人：翁德玲（房屋署（欣安邨總建築師））宣誓繼續作供

許偉強先生繼續盤問

問：問一問翁女士，你有關嗰個 sample submission，即係就住欣安邨

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嗰個情況嘅，我哋睇一睇 B15.3，你嘅證人口供嘅一啲附件，其中一個就係 39128 頁，呢度我就見到就係就住一啲銅喉加埋啲 fittings 嘅，我相信呢一度嗰個籠統嘅講法，pipes and fittings 個 fittings 都包括咗你哋當時檢視咗一啲嘅啲焊料嘅應該，即係亦都包括埋落去一齊，即係一齊做埋嘅呢張嘢係。我哋亦都睇到一般嚟講，喺你哋檢視或者審視呢啲咁嘅樣本，我哋而家就住呢個焊料嚟講，呢啲樣本嘅時候，通常我見到啲文件都會經過--你哋署方嚟講，都會經過起碼有三個即係職位嘅人士嘅，其中都包括個 contract manager，一般嚟講，個 contract manager 都要喺嗰個表格度要即係簽嚟確認嘅。

答：應該係個 contract manager 有 representative...

問：個 representative，係，個 representative，另外都會經過個 --即係我哋知道係個 project clerk of works，係咪呀？

答：係，冇錯。

問：而到最後，應該都會經過呢個 building services 嘅 engineer 嗰個部門，又會唔會呀？

答：喺呢一份文件裏面，你見到就個 building services engineer 係作為 contract manager's representative 去批准咗呢一個 sample submission。

問：係，明白。喺批核呢個 sample submission，有時就會係 building services 嘅人處理，咁...

答：屋宇裝備工程師，係喇。

問：係喇，有時都會係你哋即係...

答：建築師。

問：...architect 嗰邊嘅人處理嘅，如果例如我哋而家講如果係有建築師簽咗名嘅，亦都有 project clerk of works 嘅，係咪亦都會經過 building services engineer 去審視，會唔會㗎？

答：我諗喺欣安呢個情況，因為我哋喺一個建築合約裏面，作為 contract manager，我哋會 appoint 唔同嘅 professionals 做 contract manager's representative 嘅，其中就包括咗建築師同埋屋宇裝

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備工程師，另外亦都有結構工程師等等嘅，咁喺呢一個工程上高，我睇到個分工就係譬如喺呢啲銅喉物料上高去審--最後審批嗰一位就係屋宇裝備工程師，而另外一啲，譬如我哋講係潔具嗰類嘅物料就由建築師負責去批核嘅。

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問：明白。我哋亦都知道就係呢啲咁樣嘅樣本，我哋擺咗嚟，亦都有佢哋嘅相關嘅一啲文件，例如 test reports 或者佢哋一啲嘅單張、一啲章程，睇到佢哋個成分係點樣，check 好啱，審視啱，批核啱，你哋--我睇到例如有利嘅證供都會講到話有一個叫做--即係佢哋通常擺過嚟嘅時候，係會有一個叫樣辦板嘅，呢個你知唔知道？

F

F

G

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答：知道。

H

H

問：例如好似我哋就住呢個焊料咁講，佢哋當時呈交上嚟嘅時候，就已經喺一個樣辦板上，係咪呀？

I

I

J

J

答：有個實物樣辦嘅，佢係咪每樣嘢都釘咗喺一塊板上高，我唔敢肯定。

K

K

問：明白。審視完之後，就批核啱之後，就會喺--擺喺一個即係我所知道係一個 lock-up room 嗰度，係咪呀？

L

L

答：係，正確。

M

M

問：我見到你嘅證人口供第 50 段，即係 39055 頁嗰度亦都有解釋過嘅，就係話 approve 啱之後，所有呢啲咁嘅“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.”咁樣。

N

N

O

O

答：係。

P

P

問：我哋而家知道就係其實如果你話講緊焊料嗰個情況，你話喺成個即係建築嘅過程之中，除咗檢測同埋審視啱呢啲咁嘅樣辦之後，喺嗰個跟住落嚟嘅建築過程之中就唔會再去 check 㗎喇嘛？

Q

Q

R

R

答：唔會，喺我哋嘅系統上高係冇要求。

S

S

問：冇錯，喺你哋房署本身嗰個機制，本身個系統度就唔會再做檢測㗎喇？

T

T

答：正確。

U

U

問：我咁樣講啱唔啱，就係話啲 approve 啱嘅 samples 擺咗喺個

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lock-up room 入面，由於喺嗰個建築過程之中，亦都唔再需要做檢測，所以嗰啲咁嘅 approved samples 都有用㗎喇，擺咗喺度？

答：我諗佢都會作為喺我哋合約過程裏面係一個紀錄，所以我哋需要係妥善咁保存。

問：但係就住你話貨物嚟到，即係嗰啲物料真係嚟到同埋去用嘅時候，就唔會再需要睇番你哋喺個 lock-up room 嗰一個 sample？

答：我諗按需要，譬如如果我哋係根據我哋 form 6210 裏面係有三十隻材料，我哋需要做檢視。

主席：等一陣，我哋收唔到你講嘅嘢，...

答：哦，係呀？

主席：你坐前少少，好唔好呀？

答：Okay，好，得。

主席：唔該。

答：好，okay。

問：唔該。

答：即係頭先都講到就係即係當我哋批核咗一啲物料，然後我哋就將佢擺咗喺一個可以上鎖我哋所謂個 lock-up 嘅 sample room，咁樣就我哋係如果根據喺我哋嘅 inspection 嗰個 manual 底下，我哋有一個叫做 form 6210，咁樣裏面有三十隻物料，按我哋合約規定，就係承建商跟物料到地盤嘅時間，佢都需要呈交一啲文件、送貨單啲啲等等，我哋嘅同事係需要去覆核嘅，包括去睇一睇嗰啲物料係咪真係當日批視嗰一隻。

我相信如果當佢哋去睇嗰啲材料嘅時間，有啲佢哋唔係太肯定嘅話，佢係需要返去擺番當日工程師或者係建築師批咗嘅物料擺去做一個校對嘅。尤其是譬如我哋揀一啲材料，譬如我哋頭先都有講過，响朝早，我哋即係做瓷磚，我哋揀啲顏色，或者潔具，我哋揀一啲顏色，

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我哋都需要真係擺番個辦去對番究竟即係送上嚟個貨品係咪我哋  
選取啲顏色，我哋即係有啲情況，我哋真係要落去睇一睇去對照嘅。

D

D

問：明白。即係有啲情況就係尤其是就就住如果係 6210 嗰個名冊上面嘅，  
啲物料係你真係需要再做核對嘅，啲你就擺喺嗰個 lock-up  
room 嗰個 samples 就可能有用喇？

E

E

答：係。

F

F

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G

問：至於你話焊料嘅，就算你係真係當時 check 咗，approve 咗，擺喺  
嗰個 lock-up room，因為係唔屬於 6210 其中一個，所以都唔會再  
用番喇喇？

H

H

答：正確。

I

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J

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問：我想問一問你，都係就住有利或者係佢嗰個負責嘅持牌水喉匠，佢哋  
嗰個證供有一 part 都想你睇一睇嘅，或者可唔可以麻煩你睇一睇  
P1？P1 嘅第 13 頁，4.8 嗰度，或者你睇一睇先，我一陣再先問你  
問題。

K

K

答：係。

L

L

M

M

問：呢度你見到佢講，就係由中間後少少，都會講咗，就係話--見唔見到  
有一段佢係講話--有一句就話「我問過『明合』的駐地盤管工，他們  
其中有人曾在樣辦房見過水喉分判商的工人帶著一捆包裝符合房屋  
署要求的錫線示範燒焊。」見唔見到嗰度？

N

N

答：見到。

O

O

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問：第一，我首先想問一問你關於樣辦房呢樣嘢，好似就住我哋呢一個欣  
安邨呢一個工程為例，都係有樣辦房呢樣嘢，係咪呀？

Q

Q

答：有嘅。

R

R

問：即係以我理解，樣辦房係咪好似一個--即係一個 model，一個示範嘅  
房，...

S

S

答：好似一啲...

T

T

問：...就話啲設備應該係點樣裝上去嘅，係咪咁樣呀？

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答：係嘅。

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問：就住佢呢度有關嘅持牌水喉匠佢講話即係有人曾在樣辦房即係話見過有啲水喉分判商就喺度做示範燒焊個工程，你有冇認知呢樣嘢，你有冇聽過，或者你自己有冇親身見過有呢樣嘢？

答：我有聽過，亦都有親身見過。

問：如果話唔喺樣辦房呢，即係例如喺個地盤其中一個地方，如果有一啲水喉嘅分判商喺嗰度曾經有示範過做一啲燒焊嘅工序嘅，你有冇聽過呢樣嘢？

答：我都有聽過。

問：都有聽過。有冇聽過有任何例如水喉嘅工人，即係話喺嗰度同大家去到講解話呢啲燒焊工序應該係點做嘅，就算唔係示範，例如同佢哋講解點做嘅，有冇聽過呢啲類似嘅情況？

答：冇。

問：都有，好。就住剛才可能我問你--就住剛才我問你有關嗰個樣辦板嗰個呈交，或者有時未必一定擺喺板度，可能就咁呈交個實物，呢一樣嘢例如我哋先講就係有關呢個焊料先，有關嘅焊料佢哋擺上嚟嗰啲咁樣嘅樣辦，當然我知道以房署嗰個立場嚟睇，就係總承建商遞交上嚟嘅，你哋其實即係知唔知呢啲遞交上嚟嘅樣辦其實--個焊料個樣辦係邊一個擺到嘅呢？即係例如你知唔知其實佢係總承建商擺番嚟，定係係啲外判商擺番嚟，定係持牌水喉匠擺番嚟？即係你知唔知係邊個擺嚟，你哋嚟講？

答：當時唔知嘅。

問：而家，而家呢？

答：而家，因為而家我哋睇番，即係事發之後，我哋都叫有利提交咗一啲嘅即係報告畀我哋嘅，根據佢嘅報告講番畀我哋聽，咁就係因為佢係將呢個焊料--即係購買焊料呢個責任或者工作，不如講工作，佢就擺咗嚟--即係佢第一，佢就分判咗落去畀明合，佢就係連工包料判咗落去畀明合嘅，然後明合又將當中嘅工作裏面工人同埋連埋焊料呢個部分就分判落去永興一個三判上高，我亦都喺有利提交嘅文件裏面，佢亦都--佢就有講得好清楚嗰啲物料即係喺做呢個樣辦嘅提交嘅時間係由邊個 parties 擺上嚟，但係我哋再睇番後來呢啲 statement，即係應該由伍克明先生同埋有利嗰邊嗰啲 statement 都話畀我哋聽就係由永興嗰邊即係提交咗呢個樣辦，就上到去總承建

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商，由總承建商提交畀我哋去審核嘅。

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問：明白。至於例如嗰個我哋而家講緊嗰啲錫料，即係講講 Fry 咁講先，嗰啲焊料，你本人有冇親身--即係我講緊事發之前，喺地盤入面有冇見過呢一種物料，你自己？

E

E

答：冇。

F

F

問：從來冇見過，一路都有...

G

G

答：冇呢個印象，即係例如如果我見過嘅話，我真係冇呢個印象見過呢個。

H

H

問：即係如果你而家睇番，例如好似 39169 嗰一頁佢上面有一個即係佢個相咁，即係你而家睇番，但係如果你話你之前--事發之前，你都有印象曾經見過有呢樣嘢嘅？

I

I

答：冇嘅。

J

J

問：冇？

K

K

答：冇呢個印象。

L

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M

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問：就住啱啱我問你嗰一點，即係有關呢個焊料，因為佢唔屬於 6210，咁所以喺嗰個--除咗你睇完嗰個樣辦之後，就唔會再檢測咁樣，我呢度淨係想問一問你關於嗰個房署有關嗰個 inspection 嗰個 protocol 嘅啫，即係成個 procedure 係點，因為我哋知道你哋有啲 manual，就特別係就住 inspection 嚟講，係做咗一啲制定嘅。

N

N

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答：係。

P

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問：首先我想問一問你，就係如果一啲物料喺個建築過程係需要用嘅，你哋亦都係睇咗呢啲樣辦，核准咗嘅，一般嚟講，喺個成個建築過程入面，係咪有兩個部分你哋會檢視呢啲物料嘅？第一個部分，就係如果佢係屬於 6210 嘅，佢就會送達物料嘅時候，你哋會檢測，譬如去睇下合唔合乎呢個合約嘅標準，係咪呀？

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答：正確。

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問：或者睇下你哋合唔合乎你嗰陣時即係批核咗個標準。

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答：唔。

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問：第二個過程有機會做一啲物料嘅檢測，就係個 inspection -- 個 site inspection 嘅過程。

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答：係。

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問：即係我哋--你都--應該我唔使揭個一頁，你都可能知道，就係有啲 site inspection 就係講緊 100 個 per cent、10 個 per cent 或者係 random testing 嗰種情況咁樣？

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答：唔。

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問：如果我哋講緊第二種情況，即係 inspection，即係 site inspection 嘅過程，如果要驗物料嘅時候，就唔係話啲貨物，即係嗰啲材料送達現場嗰陣時驗嘅，係佢哋做緊個工程嗰陣時去睇嘅，係咪呀？即係...

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答：係。

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問：係咪呀？係。咁所以如果你話做緊工程嘅時候嗰個 inspection 嘅 process 去睇嘅話，就可能佢哋係拆咗箱真係用緊嘅時候先至睇嘅，就變咗有時都會未必一定睇到係咪你核准嗰隻牌子都未定嘅？

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答：正確。

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問：我哋或者舉一個例子先，舉一個例子啫，咁我就去第二個 topic，就係 B1，B1 80 頁，如果我哋就睇一個 example，就住 panel wall 嚟到睇，第二個 item。

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答：係。

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問：Panel wall 嗰度我哋見到，如果你真係 100 per cent check 嘅，就係講緊啲 drawings 同埋個 mock-up，個 construction mock-up，個 mock-up 即係基本上係個 model，係咪呀？

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答：係。

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問：如果我哋睇 (B)，100 per cent -- sorry，10 個 per cent check，就有幾樣嘢，就其中包括 grouting、joint reinforcement，第 (8) 嗰度有 sealant 咁，係咪呀？

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答：唔。

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問：仲有 moisture sealer、plumb and square 等等，另外我哋見到再下一個 column，見到就係“Random Check”，即係起碼有三次嘅要做，其中就係“Materials”，“Materials, Type & Dimensions”咁樣。我想睇下就係例如好似嗰 10 個 per cent check 嚟講，其中有啲係 sealant 或者係 moisture sealant，或者我哋講一講 sealant 咁先，如果係 sealant，好似喺做窗-- sorry，做 panel wall 嗰啲 sealant，呢啲算唔算你哋所講嘅 sundry item？

答：我唔敢去即係答你呢樣嘢，因為就即係 sundry item，如果我哋喺即係從 BQ 嘅角度睇，要睇番佢個 preamble 點去寫，佢會唔會歸納為一個 sundry items。

問：Okay，即係你嘅意思係話如果係咪屬於 sundry item 嘅話，就你哋有明文規定嘅？

答：我諗唔係明文規定嘅，反而係...

問：內部有指引嘅？

答：唔係一個內部指引，即係呢個其實係--應該係返番去喺一個做個 BQ 裏面，佢應該都有--即係有一定嘅規範，當然我即係唔係嗰方面嘅專業，我答唔到你，喺呢樣嘢上高。

問：好，好，唔該。最後我想問你一個問題，就係有關呢一個申請--去水務署，即係申請例如要 water supply 等等嗰啲咁嘅表格，你都有聽過，我相信我都唔使睇嗰個文件，大家可以討論下，就係一個 WW046，咁個申請表格，其中嗰個申請表格入面都會有啲附件嘅，嗰啲附件都係會講話即係個水喉工程要用啲咩嘢 pipes and fittings，我哋都知道其實當時即係你呈交上去嗰張附表入面列出嚟嗰啲咁嘅材料就有包括到焊料嘅。

答：係。

問：我就想知道一樣嘢啫，就係話當時遞上去嗰張 form 嘅時候，持牌水喉匠佢就會列明咗即係邊啲水喉嘅配件、材料係即係將會使用嘅，係就呢個工程，通常呢一個咁嘅列表就係持牌水喉匠去提交嘅？

答：係由持牌水喉匠去準備，我相信。

問：去準備嘅。我哋都知道就係成個嗰個建築工程嘅時候，可能有啲配件

就會同初初遞上去嗰啲咁嘅配件會有啲改動嘅，如果有改動嘅話，就我聽到你哋有啲其他嘅證人所作嘅口供，都係話如果有改動，就由持牌水喉匠去同呢個水務署嗰度更正番嘅咁樣。

答：係。

問：我想知道就係如果有改動嘅時候，喺房署入面，你哋同持牌水喉匠嗰個機制係點樣？例如如果持牌水喉匠佢喺做個過程之中知道例如「一、二、三、四樣嘢，其中有兩樣嘢我更換咗，我用咗第二隻牌子」或者第二種物料嘅，你哋有冇一個紀錄就係話持牌水喉匠要話畀你哋聽邊幾隻改咗，然後先至攞去水務署嗰度做更正呢？

答：過往嚟講，喺我哋嘅系統，冇呢一個要求，因為我哋都真係好倚賴個承建商幫我哋去監督呢個持牌水喉匠嘅工作，同埋喺個工程上高用緊嗰啲物料，我哋都係睇番係喺個合約上高承建商提交畀我哋嗰啲文件，我哋批核咗嗰啲材料雖然都只不過係一個大家 general practice 會做嘅嘢，我哋都會因應，即係睇番嗰啲嘅 submission，知道我哋嘅地盤用緊咩嘢材料。

問：所以過往嘅做法就係直到持牌水喉匠真係去同水務署嗰邊通知佢哋話有更改咗邊啲用料之前，你哋可能真係唔知道更改咗啲乜嘢嘅？

答：因為我哋睇到嘅情況就係當嗰個持牌水喉匠去製作嗰張附件，就然後將嗰張 WWO form 46 拎上嚟畀我哋去即係再去睇番嗰張申請表，檢查裏面嘅內容，然後去即係核實嘅時間，當其時有陣時嗰啲物料未必係全部都批核晒嘅，咁所以我哋都只可以因應就係批核咗，我知道嗰啲已經紀錄咗喺個表，有另外一啲係需要呈報，而可能未--即係個承建商未準備到攞上嚟做批核，咁可能有呢一類嘅材料嘅。

如果日後--因為我諗佢提交上嚟畀我哋嘅時間，雖然我哋未去到核准個階段，但係承建商同埋即係我哋見到事後即係一啲物料亦都係由分判商自己去提供，咁所以佢哋都會掌握佢哋心目中諗住係喺呢個合約上高用啲乜嘢物料係會符合到我哋合約嘅要求，所以佢哋製作呢一個附件嘅時間，都會將佢哋諗住會用嘅物料都擺落去嘅。

除非話你話日後--即係佢哋會製作咗呢個就係附件，就提交咗水務署，咁慢慢即係就過咗，即係就算入完呢張 form WWO46 之後，都有機會就係假如佢入一個物料，佢原本諗跟附件，「我都諗住譬如 A 牌子嘅，呢一件物料，我係打算會用。」然後佢提交上嚟畀我哋，然後我哋發覺即係可能都有啲即係唔係好清晰或者我哋覺得有啲問題，我哋唔批核嘅，佢需要去提供另外一個牌子嘅物料畀我哋做審

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批嘅話，咁就會出現一個情況，就係嗰人咗水務署嗰張附件裏面講緊  
嗰個物料同我哋批准個物料有差別嘅時間，個持牌水喉匠就需要返去  
水務署做一個更正嘅工作。

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許偉強先生：冇其他問題。

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主席：冇人想發問？冇人有問題嘛？冇人有問題。

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唔該晒翁女士，畀完證供，走得。

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答：多謝。

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主席：唔該晒。

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殷先生：下一位證人係楊耀輝先生。

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主席：好呀。

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殷先生：佢係牛頭角下邨第一期嘅總建築師。

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主席：好呀。

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香港房屋委員會第十三證人：楊耀輝（房屋署（牛頭角下邨第一期總建築  
師））以本地話宣誓作供  
殷先生主問

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殷先生：而家我讀楊先生嘅書面證供。

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**COMMISSION OF INQUIRY**

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**WITNESS STATEMENT OF YEUNG YIU FAI RICKY**

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**CHIEF ARCHITECT OF LOWER NGAU TAU KOK ESTATE PHASE 1**

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**BACKGROUND INFORMATION**

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1. I, YEUNG YIU FAI RICKY, 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. The statement addresses matters relating to one of the "Affected Estates" being Lower Ngau Tau Kok Estate Phase 1.

2. I am a Registered Architect employed by the Housing Department (HD) in 1997, which is the executive arm of the Housing Authority (HA), currently holding both the post of Senior Architect/17 and, since July 2015, Chief Architect/2 (Acting). As defined in the building contract for the construction of Lower Ngau Tau Kok Estate Phase 1, Chief Architect/2 shall be the Contract Manager. I have been involved in the maintenance stage and final account stage since July 2015. The Chief Architect who certified the completion of the domestic blocks on 31 March 2012 was Ms. SHUM YUEN WAH, who resigned in September 2012 and left the Housing Department. She is therefore not available to make a statement. In making this statement I have had to obtain information from office records or pursuant to discussions with colleagues.

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

4. For the purposes of this Statement I refer to the different work stages as Pre-contract, Construction and Completion.

5. In the Hong Kong Housing Authority, a Chief Architect serves as the Project Manager, Design Team Leader and/or Contract Manager (CM) for a number of public

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housing projects from inception to completion stages, including all associated housing-related infrastructures and supporting community facilities, and provides steering and leadership for the projects. Through delegation of authority, a Contract Manager was supported by CM's representatives and a site inspection team in contract administration and site supervision. The CM's representatives and Site Inspection Team carried out their duties with reference to the Quality Manual - Contract Administration (Building) Guide.

6. The Chief Architect and Chief Building Services Engineer were involved in managing the design and construction for plumbing installation works of buildings.

7. The gross site area of Lower Ngau Tau Kok Estate Phase 1 is 3.2 hectares. This development comprises the construction of five domestic blocks of 40 to 47 domestic storeys with flat production of 4,238, a 4-storey covered car park, ancillary facilities and associated external works.

8. The HA awarded the building contract with contract number 20080072 to Yau Lee Construction Company Limited ("Yau Lee") on 2 July 2009. The contract sum was Hong Kong Dollars One Billion Two Hundred and Forty One Million, Eight Hundred and Nineteen Thousand, One Hundred and Forty Seven and Seventy Two Cents (HK\$1,241,819,147.72).

9. Yau Lee commenced the contract works on 10 July 2009. The completion date of building works for the five domestic blocks, covered car park, ancillary facilities and most of the associated external works was 31 March 2012.

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

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**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**

11. The HA entered into a contractual relationship with Yau Lee by direct written contract under which Yau Lee was fully responsible for carrying out the works required. Yau Lee, with its domestic subcontractor and nominated subcontractor, proceeded with plumbing installation works on site, and gave continuous supervision, provided all necessary superintendence by providing a management team during the currency of the Works. Yau Lee named a competent and authorized agent who had to be constantly on site on a full time basis dedicated to the superintendence of the Works.

**CHIEF ARCHITECT**

12. The Chief Architect was the CM for the Building Contract, supported by professionals of various disciplines who were delegated with the authority under the Contract as CM's Representatives. The CM gave periodic supervision while Yau Lee gave continuous supervision and all necessary superintendence for proper fulfilment of obligations under the Contract. The responsibilities of the Contract Team in site inspection were outlined in Master Process Manual (DCMP). The CM maintained an

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adequate level of inspection to carry out the checks, inspections and tests according to the provisions of the contract. Inspection percentages were determined from time to time by the Contract Coordinator (the Project Architect) and endorsed by the Assistant Contract Manager (the Senior Architect). Inspection percentages of the nominated subcontract were recommended by the Senior Building Services Inspector and approved by the Senior Building Services Engineer.

13. During the construction period of the building contract of Lower Ngau Tau Kok Estate Phase 1, the Contract Manager was the then Chief Architect/2 who acted as the administrator of the Contract, i.e. the CM as referred to in the General Conditions of Contract (GCC) as supplemented by the Special Conditions of Contract and the Specification. The Contract Manager delegated the administration of the contract to a Senior Architect and Architect within the section. They acted as the assistant contract manager and contract coordinator respectively. Senior professionals and professionals of other disciplines were delegated the authority as CM's Representatives to administer that part of the contract works in their respective areas of expertise as necessary. The CM's Representatives and Site Inspection Team carried out their duties with reference to the Quality Manual - Contract Administration (Building) Guide.

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

**CHIEF BUILDING SERVICES ENGINEER**

15. In this contract, the then CM delegated to the Chief Building Services Engineer, as the CM's representative, the duties and powers vested in the CM under the Main Contract insofar as they concern Building Services

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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) .

16. The Chief Building Services Engineer was assisted by a team of building service staff to discharge his duties. The Project Building Services Engineer was delegated by the CM as the CM's representative and was responsible for the administration of Building Services Nominated Subcontracts (including Fire Services and Water Pump Nominated Subcontract), with the assistance of the Project Building Services Inspector.

**CONTRACT MANAGER'S REPRESENTATIVE AND SITE INSPECTION TEAM**

17. Being the CM for the Building Contract, the then Chief Architect/2 was supported by professionals of various disciplines who were delegated with the authority under the Contract as CM's Representatives. Through the CM's delegation of authority, contract administration and site inspection were discharged by the CM's representatives. The CM's Representative (Resident Structural Engineer) and Site Inspection Team stationed at site carried out periodic supervision. Site inspections were carried out as laid down in the "Master Process Manual".

18. Under the CM's overall supervision, the Site Inspection Team conducted periodic and random checks on materials and workmanship for conformance to Specifications and the progress of the main contractor's works. For inspection of the fresh water 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 the installation inside water pump rooms under the Fire Services and Water Pump (FSWP) Nominated Subcontract.

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

20. This building 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, complementing the performance-based specification, site inspection and testing of various materials and construction process, while taking into account of the laws and regulations, industry/trade practices, past experiences and risk management. The HA and I believed that the widely accepted and used soldering materials should have complied with relevant requirements. Checking for the presence of lead in solder or lead in water was

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not included in the site inspection system and therefore we did not check for presence of lead in soldering materials.

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**MAIN CONTRACTOR**

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21. Yau Lee, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Yau Lee 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. Yau Lee had to 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.

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22. Yau Lee was permitted under the contract to sublet a part of the Works. Yet, the subletting of any part of the Works did not relieve Yau Lee from any of its liabilities or obligations under the contract. It is 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. The service of a Licensed Plumber (LP), which is a statutory requirement under the Waterworks Ordinance in the installation of plumbing systems, is usually provided by the plumbing domestic subcontractor. The HA did not have any direct contractual relationship with the domestic subcontractor or any direct contractual relationship with the LP. The requirement for the engagement of an LP was specified in the contract specification.

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**DOMESTIC SUBCONTRACTOR AND NOMINATED SUBCONTRACTOR**

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23. Under the terms of the contract, Yau Lee 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, Yau Lee was required to provide all necessary superintendence by providing a management team during currency of the works, and name a competent and authorized agent who should be constantly on site on a full time basis dedicated to the superintendence of the Works. Yau Lee established its Contract Management Team, the organization of which is now produced and shown to me marked "Exhibit [2]" according to contract requirements. Such management team included Director, Deputy General Manager, Contract Manager, Project Manager, Quantity Surveyor, Quality Control Manager, Architectural Quality Control Coordinator, Structural Quality Control Coordinator, Site Agent, General Foreman, Block Foreman, Building Services Engineer and Safety Officer etc.

24. The Contract specifications did not stipulate the specific roles and duties of the Licensed Plumber (LP) on the basis that these were all prescribed under the Waterworks Ordinance (Cap. 102) except that the engagement of an LP is mentioned in the specification clause PLU1.W110.

25. The contract permitted Yau Lee to sublet the Works to their selected domestic subcontractors or to those nominated by the HA. However, there was control of subletting of "plumbing and drainage work (outside external wall of building)". The subcontracting should be no more than two tiers of subcontractors.

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**LICENSED PLUMBER**

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26. According to our records, Yau Lee employed Ming Hop Company Limited as the domestic subcontractor for the plumbing and drainage works and Ming Hop Company Limited further sublet the plumbing and drainage installation works to Wing Hing Plumbing Drainage and Hang Lee Engineering Company. According to our records, only two workers of Hang Lee Engineering Company worked at this construction site at the very early stage of the construction period. The copy of the list of sub-contractors submitted by Yau Lee is shown to me marked "**Exhibit [3]**". Yau Lee submitted an Investigation Report to the HA on 14 September 2015 which enclosed a copy of the subcontract and the sub-subcontract documents relating to Yau Lee, Ming Hop Company Limited and Wing Hing Plumbing Drainage for the plumbing and drainage works. I then became aware of the responsibilities of the subcontractor and the sub-subcontractor. A copy of the above subcontract and sub-subcontract documents are now produced and shown to me marked "**Exhibit [4]**".

27. In this contract, Thorn Security (Hong Kong) Limited was the nominated subcontractor for fire services and water pump installation. Concerning the responsibilities under this nominated subcontract, my colleague, Mr. Leung Chi Kwong, the Chief Building Services Engineer will provide details in his statement.

28. The roles and responsibilities of the LP are stipulated in the Waterworks Ordinance and Waterworks Regulations. The LP for the plumbing installation of this contract was Mr. Ng Hak Ming. As far as I know, the responsibilities of the LP for the plumbing installation included notifying the Water Authority of the commencement date and scope of plumbing works

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**MAJOR PROCESSES FOR THE INSTALLATION OF FRESH WATER SUPPLY SYSTEM**

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to be carried out at Part I of the Form no. WWO46. The LP had to notify the Water Authority of the completion of plumbing works and request inspection and approval by the Water Authority at Part IV of form WWO46. He also had to supervise the execution of the plumbing works on site.

29. The then CM would have relied on Yau Lee to monitor the service of the LP and would expect the LP to execute his duties under the Waterworks Ordinance and Waterworks Regulations. This was reinforced by the "Point Penalty System" administered by the Water Authority which provided a positive incentive for the LP to carry out the task professionally and accurately.

30. As for the responsibilities of the LP for fire service and water pump installation, my colleague, Mr. Leung Chi Kwong, the Chief Building Services Engineer will provide details in his statement.

31. The major processes for the installation of fresh water supply system mainly involved application for the Water Authority's permission to proceed with the plumbing installation, submission of plumbing material proposal and procurement of the approved 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 certificate regarding water supply connection, and monitoring and maintenance of the Fresh Water Supply System.

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

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Submission of plumbing material proposal

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34. In this project, Yau Lee submitted proposals of

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### Execution of Plumbing Installation

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### Housing Authority's Periodic Inspection

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Testing and Commissioning

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

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40. Having completed the plumbing installation works, the

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Water Supplies Department's Inspection and Issuance of  
Certificate regarding water supply connection

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LP completed and transmitted Part IV of Form no. WW046 [to Yau Lee]. After checking, Yau Lee forwarded the completed form to the CM's Representative (the Project Architect) for signing. The Project Architect signed Part IV of the Form no. WW046 for the development on 23 February 2012 to confirm correctness of the meter positions and then return the same to Yau Lee. Yau Lee and LP then submitted the form to WSD on 29 February 2012. On 10 March 2012, Yau Lee requested Project Architect to sign Part II of Form no. WW0132. The Project Architect signed the same on 12 March 2012 applying for the Water Authority's certificate regarding water supply connection and returned the form to Yau Lee who then transmitted the same to WSD. Copies of the forms are now produced and shown to me marked "**Exhibit [5]**".

41. According to the Water Examination Report dated 27 March 2012, Water Supplies Department tested the water sample taken at the water main of the development on 26 March 2012 based on the eight parameters. The testing of lead content in water was not included. The remarks of the Water Examination Reported stated satisfactory for potable purpose. Water Supplies Department forwarded the Water Examination Report dated 27 March 2012 to the LP who gave a copy to Yau Lee on 28 March 2012. Lower Ngau Tau Kok Estate Phase 1 was completed on 31 March 2012 which was before the issuance of the WSD Circular Letter No. 2/2012 in August 2012. A water sampling test at inside service was not required at that time as we believed that this practice followed the then prevailing WSD Circular Letter No. 6/2002. The copy of the Water Examination Report, the WSD Circular Letter No. 6/2002 and Circular Letter No. 2/2012 are now produced and shown to me

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marked "**Exhibit [6]**".

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42. For satisfying the item 5.1.1 (b) of the BEAM's (Building Environmental Assessment Method) standards Version 4/04, the Contractor had conducted water tests to show compliance. According to our records, Enviro Labs Limited was commissioned to conduct the required test based on the seven specified parameters under the WSD's Quality Water Recognition Scheme for Buildings with satisfactory results but the testing of lead content in water was not one of the required parameters. The copy of the water test report with water samples taken from domestic units on 13 March 2013 is now produced and shown to me marked "**Exhibit [7]**"

43. According to the record from our Estate Management Division, Lower Ngau Tau Kok Estate Phase 1 joined the WSD's Quality Water Recognition Scheme for Buildings since November 2013 which required testing of water samples from domestic flats based on seven specified parameters with satisfactory results but the testing of lead content in water was not one of the required parameter. The copy of the water test report for joining the WSD's Quality Water Recognition Scheme for Buildings with water samples taken on 29 November 2013 is now produced and shown to me marked "**Exhibit [8]**"

44. Based on the record of Part V of the WWO46, I noted Water Supplies Department last inspected the completed plumbing installation on 29 March 2012. Signed by WSD on 29 March 2012, the WWO46 Part V stated that pursuant to the Waterworks Ordinance and Regulations, no irregularities were found and the plumbing detailed in Part IV was approved. With satisfactory inspection results, the Water Authority issued Certificates (Form no. WWO1005) regarding water supply connection for the development on 10 April 2012. The copy of the forms is now produced and shown to me marked "**Exhibit [9]**". I was advised by HD's site staff and the Project Architect that HD was not informed of the WSD final

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C inspection date beforehand and Project Architect was  
not invited by the LP and WSD to attend the final  
D inspections conducted by WSD.

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

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

K 45. At the commencement stage of plumbing works, the  
L project architect and LP signed and submitted to Water  
M Supplies Department (WSD) the Form no. WWO46 Part I  
N together with an Annex showing details of pipes and  
O fittings intended to be installed. Only pipes and  
fittings, such as 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.

P 46. Based on the records I have reviewed, in the Annex to  
Q the Form no. WWO46 Part I submitted to WSD on 26 August  
R 2011, there were 18 items of plumbing materials  
S intended to be installed, all complying with the  
statutory requirement. The copy of the Form no. WWO46  
Part I together with Annex of the material list is now  
produced and shown to me marked "Exhibit [10]".

T 47. After excess lead was found in drinking water in Lower  
U Ngau Tau Kok Estate Phase 1, the CM's Representatives  
and Site Inspection Team verified the plumbing  
materials installed at site and found that they were

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Material submission and variation approval by Contract Manager

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the same as in the Annex of Form WWO46 Part I submitted to the Water Authority. A table listing the materials originally submitted to the Water Authority in the Annex to Form no. 46 Part I in August 2011 and those as-built materials installed at site is now produced and shown to me marked "**Exhibit [11]**".

48. The LP submitted Part I of Form no. WWO46 to the Water Authority in August 2011. The Water Authority returned Form no. WWO46 Part III to the LP in September 2011 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".

49. Materials used in this contract were governed by the specifications forming part of the Contract between the HA and Yau Lee. According to the specifications, materials used in the fresh water supply 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.

50. The use of soldering alloys for copper and copper alloy capillary fittings used in this contract were to 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*

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*provided they comply with BS EN 1254:Part 1:1998;*

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*iii) Use only lead-free category solders;*

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

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Site supervision for plumbing installation

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53. Upon delivery of materials to site, Yau Lee was obliged to check every batch of materials against approved

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samples and documents to ensure compliance. I learnt from my Site Investigation Team that after verification of the materials delivered to site by Yau Lee, the materials were stored in the plumbing domestic sub-contractor's lockable workshop at site.

54. In this contract, major plumbing materials checked by the 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. We would presume that supervision and control were carried out by Yau Lee and the LP. If we had been aware of the risk of presence of lead in solder and its implications for the drinking water quality and in turn, the associated health risk, the HA would have checked the materials delivered to site.

55. For the plumbing installation of the fresh water supply system under the domestic plumbing sub-contractor, Yau Lee provided continuous supervision by their site supervision team to ensure compliance with the specification. 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 500 workers every day.

56. The periodic and sample checks carried out by the HA Site Inspection Team would need to cover all these activities and works. A number of inspection guides were developed to facilitate the HA site inspection team to carry out the inspection. The inspection of the water supply system including water pipes and fittings, water pumps and associated installation included in-process inspection, final inspection and

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witness test. The HA Site Inspection Team checked the installation against the approved drawings and approved material record. For the works executed by the domestic plumbing subcontractor, the HA Site Inspection Team conducted recommended percentage checks on the above items. For plumbing above ground water supply pipes, it was specified that 100% checking was required for pipe testing and cleaning of water tank/pipeline while 10% check was applied to pipe sleeve, materials, type and dimensions, pipe joint, pipework installation, valves, taps, strainers, pipe bracket and caulking pipe sleeves.

57. Soldering materials have been regarded as a sundry item, 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: the flow rate, water tightness, pressure resistance, mechanical strength and endurance, and blend water extreme temperature.

58. The HA operated a Performance Assessment Scoring System (PASS) to quantitatively measure the contractors' performance including compliance of materials and workmanship with contract requirements. In so far as fresh water supply system was concerned, contractor's performance on type and size of pipes, pipe brackets, pipe sleeve, soundness, plumb, level/fall was assessed. Compliance of materials with specified requirements 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 Thorn Security (Hong Kong) Limited.

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**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**

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59. Yau Lee, as the Main Contractor, was fully responsible for carrying out the works required. Under the GCC, Yau Lee 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.

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60. 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 -

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

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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

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

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

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i) A registered semi-skilled worker or registered

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

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

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61. The monthly report, namely, record of trade tested  
workers was prepared by Yau Lee and checked by HA Site  
Inspection Team. The checking was based on records  
of Yau Lee's Access Control and Recording System. The  
Trade Tested Workers information from Yau Lee was also  
regularly forwarded to the Construction Industry  
Council for verification of the workers' identity and  
qualification.

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62. I have no 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.

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**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**

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63. Yau Lee, as the Main Contractor, was fully responsible  
for carrying out the works required. Under the GCC,  
Yau Lee 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.

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64. The HA was not aware of the possibility of lead in water,  
and did not conduct any laboratory tests for lead in

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water before July 2015. The HA had considered that conducting laboratory testing for the eight mandatory parameters specified by the Water Authority would suffice. The HA has 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 tests. Soldering materials have been regarded as an insignificant 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. There had been a general lack of awareness of the risk the soldering materials would pose. Had the HA been aware of such risk, it would have been effectively controlled through our Quality Assurance Regime both at contract level and at corporate level.

65. Due to the above, the HA Site Inspection Team was not required to verify the materials delivered to site and check the lead content of the soldering material during the execution of plumbing installation as it was believed that the widely accepted and used soldering materials should have complied with relevant requirements. Further, copper pipes have been used in the fresh water supply system in Hong Kong for decades. Since it was not a new material or technology and there was no prior indication or alert of any particular health risk associated with the materials of the copper pipe fresh water supply system and there was no statutory requirement for testing of lead in water by the Water Authority. HA followed the established practice of focusing on the functional performance of the water supply installation i.e. pipe fixing and alignment and water tightness of the system, when carrying out visual inspections and water test.

66. Lead free soldering material was as specified with

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approved sample complying with contract requirements. It appears to me that lead solder was used by Yau Lee and those contracted with Yau Lee without permission and in breach of contract.

67. Based on the available information, I cannot conclude how lead solder came to be used in Lower Ngau Tau Kok Estate Phase 1 and which party or parties allowed it.

主席：或者我哋 break 一 break 十分鐘先，好唔好呀？我哋而家啱一啱先。

下午 3 時 41 分聆訊押後

下午 3 時 55 分恢復聆訊

出席人士如前。

主席：繼續。

香港房屋委員會第十三證人：楊耀輝（房屋署（牛頭角下邨第一期總建築師））宣誓繼續作供  
殷先生繼續主問

**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**

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Lead Solder Joints

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68. Before July 2015, I was not aware of the presence of excess lead in water of Lower Ngau Tau Kok Estate Phase 1 water supply system. In July 2015, 6 out of 130 water samples from Lower Ngau Tau Kok Estate Phase 1 were found with lead content exceeding the WHO standard of 10 microgram per litre.

69. After excess lead was found in drinking water in Kai Ching Estate and Kwai Luen Estate Phase II, the Government Task Force led by Water Supplies Department was formed to investigate the cause of excess lead in water in Kai Ching Estate and Kwai Luen Estate Phase II. I learnt from their Preliminary Findings issued on 25 September 2015 that the Lead-solder joints were the source of excess lead in drinking water in Kai Ching Estate and Kwai Luen Estate Phase II, and copper alloy fittings also leached lead but did not result in excess lead in drinking water. According to the Task Force, these findings are also applicable to other 9 affected estates including Lower Ngau Tau Kok Estate Phase 1.

70. "FRY" 99C Lead Free Solder together with copper pipes was submitted by Yau Lee and approved by the project architect. Pursuant to the contract provisions, Yau Lee could determine whether they themselves procured the materials, including piping and fittings and solder for copper pipes etc., or instructed the subcontractors to order the materials. However, Yau Lee was obliged to ensure the soldering material procured complied with the contract requirements.

71. In respect of the 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 orders of solder materials. The contract specification did not require the contractor to provide such documents. We expected that Yau Lee 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. Before excess lead was found in drinking water, we were not aware of the risk of presence of lead in soldering materials.

72. Lead was found in two soldering joints taken from Lower Ngau Tau Kok Estate Phase 1 in July 2015. Yau Lee were asked to investigate why lead soldering material was used in the fresh water supply pipes. It appears to me that lead solder was used by Yau Lee without permission and in breach of contract. I believe there was no irregularity in the contract specification, material selection and approval stage. Yau Lee submitted the Investigation Report to the HA on 21 August 2015, 1 September 2015 and 14 September 2015, but I am not able to validate the accuracy of the said Investigation Reports. In the Investigation Report, Yau Lee stated that under the subcontract between Yau Lee and Ming Hop Company Limited, Ming Hop Company Limited was responsible for carrying out all plumbing works and supplying all plumbing materials. Ming Hop Company Limited further subcontracted the plumbing installation works including the procurement of solder materials to its subcontractor, Wing Hing Plumbing and Drainage. The service of the licensed plumber was provided by Ming Hop Company Limited.

73. In the investigation report provided by Yau Lee on 14 September 2015, noted 10 sheets of invoice in connection with purchasing of soldering materials were presented. The invoices were issued by Wo Hing Manufacturing Company between April to October 2011. The intended receiver printed in the invoices was Mr.

Mok Hoi Kwong. The description of the soldering material was “幼錫條(高溫)” (meaning thin soldering strips (High Temperature)). HD’s Project Team had not seen these invoices before September 2015.

**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**

74. 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 item. 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.

75. Consistent with the opinions of the Review Committee, I am aware of and agree with the recommendations made concerning immediate and long term enhancement measures concerning the installation of fresh water supply system -

I. During construction

a) Main contractor is required to: -

i) submit supporting documents concerning 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

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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) Housing Authority 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.

a) The main contractor is required to: -

i) declare that only lead-free category soldering / brazing material have been 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

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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 checks 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

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

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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.

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問：楊生，你剛才聽到我讀咗一遍你個書面證供，你有冇嘢需要修改或者補充？

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答：冇，冇嘢。

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問：你願唔願意取納佢做你嘅證供？

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答：願意。

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殷先生：我有嘢問。

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主席：唔該。

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許偉強先生盤問

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問：楊生，睇番你個口供，就我哋知道你就係就住呢一個牛頭角下邨呢一個建築工程，即係我哋講緊建築工程嘅時候，你係冇參與嘅？

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答：正確。

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問：你個--因為我哋見到個建築工程嗰個完成嘅時間大概係 2012 年 3 月左右，你就係之後先至係參與呢條屋邨有關嗰個維修嗰個部分或者個 maintenance 嗰部分？

答：係。

問：我想知道就係你參與維修部分嘅時候，嗰個--通常我哋知道維修就分兩部分嘅，一個部分就係喺嗰個即係 defect period 或者一個 warranty period 嗰兩年中間入面發生嘅維修嘅工程，另外一啲就係過咗嗰個 warranty period 之後嘅維修工程嘅，係咪呀？

答：係。

問：就住呢一個喺 warranty period 以內嘅維修工程，我想睇下呢個就住牛頭角下邨，有冇一啲係對嗰個食水喉進行維修嘅工程？

答：或者我講一講嗰個 maintenance period，或者我解釋番少少我個 involvement，工程完咗之後，我哋有個兩年嘅 maintenance period 嘅，喺個合約嗰度，如果嗰個 contractor 佢喺呢個 period 裏面--即係有責任佢要完成要執 defect，如果佢執唔晒--即係執晒啲 defect 之後，我哋個 contract manager 就會將一張叫做 maintenance certificate，證明佢完成咗執 defect 嗰個責任，因為呢一個--佢可能未曾完全做晒，所以就仍然就要我處理呢一個出 cert. 呢一個工作，亦都要負責去埋個 final account，我嘅工作會係 mainly 喺呢一度。

剛才你問就有冇係關於水務嘅 defects 特別多咁樣樣，喺個 maintenance period 裏面，據我所知，係有嘅。

問：好，就住即係話如果你出咗個 certificate of maintenance，呢個 certificate of maintenance 就係畀呢個嗰個總承建商嘅，係咪呀？

答：係。

問：如果呢個 certificate 出咗之後，再進一步嘅維修工作就會係你哋一啲嘅 term contractor 去做嘅，就唔係 main contractor？

答：即係屋邨嗰邊嘅管理...

問：個 district term contractor 做？

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答：係，屋邨管理嗰啲同事。

問：屋邨管理嗰邊做嘅。我想知道就係你知唔知就係就住呢啲咁嘅維修工程，如果喺嗰兩年個維修期，即係我哋仲係叫呢個 main contractor 跟進緊嗰兩年個維修期，個 maintenance period，有關呢啲水喉，即係喉管嘅工程，如果要更換嘅話，我哋知道就係都會係用番啲即係 soldering joints，即係用 solder 嘅 joints 嘅，但係過咗個 maintenance period，做到呢個物業管理去管嘅時候，就係用 compression joints 嘅，呢樣嘢你知唔知？

答：一般--我諗講個原則先，如果佢喺合約嗰度發現有 defects 嘅，個工程有 defects 嘅，通常我哋係會要求佢跟番原合約去處理番佢嘅，譬如原本佢係合約要求用呢個施工方法，佢就應該跟番合約嗰種施工方法，除非有客觀環境令到嗰件事情做唔到，佢可能要求要第二啲方法，我哋先至會個別情況咁去考慮。

問：所以如果你話就住即係牛下呢一個項目，如果係個水喉本身個 contract 係講緊用 soldering joints 嘅，咁你喺兩年個 maintenance period 都係 expect 佢哋係用個 soldering joints 去處理啲維修工程嘅，係咪呀？

答：即係如果--可以大致都咁講嘅，係，啱。

問：好，啱啱我個問題就係你知唔知如果係兩年之後，即係當呢個物業管理去做呢個維修工程嘅時候，佢用 compression joints 呢樣嘢，你知唔知？

答：我聽佢哋講過，呢個係因為係佢哋嘅合約嘅要求嚟嘅，應該係。

問：你明唔明點解會有呢個分別呀？即係話如果你兩年之內嘅時候就係跟番 contract，我哋用 soldering joints，但係過咗之後，當物業管理嘅時候，如果有咩嘢問題，就用啲 compression joints，有一個咁即係比較明確嘅分別，知唔知點解？

答：頭先我講，即係如果情況如果容許，佢都係會跟番原合約嘅要求嘅，但係如果情況有啲唔同，譬如舉例，如果嗰個 defects 係喺室內裏面出現嘅，可能用明火做嗰個 soldering joint 危險啲，咁可能個 contractor 就會--我哋要求佢評估下，如果太危險，可能佢要用第二啲嘅方法，咁第二啲方法其中 compression joint 可能係其中一種嘅方法，我哋可能會考慮，我諗亦都如果譬如屋邨管理嗰方面就我唔知佢 exactly 個運作係點樣樣，佢個工作環境係有人住緊嘢，

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定係冇人住緊，呢個我唔係太清楚，可能佢都有幾種唔同嘅方案亦都唔出奇嘅。

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問：即係你嘅意思就係話就算喺嗰兩年 maintenance period 入面都好，即係我哋要問個 main contractor 跟進番嘅情況，如果係一啲室內有人住緊嘅情況，都可能即係會用--即係唔用 soldering joints 嚟去作為一個維修工程？

F

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答：我諗係應該話嗰個施工方法一定要安全，如果個方法唔安全嘅話，就我諗我哋 contractor 又好，我哋嘅即係房署都好，應該唔會畀佢用一個唔安全嘅方法嘅。

H

H

問：就住你嘅工作經驗，喺房署嘅工作經驗，嗰啲焊料有分一種叫做錫線，你有冇聽過？

I

I

答：我哋嘅合約唔係用呢個名嘅。

J

J

問：我唔係話合約係咪呢個名，我就話就住呢個錫線呢樣嘢，或者叫做無鉛錫線，你有冇聽過呢個物料個名稱？

K

K

答：7月之前冇聽過。

L

L

問：7月之前冇聽過？

M

M

答：中文呢個冇聽過。

N

N

問：7月之前冇冇聽過一啲叫做錫條，冇冇聽過？

O

O

答：都有聽過。

P

P

Q

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R

R

問：都有聽過，好。我又想你睇一睇就係有一份文件，就係你個證人口供嘅一個附件嚟嘅，就係 39497, B15.3, 如果我哋想睇呢個 39497 嗰個來龍去脈，我哋可以睇下 39496 先，就係明合，明合有限公司就對有利發出有一個嘅傳真嘅，咁個傳真就當時都係講番就係話嗰啲物料，即係就住喉管嗰啲咁嘅部件所呈交嘅 sample, 佢就話想畀你多一啲嘅 additional information, 同埋就住你房署，就作咗一啲嘅 verbal comment on 嗰個 sample submissions 嘅。

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佢其中一個就話等你哋去比較一下一啲嘢就叫 end feed 嘅 capillary, 另外一種叫 integral 嘅 solder capillary fittings 咁樣，我哋睇--就咁睇呢兩樣嘢，end feed capillary 同埋 integral solder capillary fittings。

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以我嘅理解，跟住嗰一版，39497 就係講番一啲嘅 solder ring fittings，即係應該以我理解，就係講有關於啲 integral 嘅 solder capillary fittings 嘅，對於呢啲 integral solder capillary fittings，你 7 月之前有冇聽過？

D

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E

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答：都有乜印象。

F

F

問：都有乜印象？

G

G

答：係。

H

H

問：你知唔知其實呢啲我哋所講嘅 integral solder capillary fittings 係一啲即係 pre-solder 咗，即係話喺個 fittings 入面已經搽咗一浸 soldering material 嘅一啲嘅 fittings，有冇認知，呢方面？

I

I

J

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答：7 月之後就有多啲了解。

K

K

問：好，睇下你而家嘅理解係點都有用嘅。你而家就知道即係呢啲關於所謂嘅 integral solder capillary fittings，以你嘅認知，係咪一啲 pre-solder 咗嘅--即係入面已經內置咗一啲 solder material 嘅 fittings？

L

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答：係，冇錯。

N

N

問：我想知道就係你哋房署，即係以你嘅經驗，有冇用呢一種 integral solder capillary fittings，即係內置咗嘅 fittings，有冇用過？

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答：最近我都知道嘅，知道有嘅。

Q

Q

問：有用嘅？

R

R

答：有嘅。

S

S

問：如果我哋講緊 7 月之前嗰啲工程項目，有冇用呢啲咁嘅 soldering material，即係-- sorry，啲內置咗嘅 capillary fittings？

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答：我負責嘅工程就有。

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問：就有？

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答：唔，我自己負責嘅工程。

問：即係以你所知，最近先有用啫？

答：我最近知道有啲工程有用，我自己負責嘅工程就有用過呢隻。

問：哦，唔好意思。你最近知道有工程有用，嗰啲工程係講緊以前嘅工程吓，定係而家進行緊個工程？

答：應該都係以前嘅。

問：以前嘅工程有用嘅。我哋睇一睇--如果我哋睇番 B2，如果我哋睇番 B2，即係 PLU1 嗰啲 specifications，我想理解一下嘅，就係如果我哋講緊呢啲咁樣類型嘅 integral 嘅 solder capillary fittings，係咪都係屬於呢一個--見到喇，應該就係喺 copper pipes fittings，即係 582 頁--用 582 頁，嗰個 PLU1.M130.5 嗰個 copper pipes fittings 第 1 段嗰度，就講話“Copper and copper alloy fittings such as end feed capillary, integral solder capillary”同埋“compression type bushes”等等，呢個--所以我哋如果就咁睇，係咪即係我哋講嗰個內置有 solder 嗰啲咁嘅 capillary fittings 就係屬於--都係屬於呢個 copper pipes fittings 嘅一種？

答：呢度係咁寫，係。

問：如果係呢一啲咁樣嘅內置嗰個 capillary fittings 嘅好處就係--即係我咁樣理解唔啱，就係話如果有時啲工人做焊接嘅時候，如果佢哋--即係如果好難用兩隻手，如果單手就比較方便啲嘅，如果已經有啲內置嘅 capillary fittings？

答：我唔係嗰種工人，我想像唔到邊個好啲。

問：你唔知道，好，冇問題，冇問題，好。咁我想知道就係如果我哋呢個理解就係嗰啲 copper pipes fittings，就住呢一個 integral solder capillary 嚟講，都係要符合 BS1254 呢度講，都係即係需要用無鉛嘅呢啲--需要用無鉛嘅組件嘅，呢個你知唔知？

答：我記得 M160 嗰度有提到，好似都係佢-- M160 都有講 integral solder。

問：係喇，M160 我哋就係講緊 soldering alloys，即係你講個意思係

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話呢啲咁嘅 integral solder capillary 係屬於 copper pipe fittings 咩，定係屬於 160 個啲 soldering alloys？

答：我睇到 M160，即係 584 版，第 584 版，M160 嘅第 2 點，佢話“Use of integral solder fittings”，呢度提咗，呢度亦都係即係我哋成日都睇呢版，就係第 3 點就係“lead-free category solders”，我諗如果兩個一齊睇，就係要無鉛。

問：Okay，唔該。另外我想問一問你，就係就住你喺房署嘅經驗，有冇曾經見過有啲做水喉個工人就喺建築個過程之中，就住呢啲咁樣點樣去燒焊銅喉，係做一啲示範嘅工序，有冇見過或者聽過有啲咁嘅情況？

答：我自己入行咁耐冇見過。

問：冇見過？

答：我自己都有...

問：亦都有聽過有人咁樣做過？

答：你意思聽過有冇人咁做...

問：即係有冇聽過話有人曾經喺嗰度即係做過呢啲示範咁樣？

答：即係我自己就有見過個工人揸住支火槍去做嗰個工序，呢個係最近我哋先睇番啲 video，即係因為都想了解多啲，就自己睇番啲 video，我自己個人就有見過個工人揸住支火槍點樣，揸住支焊錫咁樣去做嗰個工序，我自己有嘅，我有。

問：好，就住 PLU1 我哋啱啱睇過啲 specifications，因為我哋知道就係 PLU1 一般嚟講，除咗某啲 exception 之外，就唔使話真係擺嗰個樣辦嘅實物嚟到呈交畀房署嘅，但係我哋都聽過好多位證人都講，就係話就呢啲 soldering material，一般嘅做法都係嗰個總承建商會呈交一啲樣辦嗰個實物上嚟畀你哋去審視同埋核准嘅咁樣。我想問下你知唔知道房署有冇自己喺任何內部指引或者一啲嘅--即係一啲嘅可能係列表或者清單咁樣，就係即係講出話房署嘅同事係需要問呢個總承建商呈交呢啲物料，或者係講到明總承建商係需要對呢啲焊料係呈交物料嘅樣辦嘅，有冇啲咁樣嘅內部嘅指引或者係一啲文件，有冇見過？

答：我諗同事都係跟合約嘅要求去辦事，如果合約講咗某個 clause 嗰度

B

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係需要入一啲物料嘅，佢就應該係跟嗰個合約去辦事。你話有冇一啲特別嘅 form 或者一啲指引，據我所知，就有。

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許偉強先生：好，我有其他問題。

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主席：唔該。有冇人仲問題？長定短，Mr Li？

F

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李先生：有，係。

G

H

李先生盤問

H

I

問：就楊生，得一個問題。剛才你證供--唔好意思，即係剛才聽你證供提及過就係呢件事之後，你就睇咗啲 video，睇下啲工人點樣燒焊嘅，記唔記得你講過呢部分？

I

J

J

K

答：係。

K

L

問：嗰啲 video 係咩嘢 video 嚟㗎？

L

M

答：YouTube 嗰啲。

M

N

問：哦，即係上去做一啲譬如話 research，睇下 YouTube 上面搵唔搵到一啲一般啲工人點樣燒焊？

N

O

答：係。

O

P

問：而唔係話你哋喺現場有錄影，跟住就睇番一啲紀錄，唔係嘅？

P

Q

答：嗰度都有嘅，有同事 share 過出嚟。

Q

R

問：同事 share 過，就係啲 on-site staff，你哋啲同事喺個地盤嗰度影到一啲工人點樣燒焊？

R

S

答：唔係，唔係咁嘅意思，即係我哋--你記得我哋有個叫做 review committee，我哋房署都查緊--都有啲同--安排咗一個實地嘅，好似去咗鯉魚門一個地盤嗰度做咗一個示範，就等我哋嗰啲 review committee 嗰度嗰啲嘅 members 去睇下，用啲無--嗰啲焊錫去做一個 joint 係點樣做法嘅咁樣，呢個係即係都係鉛水之後嘅事，嗰度

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同事就即係既然都有個機會等啲 members 睇到，佢又錄咗，就畀番啲同事我哋自己內部分享。

C

D

問：唔該，就唔係關於肇事，即係關於今一次--呢一次嘅調查？

D

E

答：唔係牛頭角嗰個嘅。

E

F

問：唔係呢一次調查嗰十幾邨會有啲 video，唔係咁樣嘅？

F

G

答：我哋個 review committee 咪就係 Housing Authority 嗰個 review committee。

G

H

問：但係個錄影就唔係錄緊呢十一條邨 video...

H

I

答：唔係呢十一條邨嘅。

I

J

問：唔該晒，唔該晒。

J

K

主席：冇喇？冇人有嘢問？

K

L

殷先生：我有一個問題。

L

M

主席：邊個有一個問題？你有一個問題？

M

N

殷先生：係。

N

O

主席：你問喇。

O

P

殷先生：我想佢澄清。

P

Q

殷先生補問

Q

R

問：楊生，剛才你聽到許大律師問過你關於嗰個 warranty period 有兩年嘅，完咗工程之後？

R

S

答：Maintenance period，我哋叫做。

S

T

問：我嘅理解唔知啱唔啱，可能你幫到我，我嘅理解就係完咗工之後，嗰個總承建商總共要包維修兩年嘅？

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答：係。

問：但係嗰兩年其實係有一年嗰個屋苑都仲係吉嘅，冇人住嘅，就過咗一年先至簽一個 final certificate...

主席：再講多次，再講多次。

問：起完咗嗰個屋邨完工之後，嗰兩年入面頭嗰一年係冇人住嘅個屋苑，過咗 -- 即係起好咗屋，再過多一年，先至有個 final certificate，而個 final certificate 過後先至入伙嘅，呢個理解正唔正確？

答：或者咁講，我哋合約有個叫做完工期，即係我個文件嘅第二段都講咗係 12 年 3 月 31 號就我哋 chief architect certify 咗嗰個 domestic blocks 就 substantially complete，跟住之後我哋仲要擺張叫 OP 嘅，到到 OP 咗之後，先至可以再入伙，有可能入伙嘅時候距離呢個 3 月 31 號，即係合約 certify 嗰度有一段時間唔出奇，係咪 exactly 一年咁長，我未有呢個資料，不過都可能呢個工程我睇都可能半年或者九個月都唔出奇。

問：我想問一問你，就係嗰嗰個 OP 入伙紙擺到之前，而係你已經 certify 咗個工程係完結之後嗰段時間，如果要執一啲即係個承建商嗰啲遺漏嘅嘢，其實同地盤冇乜分別嘅咋嘢？

答：可以咁講。

問：即係唔會話有人住咗喺度室內有啲環境係唔方便燒焊，冇啲咁嘅情況？

答：係，冇錯。譬如舉例如果嗰入伙之前，佢突然之間爆咗水喉嘅，爆咗水喉嘅，我哋可能都要佢返入去「喂，要執番呢個爆水喉嘢。」或者發現有地方漏水嘅，佢都可能要返入去做，嗰陣時佢都要 -- 即係係喇，係喇，咁。

問：我嘅理解啱唔啱呢，就係其實如果係即係講水喉個工程，唔好講其他工種先，如果要跟手尾，要個承建商返嚟執番啲即係錯漏嘅嘢嘅，係咪多數都係會利用嗰呢段簽入伙紙之前嘅期間去做咗嘅呢？

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答：冇錯。

問：所以頭先雖然你話原則性上，有兩年嘅保用期，嗰個承建商喺兩年內要跟番合約嘅條款做嘢，即係話如果合約要佢燒焊嚟--焊接嘅方式嚟接駁水喉，佢喺呢個執手尾嘅時候都應該跟番合約做，呢個係原則性嘅。

答：唔。

問：但係喺實施起上嚟，真真正正喺入伙紙之後要咁做嘅，就微乎其微嘅，可唔可以咁講？

答：可以咁講。

### 主席問

問：我想問下你，7月2015年，你係喺呢個鉛水事件揭發咗之後先至做呢個總 acting 嘅總建築師，抑或係之前就已經開始做？

答：我應該係7月7號 acting。

問：就7月十幾號就--唔係，7月7號 acting，得。我想問你幾個問題嘅啫，我都問過其他嘅建築師嘅問題，鉛有毒，你知嚟喇呵？

答：太多應該係有毒嘅。

問：知唔知道食水含鉛喺好多個國家曾經出現過問題呢？

答：7月之前係唔知。

問：唔知嘅，換句話嚟講，亦都唔知道乜嘢嘢係引起呢啲食水含鉛，都唔知？

答：都唔知。

問：好喇，跟住我話畀你聽基本上有兩個原因，第一個就係鉛嘅水管，第二個就係含鉛嘅焊料，呢個係兩個最主要嘅原因。喺7月之前，而家當然你知個 specifications 就話要係用無鉛嘅焊料，喺7月2015年之前，你知唔知道其實呢啲係要有一個咁樣嘅要求嘅先？

B

B

答：唔知。

C

C

問：唔知嘅，係咪呀？

D

D

答：係。

E

E

問：咁即係換句話嚟講，你更加唔會知道究竟如果要接駁水管而言，係一定--應該咁講，焊料有兩種，你知唔知道焊料有兩種，包...

F

F

答：而家知喇，梗係。

G

G

問：而家知，7月之前唔知？

H

H

答：7月之前唔知。

I

I

問：得。咁你亦都一定唔會知道原來接駁食水管嘅焊料就一定要用無鉛嘍喇，係咪？

J

J

答：唔。

K

K

問：如果咁講公唔公平呢，其實呢個 specification 裏面講到話要用無鉛嘅，你亦都唔知道個背後嘅原因嘅？

L

L

答：我唔係作嗰部分嘅作者，所以我唔知道。

M

M

N

N

主席：得，好，唔該。有冇人跟進？冇嘅。唔該晒楊先生，好，可以離開，唔該，畀完口供，走得嚟喇。

O

O

P

P

聽日就係總建築師，係咪？

Q

Q

講者（不能辨別）：呢個應該係總...

R

R

殷先生：係，...

S

S

講者（不能辨別）：屋宇裝備。

T

T

殷先生：裝備...

U

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主席：對唔住，總裝--屋宇裝備工程師。

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殷先生：係。

主席：咁六條屋邨，係咪呀？

殷先生：應該--唔知八個定九個。

主席：八條，九個？

殷先生：係，係。

主席：你今晚返去好做下功課，就唔好重複又重複又重複囉喎。

殷先生：即係聽日唔會係我嚟嘅，聽日係何資深大律師嚟，但係我會 pass on 個 message。

主席：係喇，你話畀何大律師聽。

殷先生：我記憶，我返去我會睇一睇，梁先生嘅書面證供係幾短下嘅，同埋佢其實雖然話有九份--八份定九份個內容係大同小異，所以可能我哋 adopt 一個 formula，就係如果拉丁文話 mutatis mutandis，即係 with necessary modification，係其餘啲啲屋邨都一樣。

主席：係囉，如果一樣嘅，你咪將所有啲屋邨擺埋落去一段裏面讀埋出嚟。

許偉強先生：就住跟住啲啲證人嘅安排，我哋聽日就有梁先生，我就聽到保華啲邊律師團隊，佢哋就話好似佢哋個團隊一個人手啲個調動好似有啲問題，咁就可能我等或者許大律師同你講一講啲個問題。

許佐賓先生：主席，我哋希望如果可以的話，原有聽日啲位證人係下個星期二先出席，但係呢個只係一個要求啫，唔方便的話，我哋都可以配合得到。

主席：咁一定唔方便個喎，我哋完咗聽日先至決定喇。

許偉強先生：咁完咗聽日之後，或者我都講一講跟住落嚟我哋個即係想法，完咗聽日之後，我哋都係想繼續做有關於總承建商啲方面啲個證供嘅，就住總承建商啲度，我哋原先個安排就諗住係開始咗有利建築啲一 part 先，主要原因就係因為有利啲度牽涉到六個工程嘅，我哋可能即係概括地已經包含咗多個工程，咁就處理咗先咁樣。

至於喺處理啲個總承建商個時候，我哋就想係總承建商同埋啲啲外判商，我哋就住啲個特別嘅總承建商佢有關嘅外判商同埋佢有關嘅

B

嗰啲水喉匠都係一次過咁樣問嘅，然後去到第二個，例如如果係中國建築嘅話，亦都係咁樣嚟到包攬咗所有有關人士亦都。

C

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但係我亦都聽到係有利嗰邊個大律師團隊同我講，好似話佢哋又係個人手調動好似話有啲問題咁樣，我或者睇下佢哋有冇啲例如係建議。

E

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李先生：喺昨天都同許大律師有提過呢個問題，昨晚返去我哋都再有研究過時間嘅問題，但係就由於另外一位代表，即係同我同一個團隊嘅黃佩琪大律師佢就唔在香港，希望閣下能夠畀啲時間我哋返去去商討下我哋嘅安排上點樣去處理。剛才我先--即係之前我嘅認知，就係我哋會有個 intention，即係有個意向就係有利先，但係剛才聽許大律師講直情連明合、伍克明先生都想一氣呵成咁做，嗰個時間上有啲奇怪，因為如果我哋當下個禮拜可以開始有利，跟住 14 號我哋會有專家，然後就有個假期，咁樣斬斷法，對於我哋嗰個準備嚟講，就會有少少嘅困難。

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同埋以我所知，恆利同埋永興嘅代表就未有證供出嚟，即係未有個供詞嘅而家都仲，咁嗰個直情...

K

L

主席：應該有咗囉嗶，係咪呀？即係你講莫海光...

M

李先生：係喇，莫先生。

N

主席：...同埋蕭健煌。

O

許偉強先生：同埋蕭先生，我諗個證供應該係呢兩日都會準備好。

P

李先生：如果呢兩日準備好，如果禮拜一就即刻要展開，我哋都比較--白話啲，比較頻能啲個情況就，所以希望都有少少時間通融下，我今晚返去再傾一傾，安排個時間。咁當然，如果我希望可以褪遲啲，當然其他嘅總承建商都唔知有冇人想踴躍啲行先，個個都可能...

Q

R

主席：你搵到一個，我就批准你喇。

S

李先生：咁等一陣喺出面解決喇，如果有啲咩嘢事，好。呢個就係我希望可以畀啲時間我今晚返去再安排下先。

T

U

主席：好呀，好呀，我哋聽朝再繼續，睇下點樣樣，聽日完咗先至再處理。好，唔該。

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下午4時35分聆訊押後

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Thursday, 26 November 2015

(10.05 am)

(Transcript of simultaneous interpretation

except where otherwise specified)

MS ROSA LOK SO FUN (on former oath)

MR YIN: Good morning. Before Ms Lok continues with her evidence, I would like to raise that Ms Lok is the contract manager of Ching Ho, Choi Fook and Hung Hom Estates. She shared her personal experience in relation to her work in these projects.

These three estates are not related to the concerns of the client of Mr Hui. Then I hope that the questions would not be too far-fetched, and if her answers to these far-fetched questions, Ms Lok will not be providing much help to our Inquiry.

CHAIRMAN: I don't think we should put restrictions on the questions, so much so that they are related to these three estates only.

Cross-examination by MR HUI (continued)

(All questions from Mr Hui were in English)

MR HUI: When public rental housing estates get old, are you aware that whole-scale replacement of plumbing would take place?

A. When you said getting old, do you refer the time after the lead in water incident had happened? I was not in

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Commission of Inquiry into  
Excess Lead Found in Drinking Water

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the works division. There were lead in water incidents in these 11 estates, and I think the water pipes have to be replaced.

Q. Are you aware that other public rental housing estates have had their plumbing replaced whole-scale?

A. I am not aware of that.

Q. I just want to confirm with you that when EMD, Estate Management Division, when it went about replacing plumbing for public rental housing estates, it went about doing so with compression joints for copper pipes -- I just want to confirm with you that you are not aware of that?

A. I am not aware of that.

Q. Are you aware that in Singapore, in recent years, new-built public housing use compression joints if copper pipes were used?

A. I am not aware.

Q. I will go to another topic. I believe you referred to the licensed plumber as a goalkeeper yesterday.

A. Yes, that's correct.

Q. As far as an authorised person is concerned, would you agree that the AP's duty is statutory and is owed to the general public and the Buildings Department?

A. According to the Buildings Ordinance, yes.

Q. Would you accept that the AP cannot relinquish his or

her duty by relying upon the licensed plumber?

A. According to the definitions or interpretation of the Buildings Ordinance, if there is deviation of works, the AP has to be held accountable, but then, in relation to the problems of the plumbing works, the LP himself, under the Waterworks Ordinance or the Waterworks Regulations, has a statutory duty as well.

Q. Very well. May I ask our colleagues at the Secretariat to call up document U1/3, please.

Can we go to page 12. In fact, could we scroll up to the beginning so the entire Inquiry can see what kind of document it is. Further down, please. It is actually a Hong Kong Institution of Engineers' document. Page 12, please. I just want to see the beginning, sorry. If you could go up to about paragraph 1, so everybody can see what it is.

This is a Hong Kong Institution of Engineers' report on study of lead in drinking water in public housing estates.

Can I now ask our colleagues to take us to page 15, please. We scroll down to paragraph 29.

Ms Lok, please read paragraph 29 and then I will read it out.

Paragraph 29 is actually referring to form WWO46, and paragraph 29 reads:

"By virtue of part I, there was no provision that AP would be subsequently, let alone timely, informed on any communications between WSD and LP including those necessitating changes of the installation albeit AP was one of the parties jointly and severally responsible for the technical submission of the project."

As far as WWO46 is concerned, Ms Lok, would you now accept that the AP is as much a goalkeeper as the licensed plumber?

A. I would look at what we meant by responsibility.

I think the responsibilities have to be clearly delineated. So even though the AP, consumer and LP will sign on the WWO form 46, the responsibilities of the three parties have to be clearly delineated. It's true that the AP's signature appears on the form, but the level of responsibility has to be different and has to be clearly delineated.

Q. Am I to understand that you mean there are now two goalkeepers or one?

A. Still, I think, the one who works on the works, the licensed plumber, should take the main responsibility.

Q. And it is not possible that there is more than one person who is liable?

CHAIRMAN: What Ms Lok was saying is that the licensed plumber should take the main responsibility. She didn't

say that the AP did not have to be held accountable at all.

It was as said "we" in the form, so both of them are responsible, but who should bear the greater responsibility, the extent of responsibility and so on, this has to be further studied.

So it's not the case that the AP is not responsible at all.

MR HUI: I am obliged.

May I now scroll up to paragraph 23 at the bottom of page 14.

Ms Lok, can I ask you to read paragraph 23. It stretches from page 14 to page 15.

A. Yes, I see that.

Q. Do you accept that -- allow me to read paragraph 23:

"The TF [task force] believed that the reason for the applicants being specifically required signing part II alone is to ensure the applicants were duly put on notice for their endorsement of information contained in the part I."

Here, the applicants, Ms Lok, do you accept, are the Housing Authority?

A. Let me read the details now on the form.

Q. Please do.

A. The contents in the form are similar as those in

paragraph 23.

MR HUI: Ms Lok, I have no more questions for you. I now defer to my learned senior, Mr Eric Chung. He has a few questions for you.

CHAIRMAN: You cannot do that, because you cannot ask the same question three times by three different counsel. When the counsel is done, then you want the solicitor to ask again? You either -- you can ask all the questions yourself. You just cannot do that here.

MR HUI: Mr Chairman, may I have a moment?

Mr Chairman, much obliged. I have no more questions.

CHAIRMAN: Thank you. Please be seated.

Re-examination by MR YIN

MR YIN: Ms Lok, I would like to follow up with you on page 34687. Mr Hui just asked you a question. He asked if you agree that the "(In English) AP cannot relinquish his duties to the licensed plumber".

Do you remember that?

A. Can you repeat that, please?

Q. If I am correct, he asked if you agree that the AP cannot "(In English) relinquish his duties to the licensed plumber".

That was his question.

A. Okay.

Q. So my question is -- I have a few questions for you.

The legal responsibilities on the AP were derived from  
the Buildings Ordinance; right?

A. Yes.

Q. And in the Buildings Ordinance, is there any mentioning  
on the requirements of plumbing works?

A. I think they refer to other statutory requirements.

Details on the LP's responsibilities were not --

Q. Well, the LP's responsibilities are to do with the  
Waterworks Ordinance.

A. Yes.

Q. Did the Waterworks Ordinance mention the AP?

Well, I can tell you that the answer is no.

A. Right.

Q. Well, it doesn't matter.

CHAIRMAN: I'm not quite sure what you want to say.

Since you don't have an AP doesn't mean you don't  
need -- the housing estate don't need water supply. The  
housing -- well, the Housing Authority have APs because  
they are theoretically exempted. The HA has no AP in  
theory. In other words, if the form requires an AP, in  
theory you don't have to sign and, in fact, you cannot  
sign.

MR YIN: It's not about the signature.

CHAIRMAN: Yes, I understand. So the problem is they would

not have to sign.

MR YIN: Excuse me, let me just clarify this.

Under the Buildings Ordinance, the AP's responsibilities cannot be relinquished to the LP, so what I want to clarify is the AP's responsibilities under the Buildings Ordinance. The responsibilities are not on plumbing works.

CHAIRMAN: Well, I am just trying to continue what you said.

According to what you said, housing estates should never receive a supply of water.

MR YIN: I don't understand, but that is not a valid extension of my argument.

CHAIRMAN: What I want to say is that what you mean is that under the Buildings Ordinance, under the Waterworks Ordinance, there's no specific mentioning of the responsibility, but the fact is you do have responsibilities, otherwise you can just submit a plan form to the Water Supplies Department and it would have been rejected.

MR YIN: I agree absolutely. Once you sign, you do have some kind of responsibility.

CHAIRMAN: Yes.

MR YIN: Apparently, the responsibilities refer to the Buildings Ordinance only.

CHAIRMAN: That's not the focus of our Commission.

MR YIN: I would like Ms Lok to look at form WWO46 part I  
and the order of the signatures.

Do you remember that we asked questions on that  
yesterday?

A. (Nodded head).

Q. I would like you to look at annex 7 of your witness  
statement, starting from page 38772. I would like you  
to look at page 38773.

When you look at the form on page 38773 -- now,  
let's look at the bottom part of the page. Under the  
word "Licensed plumber", you can see the phone number,  
fax number, email address. They were typed up.

Now, further up the page, there are details on the  
building sites and the WSD approval reference letter  
number and so on. All these details were typewritten?

A. Right.

INTERPRETER: My apologies, there's a technical glitch with  
the audio transmission.

MR YIN: As you know ... (Chinese spoken).

INTERPRETER: The speaker is not coming through.

MR YIN: As far as you know ... (Chinese spoken).

INTERPRETER: The speaker is not coming through. We have  
a technical glitch.

A. (Chinese spoken).

CHAIRMAN: Please continue.

MR YIN: For form WWO46 part I, there's an annex of materials. It has to be submitted with this annex. You can see that at pages 38775 and 6.

A. Right.

Q. The chief architect involved, did the CA secure such information himself or did somebody else help him?

A. The CA could not possibly do it personally.

Q. (Chinese spoken).

INTERPRETER: The speaker is not come through. There's a technical glitch.

A. (Chinese spoken).

MR YIN: Now I would like to take you to another topic, on the submission or approval.

I would like you to first look at bundle B2. In B2, there are different Specification Libraries from different years. I would like you to look at tab 26, starting from page 635. Can you see page 635?

A. Yes.

Q. It's part of the Specification Library on water supply PLU1?

A. Yes.

Q. When you scroll down the page, in the bottom-left, you can see the words "(In English) Specification Library 2004 Edition"?

A. Yes.

Q. I would like you to turn to page 644.

A. Yes.

Q. Before I talk about the contents, I would like to remind you that yesterday, you mentioned the scenarios in which submissions had to be submitted for approval, the scenarios in which the contractor had to submit documentation to the CA and the situations in which actual material samples have to be produced to the architect.

A. Yes, I remember that.

Q. If I remember correctly, your answer is that it depends on the specifications?

A. Yes.

Q. Now, for PLU1.M120.4, on copper pipes, the four ensuing paragraphs did not mention anything about submissions.

At page 646, PLU1.M160.4, on soldering alloys for copper and copper alloy capillary fittings, submissions were not mentioned in any of the four paragraphs.

A. Yes.

CHAIRMAN: Do you refer to the submission of documents?

MR HUI: Now, at page 651, for PLU1.M210.4 on stainless steel type expansion joints, there are six paragraphs.

The sixth paragraph is called "Submissions"; do you see that?

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Q. Under "Submissions", there are two types, types (a) and (b); do you see that?

A. Yes.

Q. In (a) it says:

"(In English) Submit type hydraulic test certificates/reports issued by laboratories that comply with PRE.B9.570".

Do you see that?

A. Yes.

Q. So this refers to the documentation required. In subparagraph (b) -- well, in (a) it says "(In English) Submit type hydraulic test certificates/reports issued by laboratories ..."

In other words, they have -- it's something they have to do without you asking, and in subparagraph (b), it says:

"(In English) Submit for approval installation ... upon request."

Do you see that part?

A. Yes.

Q. So for this point, it means they should not do it automatically, but then upon request such materials would be submitted; right?

A. Yes, correct.

Q. The next is PLU1.M220.4, which has to do with stainless

steel flexible connectors.

Can you turn down lower on the page. On page 652, the lower part, paragraph 2 has again to do with submissions. Again, the same principle applies.

PLU1.M230.4, the next spec, "(In English) Rubber type expansion/flexible joints".

Paragraph 2 on page 653, the same paragraph, similar wordings; right?

A. Yes, correct.

Q. Towards the lower part of page 653, when we talk about pipe brackets and sleeves, PLU1.M410.4, "Pipe brackets", paragraph 6, it says:

"(In English) Submit sample of the pipe brackets and anchors for CM's approval prior to installation."

So it seems that first they were now talking about material samples; is that right?

A. Yes.

Q. And then there is no mentioning about documents; is that right?

A. Yes.

Q. Then it doesn't say anything about "upon request"?

A. Yes.

Q. So, to your understanding, they are required to submit samples, but then they don't necessarily have to submit the documents. So it goes without saying they should

submit the documents; is that right?

A. Well, it says here that samples have to be submitted, and they should do so accordingly.

Q. Now, after reading through all these paragraphs, then my interpretation of what you said yesterday is, when you talk about specifications, among the several thousands of materials listed in the Specification Libraries, there is clear stipulation to each of them, as to whether there would be requirement on submission for approval, and they will also state clearly whether samples or documents have to be submitted, and also the requirement upon request and not upon request is also clearly set out.

A. Your interpretation or understanding is correct. That's what the requirement of specifications is all about.

CHAIRMAN: I would like to interrupt here. Pipe brackets, what's so special about these pipe brackets, so special that samples have to be submitted for them?

A. Brackets are very important. They play an important function. They can sort of bind the pipes to the walls so the pipes can withstand certain pressure, and there are specification requirements -- strength, stainless steel, we are talking about content. So once the pipe brackets have been submitted, then we will deposit them at the sample room, and then when materials are

delivered, then they will be checked against the samples.

CHAIRMAN: Yes, of course I understand that. Once requirements 1 to 5 are met, and if the contractors abide by these specifications, there is no need for paragraph 6. So what's the reason for the submission of samples? For the soldering materials, we have level 1, 2, 3, 4 requirements as well, for the specifications. For soldering materials, no submission of sample is needed. But then for pipe brackets, I find it rather strange why the samples have to be submitted. These brackets are for sort of binding or tying the pipes to the walls.

Why I raised this question -- there is one reason that I can think of -- is that because the pipe brackets can rust easily. Actually, when you go to public toilets, and toilets in shopping malls -- well, maybe a new toilet has been built, but then the pipe brackets are always rusting.

A. That was what I saw when I was young. That's the situation when you were young but then we are all grown up now; isn't that right?

As far as materials are concerned, stainless steel is good. Apart from the specification requirements 1 to 5 on the materials of the brackets -- well, if we

have the samples submitted to us, and then we can confirm the appearance and the function of the brackets, then that's good.

CHAIRMAN: In PLU1, there is a list of materials, but then I find it strange that particularly for pipe brackets, samples have to be submitted. What's so special about these components? Say if the contractor follows strictly paragraphs 1 to 5, then that should suffice, but then you are adding in paragraph 6. There must be a reason for it.

A. Okay. Apart from the function, the appearance is also important, because the brackets are exposed, so appearance matters too.

CHAIRMAN: Going by your logic, pipes are also important, because pipes are also exposed and they are mounted on an external surface; they are not laid inside the walls of the buildings.

A. Well, that seems to be the case too, yes.

CHAIRMAN: And PLU1, to my understanding -- for example, let's go back upwards a little bit to stainless steel. Stainless steel has to come with submissions. Is it because at that time you were exploring the use of stainless steel for manufacturing pipes, that's why you needed submission of samples?

A. I am not sure about that. Well, anyway, the contractor

is required to submit the samples.

COMMISSIONER LAI: Just now, Mr Yin was showing us the various items. Some of them had to come with submissions, some had to be with samples submitted upon request.

Ms Lok, did you know previously that there were such different clauses?

A. I was not so sure about the rationale behind all these requirements, but in executing the contract, we did have sample submission for brackets.

COMMISSIONER LAI: Well, but for the other items, what about the other items?

A. The draw-off valve of the washing machine, samples have to be submitted as well.

CHAIRMAN: Well, he cited a number of examples. Say, for example, stainless steel type expansion joints. Did you know previously the submission requirement for such components?

A. Yes, I did know about this. If we talk about flexible joints, there may be special requirements on that, so I think it's reasonable to ask them for sample submission upon request.

MR YIN: Ms Lok, can I follow up with this question? That is, I heard you said that in relation to brackets, you said that appearance matters; is that right?

A. Yes.

Q. Earlier on -- you were not here -- a colleague of yours said that something in relation to pipe brackets -- I haven't read through the entire PLU1 -- but then your colleague said that in PLU1, for materials where samples were needed, there were just two of them. One is brackets and the other is the draw-off valves of the washing machines.

A. Whether it's another material, uPVC-lined GI pipes, but then for a product that doesn't use this kind of material, no submission is required.

CHAIRMAN: Can I interrupt? Why is it that uPVC-lined GI pipes should come with samples?

A. The product is special, because we are switching from GI pipes to uPVC-lined GI pipes.

CHAIRMAN: Well, that was back in 1995; is that right?

Well, because after 1995 the GI pipes were banned, and if you used GI pipes, they had to be lined and the uPVC was material used to line them.

A. Correct.

CHAIRMAN: So I would like to ask why uPVC-lined GI pipes should come with samples. Are you worried that they are not conforming with the standards and that iron will come off?

You said that all the specifications were there

theoretically, and so long as they follow them, there should not be any problem. But then some materials should come with samples and others not. So we are now exploring the rationale behind, say, a component or a sample is required and others not. There must be a reason for it.

Say, in 1995, you switched to uPVC-lined GI pipes, and you anticipated then there might be quality problems, so you required submission of samples, then that's fine. But then, when it comes to 2002, when you switched again, and you were switching from uPVC-lined GI pipes, which could not be available in the market so you were switching to copper pipes, but then for copper pipes, there was never a requirement to submit samples of them. Well, not to mention the soldering materials all connecting the pipes.

So I would like to find out what's the rationale back then.

A. My guess was that in the industry, copper pipes had been widely used. It's nothing new. As long as they meet with the specification requirements in the BS, there is no need for sample submission.

CHAIRMAN: But what about the introduction of lined GI pipes? Is this a brand new product, nobody had ever tried it; is that right?

A. Yes, this was a relatively new product. We don't want the GI pipes to go rusty so we asked for lining. Also, in the submission of samples, there should be the right machinery or equipment to go together with the pipes, or else we would again be seeing the rusty problem again.

So, even for the fitting of the pipes on site, there should be a demonstration done on site as well.

CHAIRMAN: Continue.

MR YIN: Now, on the subject of uPVC-lined GI pipes, can I refer you to page 647, PLU1.M190.4.

We have just taken a look at a few specifications, and the submission requirement was put to us right at the end. When you look at PLU1.M190.4, uPVC-lined GI steel pipes and fittings, the submission requirements were put at the very top, and the requirements were also detailed as well.

When you look at (vii):

"A sample board showing the quality, cross sections and logo" was mentioned. So does it mean -- can I take it to mean that GI pipes were not a popular product in the market, so they were not extensively used, so you had to be particularly cautious about them; is that right?

A. Yes.

CHAIRMAN: Well, is it the same? Steel and iron may be

different.

MR YIN: Galvanised steel pipes.

CHAIRMAN: It's the same as GI pipes; is that right?

A. Well, GI pipes with lining.

CHAIRMAN: Is it still the same as iron?

A. Yes.

MR YIN: To my understanding, we are talking about ductile  
iron.

CHAIRMAN: If I understand it correctly, the two are  
different. Steel is an alloy and iron is iron.

MR YIN: As I understand, the Chinese rendition of GI pipes  
is "(Chinese spoken)".

CHAIRMAN: In 1995 we talked about GI pipes, but then we  
switched to GS pipes. I'm not sure if there's any  
difference. There might be. I am just telling you that  
steel and iron are different.

MR YIN: Yes, I understand that, and my understanding is  
that when people talk about GI pipes, they refer to  
galvanised steel.

CHAIRMAN: Well, maybe you are wrong, but never mind, please  
continue.

MR YIN: Let's turn to page 649, paragraph (xi), on test 1.

It says:

"(In English) Sample pipes shall be inspected for  
small imperfections which intrude on the minimum

thickness or which can be addressed out such that the thickness after dressing remains with the tolerance limits specified by the manufacturer".

In other words, you are very strict with this material.

Your colleagues talked about the washing machine draw-off tap and they talked about the pipe brackets. It's an irregularity under PLU, because a sampling has to be submitted.

We know that PLU2 on sanitaryware samples have to be submitted. According to the witness statement given by your colleague, whether or not a sample is required depends on the appearance of the material, to see whether it is a design feature; is that the correct understanding?

A. Yes, correct.

Q. As I understand, according to the witness statements by your colleagues, these valves and taps are different, because compared with other materials, these two materials have no standard designs?

A. You may say that. They are fittings.

Q. That's why you need to see the samples; do you agree?

A. I am not sure what you meant by "standard design".

Q. For example, for copper pipes -- well, it's a round pipe that's nothing fancy.

A. Yes.

Q. For pipe brackets, there are many different designs, and there's no one generally accepted design?

A. Correct, because they are tailor-made.

Q. From the statement you gave yesterday, for copper pipes, no submissions are required?

A. Correct.

Q. But in reality, the general practice is that no samples would be given?

A. Yes.

Q. I remember that in your explanation yesterday, you said that the contractor wanted extra assurance; do you remember that?

A. Yes, I might have said that. I cannot recall.

Q. Am I correct in saying that the contract has specifications in place, but no submissions are required? And by "submissions" they refer to documentation or samples. If only specifications are put down in the contract, in theory the responsibility is completely on the contractor and they have to make sure if the purchased materials are compliant. If they make a mistake, they have to be held responsible.

A. Yes, of course.

Q. However, if they have submitted the samples and you said -- you gave them the green light, then they won't

have to be held accountable?

A. No, I don't agree. Whether or not samples are

submitted, the responsibility is still on the main contractor.

Q. If the materials used are different from the samples submitted, if you are negligent in checking the specifications, then they won't be held responsible?

CHAIRMAN: Can you repeat that, please?

MR YIN: If there are five requirements under the specifications, and if they submit a certificate and four of the five requirements are met, but you miss that and you still approve it, then the responsibility is on you?

A. No, I don't agree. It's still the responsibility of the main contractor. If they intend to neglect the requirement deliberately --

Q. No, that's not what I mean.

A. You talked about assurance for the contract. I want to understand what assurance means. If the contractor carries out their duties, then no samples are to be given and that's perfectly fine. But if they do decide to submit the materials, there's no reason we won't look at the samples. So we would look at those samples, even though this is not required in the specifications. If they do it nonetheless, it would give both of us extra

assurance on the quality of the materials.

Q. Can I put it this way. We looked at some specifications just now, and there are things they have to do --

CHAIRMAN: Well, there's no actual assurance. It's just your psychological assurance, that's all.

MR YIN: We looked at some specifications, and there are things that must be done, whether or not samples are submitted, but according to part of the specifications, some of the things have to be done on request.

If the specifications do not mention the submission of samples, and they are still submitted nonetheless, then it can be described as redundant; right?

A. Yes, you can put it that way.

Q. And you did not request the submission, but if they submitted it nonetheless then you would look at it?

A. Yes, there's no loss for them.

Q. If they submit a sample, then you --

CHAIRMAN: Well, if you ask any more questions, then you might be held accountable.

MR YIN: I am coming to the end.

So is it a practice that once samples are submitted, you would put them in the sample room and they would be locked up?

A. (Nodded head).

Q. And it's not that you intend to inspect the samples in

the future?

A. No, no, that's not the case.

Q. I have one more question. Do you recall that one of the questions yesterday -- the question was there was an issue related to specifications in the contracts.

Well, it was on Hung Hom Estate. Please keep the page on the Specification Library 2004 Edition. I would like you to make a comparison with the contracts for the Hung Hom Estate, in bundle B10.1. In B10.1, page 23095.

This is the contract for Hung Hom Estate with regards to PLU1.

A. Yes.

Q. We see the words "PLU1", "Water Supply", there is an index, and you see the words "Addendum No. 1".

A. Yes.

Q. Let's look at page 23100.

A. Yes.

Q. This is the part on copper pipes.

A. Correct.

Q. I would like you to compare this page with the 2004 Specification Library. I want you to make this comparison. Please turn back to page 644. You can see this part on copper pipes, page 644.

A. Yes, I see that.

Q. If you look at the specification numbers on page 644, it

says PLU1.M120.4; do you see that?

A. Yes.

Q. 120.4, above that part, there's another paragraph above there. Please turn to the bottom part of page 643, "Pipes, fittings and joints". The first spec has the word "General". It says, "(In English) All pipes and fittings shall ... conform to this specification", and so on and so forth; do you see that?

A. Yes.

Q. The second spec is on copper pipes.

A. Yes.

Q. Now let's look at B10.1, under "Materials", "PLU1.M010.X Deleted"?

A. Yes.

Q. The "General" section. I wanted to turn you to the "General" section of the Specification Library under "Materials", "General", PLU1.M010.4, bundle B2/642. In the section "General", there's a section on PLU1.M010.4.

A. Correct.

Q. Now, in the contract addendum, bundle B10.1, 23100 PLU1.M010.X, it's deleted.

A. Yes.

Q. When you look at "Pipes, fittings and joints", when you look at the specifications, there's some changes to the numbers as well. In bundle B2/644, PLU1.M010.4. This

is PLU1.M120.B; do you see that?

A. Yes.

Q. When you look further down the specifications, there's a table. The table is the same. Paragraphs 2 and 3, it's the same.

I would like you to look at paragraphs 4 and 5, addendum 23100, the copper pipes specs, the second and third points. Please make a comparison with the 2004 Specification Library, page 644. Are they different?

A. Yes.

Q. For the spec PLU1.M120.B, what's the meaning of B?

A. I can't remember the annotation.

Q. Please tell me if you remember that. As I understand, the specifications would be revamped every four years.

After 2004, it will be revised in 2008. But between 2004 and 2008, there could be updates every six months, and every time it was updated, for the 2004 specs, the first revision would be annotated A and the second time would be annotated B and the third time would be C; is that the case?

A. Correct.

Q. If the specification is product-specific, then we will call them P, and there is another category, X. X means deleted.

A. Probably so.

Q. And there is another category, M, which means new; is that right?

A. (Nodded head).

Q. So, in other words -- chairman, I would like to add an extra page to the bundle. For the Hung Hom Estate contract -- well, they are just excerpts from the contract. (Handed).

From this page, we can see that there are specifications listed. It tells us, for the Hung Hom Estate project, when we said that the contract has incorporated certain specifications, what exactly the specifications are. The contract number at the bottom-left corner is 20080016.

Let's turn to bundle B10.1, 22956, and that's the title page of the contract booklet. That has to do with Hung Hom Estate Phase 2. You can see that the contract number is 20080016, two-thirds down the page.

Page 22956, two-thirds down the page.

CHAIRMAN: Yes.

MR YIN: The page that I just handed out is from the same contract.

You can see here the first paragraph:

"(In English) The Specification referred to in the Articles of Agreement and Conditions of Contract shall be deemed to include all of the following:

(a) The Hong Kong Housing Authority Specification  
Library 2004 Edition ..."

So the contract itself -- can you see that, Ms Lok,  
the page I just handed out?

Please give it to the witness as well. (Handed).

A. Thank you.

Q. So, for this page, we have checked the contract number,  
so you can --

A. Okay.

Q. -- believe in us that this is from the same contract.

This is the Hung Hom Estate contract. It tells us the  
specifications.

If you refer to paragraph 1(a), if we mention  
anything about specifications in the contract, the  
specifications refer to the Specification Library 2004  
Edition. In other words, if the contract doesn't add  
anything additional, then it means we will be using the  
specifications in bundle B2, the 2004 Specification  
Library; is that right?

A. Yes.

Q. When you signed the tender for Hung Hom Estate Phase 2,  
some revisions have already been made to the  
specifications B, which means you could not just depend  
on the Specification Library; is that right?

A. Yes, correct.

Q. So that's why you had to write new specifications into the contract; is that right?

A. Yes.

Q. The addendum we just looked at served that particular function. In other words, when there were changes to the Specification Library, then you would write something into the contract, override that clause in the Specification Library?

A. Yes.

MR YIN: Chairman, I don't have any further questions.

CHAIRMAN: Ms Lok, you have finished with your testimony. You can now leave.

Let's now take a break first, 20 minutes, and then we will call in the next witness, please.

(11.06 am)

(A short adjournment)

(11.28 am)

MR YIN: Chairman, the next witness is the chief architect of Yan On Estate, Ms Sonia Yung Tak Ling.

CHAIRMAN: We have two other architects as well.

MS SONIA YUNG TAK LING (affirmed)

CHAIRMAN: Please be seated.

Examination-in-chief by MR YIN

MR YIN: Ms Yung, now I will read out the written witness statement of Yung Tak Ling Sonia on Yan On Estate.

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Commission of Inquiry into  
Excess Lead Found in Drinking Water

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(Paragraphs 1 to 73 were read in English)

(Chinese spoken).

A. (Chinese spoken).

Q. (Chinese spoken)?

A. (Chinese spoken).

Q. (Chinese spoken) ... unlined copper pipes, and

subsequently, from 1995 to 2002 and 2003, the Housing  
Authority had used uPVC galvanised steel pipes.

Subsequently, copper pipes were used.

Over the course of the Inquiry, we have heard views  
that lined GI pipes or unlined GI pipes or uPVC-lined  
GI pipes. Apparently, GI stands for galvanised iron.

I would like you to tell us if galvanised steel  
pipes and GI pipes refer to the same thing or are there  
any differences?

A. Personally, I do not know whether there's actually any  
difference between galvanised pipes and galvanised  
GI pipes. There might be composition differences. So,  
if you want to know the differences in the materials,  
you have to look at the composition stated by the  
manufacturer.

Q. According to the Specification Library, for the 2004  
Edition, uPVC galvanised steel pipes were mentioned.  
There was no mentioning of galvanised iron pipes.

A. In the 2004 Edition of the Specification Library,

uPVC-lined GI pipes, it was the material used for our fresh water supply system.

Now, let's not talk about the chemical composition to see whether it's iron or steel. It's a metallic pipe; it's a lined metallic pipe. The purpose is to avoid contact between the water and iron. The lining serves as a layer of protection and the water will pass by that lining. So that's why we chose this material for our water supply system.

Q. I would like to clarify one issue. In the Specification Library, only one type of uPVC-lined pipe was mentioned.

A. Yes.

Q. Now let's look at the Specification Library. Perhaps it can help you answer the question. Let's look at bundle B2, page 647.

Let's look at page 646 first. Let's begin at page 640, the part of "PLU1", "Water supply". Page 640, "Water supply".

Please turn to page 642. This part is on materials and page 644 on copper pipes; correct? Copper pipes and copper pipe fittings.

Now let's turn to page 646. At the bottom, PLU1.M170.4 is on ductile iron pipes and fittings.

A. Correct.

Q. This part is on iron pipes.

For page 647, PLU1.M180.4 is on galvanised steel pipes and fittings.

PLU1.M190.4 is on uPVC-lined galvanised steel pipes and fittings; do you see that?

A. Yes.

Q. Now let's turn to page 653. It's on -- well, that's no longer about pipes.

Page 651 is on pipes. M200.4 is the last part on pipes, and the subsequent parts are on joints.

A. Correct.

Q. Apparently, on galvanised pipes, whether uPVC-lined or not, only steel pipes were mentioned. Iron pipes were not mentioned.

A. Correct.

Q. But in terms of jargon, you always talk about GI pipes, unlined GI pipes or uPVC-lined GI pipes. You refer to the ones under M180 and M190?

A. Correct. When we look at the Specification Library, there's no reference to GI or galvanised iron pipes. So, when we talk about the Specification Library, we would only look at the contractual terms. But in terms of jargon, we would call it GI pipes.

MR YIN: I have no more questions.

Cross-examination by MR KHAW

MR KHAW: Before the lead in water incident, we have been

talking about solder used for joining copper pipes. Now we understand that there's lead-free solder, those models that follow British Standards. Before the incident, have you heard of a material called soldering wire?

A. No, I have not heard about it.

Q. What about soldering strips; have you heard of it?

A. No.

Q. Now I would like you to look at bundle B15.3/39170. At the top, you can see "Major Job Reference". To the right, can you see the words, "Prosperity Building Materials Co Ltd"?

A. Yes, I see that.

Q. As I know, these documents were attached by Yau Lee in the materials submission to the HD, and this was one of the documents attached.

On this document, I would like to know more. I see the words "Prosperity Building Materials Co Ltd". As far as you know, before the incident, you had heard of this company; right?

A. I have no recollection.

Q. Would the Housing Department have a list -- on the suppliers that provide materials to the main contractor would you have such a list?

A. No.

Q. For you personally, before the incident, had you read this document, this document from Prosperity Building Materials Co Ltd?

A. No, I had not seen it.

Q. So their name was used as a testimonial, and a list of projects were listed. Apart from going through the main contractors, would the HD contact the suppliers directly to obtain materials for your projects?

A. In terms of material acquisition, we would delegate it to the main contractor via contracts. In some cases, we would want to know details of these materials, and in the design phase -- for instance, if I want to see how the tiling or tiles look like in the lobby, we would contact specific or certain suppliers to provide samples, so that they can help with our design work. So in such cases we might do it.

Q. So, if I understand correctly, for some materials, over the course of construction, the Housing Department might want to know more about these materials? For example, usage tips or instructions. In some cases you would like them to provide more information?

CHAIRMAN: This is about the design stage?

A. This is on the design stage, yes.

MR KHAW: Design stage? Okay.

I would like to ask, apart from the design stage

that you talked about, to your understanding, would there be any other circumstances under which the HA staff members will contact the suppliers on, say, the usage and composition of certain materials? Has there been such communication?

A. For myself, I have been working on projects all along. I have not been involved in the process of identifying new materials for projects. But then, when it comes to using, say, brand new materials, let me set an example. For example, in the Specification Library, there is a uPVC-lined galvanised steel pipes. You can imagine that back then, we said we didn't want to use galvanised steel pipes anymore for plumbing installations; we wanted to find a replacement type of pipe. Then we understood that there was in the market this product called uPVC-lined galvanised steel pipes. Then we looked at whether this type of pipe is suitable for HA projects, and Yau Lee would also be in contact with some suppliers to see if this was a suitable material.

Q. If such a contact was needed, which department from the HD would be responsible for that?

A. People at the central unit would be doing that. We switched to uPVC-lined pipes back then, we chose the material, and then we turned it into a specification for the contract. So it will be undertaken by

specification-related staff.

Q. Well, am I correct in saying this: if somebody has to talk to the main contractor on materials, it would be the specification design unit which is doing that; is that right?

A. Yes.

Q. Also, I would like to know, since the incident unfolded in July, I would like to know whether the HD has approached the soldering material suppliers and asked them what kind of soldering materials are available for jointing copper pipes, which are up to standard and which are not up to standard?

A. I am not clear about that.

Q. Okay. Let me turn to another question. In your witness statement, you have mentioned this in several paragraphs, and that is the HA back then regarded the soldering materials as a sundry item. I would like to discuss with you this.

When we talk about sundry items -- well, let's take the example of small hardware, because in your witness statement you also made the analogy to small hardware like bolts and nuts and tying wires and so on -- well, let's discuss these examples. When we talk about sundry items, to your understanding, in the contract there should not be any specifications in the contract on

these sundry items? In other words, there would not be any specific specifications on such sundry items?

A. In my witness statement, I said soldering materials are a sundry item, but then in our specifications, soldering was mentioned. A requirement was set. So I would not say in my contract nothing was mentioned about soldering materials.

Q. Well, when we talk about small hardware -- well, let's separate that from the soldering materials for the time being. Let's talk about bolts and nuts and tying wires and so on. For such materials, generally speaking, in contracts there would not be any specification such as small hardware components; is that right?

A. There is a lot in the Specification Library, so I can't say for sure whether there is a specification on nuts and bolts; I can't say for sure.

Q. All right. Generally speaking, if we still are on nuts and bolts and small hardware items, tying wires and so on, the HA would not check on the samples of such materials; is that right?

A. Yes, agree.

Q. For soldering materials, you did check samples of soldering materials and vetted them; right?

A. Well, in our contractual requirements, we didn't require the main contractor to submit samples for approval. But

then, in reality or in actual operation, generally speaking, the main contractors would submit samples for our approval.

Q. I understand that. You said that the contract doesn't have any requirement on submission of samples of soldering materials. But then you said, as a matter of practice and reality, this was being done. I would like to know, from the perspective of the HD, you said that it all along has been a practice engaged in by the main contractors. Do you think that this is needed, this is required, ie vetting of samples should be done on soldering materials?

A. From the perspective of the contract manager, even though such a requirement was not set out in the contract, if the main contractor submitted samples telling us that samples should meet with the contractual requirements, and I looked at them and I understand that the main contractor would use such materials which meet with the contractual requirements. So, as a contract manager, I think then I would have greater confidence, I have better knowledge of what the main contractor is doing.

Q. Yes, fair enough that you have a stronger confidence. But then the practice has been going on for a long time. Now, say, in one scenario, if the main contractor has

not submitted samples of soldering materials for one product, what will the HD do? Will the HD ask a colleague to call up the main contractor and understand why this has not been done?

A. I don't think that would be done, because that's not a part of the contractual requirement.

Q. So do you mean that even if it has been a practice that has gone on for a long time, then you would not approach them if they don't submit the samples?

A. The contract sets out certain requirements, and during the course of the execution of the contract we find or identify anything irregular, even though there was no relevant requirement in the contract, we still ask the main contractor, because we have the duty to ensure that the works are executed according to the contractual requirements. But on the other hand, in the course of the execution of the contract, we couldn't find any irregularity and say there was a problem with the materials, we would not do anything extra.

Q. Am I correct in saying this: say if in the contract it is not set out that the main contractor has a duty to submit a sample, from the HD's perspective then the HD will depend very much on the initiative of the main contractor as to whether samples should be submitted; is that correct?

A. In the execution of the contract, we will just look at the requirements of the contract. The main contractor, as long as they can meet with the contractual requirements, we will not take them to task.

Q. All right. In paragraph 56 of your witness statement, page 39057, paragraph 56 is again on the issue of sundry items. You said:

"(In English) Soldering materials have been regarded as an insignificant sundry item, similar to the iron tying wire used for fixing steel reinforcement, screws, bolts and nuts et cetera ..."

Which we mentioned just now.

"(In English) ... which was not measured separately in the bills of quantities."

Then it goes on to say:

"(In English) The soldering material, the extent to which it was lead-free, was not covered in the inspections so no such tests were carried out."

There were two issues here. At that time, soldering materials were regarded as insignificant sundry items. That's number one. Number two, you also said that the soldering material was not measured separately in the bills of quantities. It is not listed or measured in the bills of quantities.

You raised these two issues in your paragraph.

My question is, after the incident, the soldering materials are still not separately measured in the bills of quantities; right? So the workmanship and also the materials will be lumped together?

A. The quantity surveyor will work on the bills of quantities. They are professional. I am not very familiar with that area, but they do have standard measurements. That has to do with how the different items should be listed in the bills of quantities in the project. As a usual practice, they have special ways of dealing with such sundry items. In the future, should soldering materials be listed as a separate price item, I really can't answer that question.

Q. What about the present practice, Ms Yung? Since the lead in water incident unfolded, have any particular steps been taken to separately measure soldering materials? Has that been done?

A. I don't know about that. I think the incident has nothing to do with whether the soldering materials is a separate sundry item. The cause of incident is not that. So whether it has been measured in the BQ is a separate matter.

Going back to my witness statement, perhaps I have not worded myself accurately here. It is said that it is an insignificant sundry item so there was no testing

done as a result. This was premised on the fact that back then, as what we have seen after July, that we were not aware of the lead, possible leaching of lead into the water which created health risks. We only learned about that this year. So, without such knowledge back then, we would think that this is an item which had been used for a long time, never has there been any problem identified, so we didn't carry out any tests to ensure that such material was up to the specification.

Q. Let's not be too picky on the words, but in paragraph 56, during the course of the works, testing was not done on the soldering materials, and that was mainly because it was considered as a sundry item, and it had nothing very much to do with whether it was separately measured in the BQ; is that right?

A. I would like to add one point. It was a sundry item and we will continue to regard it as a sundry item in the future, probably. But if we had been aware that such a sundry item was so important in the system, we would have done something about it. In my witness statement, I mentioned that we would do testing work to follow up on the situation.

Q. My question was more specifically on sundry items. It wasn't tested because it was considered a sundry item. On this claim, I would like to know whether it was

a retrospective claim or had it actually been discussed before the lead in water incident? Before the incident, did the Housing Department have any concrete discussions on whether the soldering material was considered a sundry item?

A. I was not personally involved in any such discussions.

Q. Let's go back to the issue of awareness. Let's wrap up this part before lunch. On the Waterworks Regulations, we have asked questions on many other witnesses, including other CAs. We also asked the CBSE. When the chief architect gave his answer, the answer was a little bit different from what the CBSE said. The CBSE was more direct.

So let me put this question to you again. On the British Standard to be complied with for plumbs and fittings, under the Waterworks Regulations, have you heard of it?

A. Yes, I was aware but not in great detail.

Q. Yes, but as a chief architect of the project, you have to know; right? You have to understand the materials and relevant requirements that needed to be followed. We know that the British Standard is constantly updated and the latest prevailing standard must be adopted.

Let's take Yan On Estate as an example. In the 2004 Specification Library, it was said very clearly that

BS 1254 had to be complied with, and lead-free solder was explicitly mentioned. So that's the contractual stipulation, and the BS standard is also to be followed, according to the law.

Now, from a common-sense perspective, you would not object that lead is poisonous; right?

A. Yes, I have no objection.

Q. Whenever standards have to be complied with, the main reason for using lead-free solder or material is to avoid the presence of lead in plumbs, in plumbing?

A. Yes, that's a correct deduction.

Q. Do you agree with that?

A. I agree.

Q. If you want to prevent poisonous substances from entering pipes, it goes without saying that it's because you won't want the water to be polluted by harmful substances?

A. For Yan On Estate, if we were aware that the contact in the plumbing system would come into contact with lead, and that the lead in water could affect health, since I had no awareness of that at that time, it was hard to come to that conclusion.

Q. Now, you don't need to make too many deductions. On the specific example I gave, there are different standards, and there's a stipulation that non-leaded solder must be

used in plumbing works. So, by simple deduction, the objective is to avoid the water in the pipes from being polluted by harmful substances, so that's a common-sense deduction?

A. Yes, I can agree with that.

Q. If that's the case, I would like you to look at paragraph 63 of your witness statement. In paragraph 63, you said:

"(In English) The HA was not aware of the possibility of lead in water ..."

I want to try to understand this line. You answered a few questions already, and by extension, since standards are in place, you want to prevent harmful substances from entering the water. You said the HA was not aware of the possibility of lead in water. It wasn't really a neutral claim.

A. I still believe that this sentence is neutral and correct. Copper pipes had been used in Hong Kong for a long time before the HA started using copper pipes in our plumbing system. So from what we knew, since they had been used for such a long time, there were no signs to show that there would be problems.

So, at that time, we had not imagined the scenario of the presence of lead in water. At that time, we didn't know as much as we know now. We did not imagine

such possibility.

Q. Well, when we say "possibility", there are two levels.

If you say you do not know -- you are not aware of the possibility of lead in water, then there wouldn't be contract specifications on the use of unleaded solder; do you agree with that?

A. At that time, we believed the trade would know how -- what to do with the plumbing system. We took reference from the British Standard and Waterworks Regulations or Ordinance. According to the British Standard, unleaded solder must be used, and that's why we put them in our specifications.

Q. My real question is: you said the HA was not aware of the possibility of lead in water. So are you saying that even though it's mentioned in the contract specification, you still do not know -- you still were not aware of the possibility of lead in water, or that you would not know that the actual materials might contain lead? Which interpretation is correct? Is it the latter or the former? The second situation is that you misplaced your trust in someone and as such the materials ended up containing lead.

A. I don't really understand you.

Q. The contract specifications make it very clear that lead-free solder must be used. If you look at the

contract, since it's put down already, it's impossible that you were not aware of the possibility of lead in water.

MR YIN: Chairman, I think the foundation of this question is not solid. According to the specifications, lead-free solder is to be used. How do you link that up with the presence of lead in water? I don't think he has laid a proper foundation.

When you look at the annex of the British Standard, the difference between leaded and unleaded solder is in their capabilities to withstand water pressure. Now, if you say that the use of lead-free solder implies the concern of the presence of lead in water --

Questioning by THE COMMISSIONERS

CHAIRMAN: Well, I don't quite follow your logic either.

Let me ask my usual round of questions. You have already answered my first question. You said you were already aware that lead is poisonous.

Now my second question. Before the incident, before July 2015, do you know that many other countries have seen lead in water incidents?

A. No, I am not aware of that.

CHAIRMAN: As such, you are not aware of the reasons of the presence of lead in drinking water in many countries; you were not aware of that?

A. (Shook head).

CHAIRMAN: So, in other words -- let me tell you now that there are two main reasons. First, the use of pipes containing lead, and second, the use of leaded solder. These are the two main reasons why many countries have seen lead in water incidents.

Now, let me put it this way. By logical deduction, if you are not aware that leaded solder was the cause of lead in water incidents in other countries, you would not know the differences or implications of using leaded and lead-free solder. I am referring to the time before the incident. Now, of course, you know.

A. All right.

CHAIRMAN: From the evidence we have now, the EPA, the Environmental Protection Agency, had issued a notice on an incident in 1993, and in 2010 Scotland had seen problems; the scenario was exactly the same as the one we are facing now, and in 2003 Wales also saw similar problems.

In the annex, you submitted, on page 39230 -- let's look at 39228 first. I am not sure why this is attached in your exhibit. I believe that someone had submitted this to the Housing Department and that's why you kept it in your records.

A. This is a complete submission.

CHAIRMAN: At that time, the main contractor handed you this document on page 47, 39228, "(In English) Protection of potable water supplies" was mentioned, and it says:

"(In English) All water supply systems shall be designed, installed and maintained so as to prevent contaminants from being introduced into the potable water system."

That's the main theme. The subsequent parts mention jointing methods, 39229. Compression joints were mentioned.

Now let's go to 39230, "(In English) Soft soldered capillary fittings" were specifically mentioned, and there are a few bullet points. There's a table. It says:

"(In English) A solder containing not more than 0.1 per cent lead must be used. Compositions of some suitable 'lead-free' soft solders are given below".

We can skip the next part. Then it says:

"(In English) The chemical composition of water in some areas may preclude the use of soft soldered joints."

We know that this is an Australian company. The copper pipes are supplied by this Australian company, and the Australian company is well aware of where the problem lies. Perhaps you don't know where the problem

lies.

I would like to clarify. The industry doesn't know about this. But it seems that it's only the industry in Hong Kong that doesn't know about the problem, and I don't know what they didn't know about. Is it that they know they should not be using leaded soldering materials?

A. When we build plumbing systems, systems following the BS standards, under the BS standards, lead-free soldering materials should be used for fresh water supply systems.

CHAIRMAN: So the industry should be well aware that when they joint the copper pipes, only lead-free soldering materials should be used? That should be known among the industry?

A. We thought the industry should know about this.

CHAIRMAN: So that's why, in your specifications, only -- it is stipulated that lead-free materials should be used. Now, you attached this submission together with your other evidence. It seems that in the previous pages there was a person making a query about the flux and not the solder.

A. Are you talking about the vetting of the materials, or is this comment?

CHAIRMAN: Page 39139, starting from 39128 all the way to a letter included here, the Hong Kong branch office of

an Australian company was required to give a answer, and it seems that the reply was to satisfy the request of somebody from the HD. So that's why Ming Hop wrote to this company, asking this company to forward some information to show that the flux was okay.

My question is, at that time, it seemed that somebody at the HD had some concerns; are you aware of that?

A. Looking just at the document here, the clerks of works at that time received the proposal on materials from the main contractor, and he would check the proposal against the contractual requirements, and it seemed that on the issue of flux, as shown in 39131, the flux should be of non-corrosive type, as stated in this form.

Probably, when the main contractor submitted the document, that part was not clear. It was just stating the pH value was less than 2. So they are asking for more information about whether the requirement of non-corrosive would be met. So that's why the main contractor had to approach the supplier for clarification.

CHAIRMAN: Looking at the dates on the forms, I couldn't really believe them totally. The letter on 39163 was issued on 6 January 2009, but then again this form is dated 16 January 2009. So I am not sure about the

chronology of things.

My question is that somebody in the HD had been very careful in following up on the specifications and following up on questions on flux, to make sure that they met with the standards. After that, nobody checked the material again and nobody paid further attention to the matter; is that right? As long as everything seems acceptable on paper, then it's okay, or would you be doing anything as a follow-up?

A. On page 39165, there was this company called Cookson Electronics, and this company was giving an account of the situation with the flux and the power flow of the non-corrosive flux was set out.

CHAIRMAN: I think this is a standard type of declaration; is that right? If you look at the pages further down, 39166, you will see that this letter was dated 2006, this letter by Cookson. Well, this was a sort of standard letter included in every project. So this is not unique to this project. Every project had this form included as well, in the bundle.

Now, coming back to my earlier question, somebody did go the extra mile to ask Ming Hop to get confirmation on the type of flux used, and Ming Hop then, it seems, tried to approach the Hong Kong branch of this Australian company and then they got the

submissions and all the certifications.

Would it be like the case of the solder, this flux would be -- the sample of the flux would be stored in the locked-up room?

A. Yes, that was the case, that would be done. Then the sample would be set aside.

CHAIRMAN: And then, after the project has been completed, the samples would be discarded; is that right?

A. For the samples, they were being stored in the locked-up sample rooms, and in the course of the works we might have to check some samples and materials, so we would go back to look at the samples in the store room or the locked-up room, and for other materials that such work is not necessary, then they would just be put it in the store room for storage purpose.

CHAIRMAN: Would I be fair in saying this: for all the plumbing workers, they all know that you should only use lead-free soldering materials to connect the pipes? Is that a fair remark?

A. I have difficulty in confirming that.

CHAIRMAN: Well, whether they use it or not is another matter, but they know that this should be used; is that right?

A. For Yan On Estate, samples have been submitted to the HA, and the samples were submitted by Ming Hop,

a subcontractor of Yau Lee. They first submitted it to Yau Lee and then Yau Lee submitted them to us. So the subcontractors would be well aware of this.

CHAIRMAN: Okay, let's have a lunch break and then we'll continue after the lunch break.

(1.10 pm)

(The luncheon adjournment)

(2.30 pm)

CHAIRMAN: Mr Khaw, please continue.

Cross-examination by MR KHAW (continued)

MR KHAW: Ms Yung, regarding Yan On Estate, B15.3, one of the annexes is page 39128.

This is about the copper pipes and fittings. In general terms, pipes and fittings, fittings include the solder materials.

We can also see that generally speaking, when you vet these samples -- let's take solder materials for instance, when you vet these materials, the documents would go through three posts, the contract manager is one of them. The contract manager has to sign on the form.

A. The contract manager's representative, yes.

Q. Also, the project clerk of works, and then the building services engineer; is that right?

A. In this document, you can see the building services

engineer is the contract manager's representative and he approved the sample submission.

Q. In approving the sample submission, sometimes it is building services discipline staff, sometimes it is the architect's discipline staff, you would have project clerk of works, the architect -- would this also go through the building services engineer for vetting?

A. For Yan On Estate, in the contract, as contract manager, we do have the contract manager's representative, and they include the engineers and the structural engineers and so on. In this project, for approval of the materials, that is the building services engineer, for sanitary fitments it is the architect who gives the approval.

Q. With the samples here, there are relevant documents like test reports, the catalogues, and you get to see the properties, you vet and approve the materials. In Yau Lee's evidence, it suggests that there is a sample board being delivered; you know about this?

A. Yes.

Q. Let's say solder materials, when they are submitted, they are already on the sample board, aren't they?

A. I am not sure whether they are all pinned on the physical board.

Q. After the vetting and approval, the materials will be

stored in a locked-up room. Paragraph 50 of your statement, there is an explanation there. After approval -- that is on page 39055:

"(In English) ... 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."

A. Yes.

Q. When it comes to the solder materials, during the course of construction, other than vetting and approving the samples, during the course of construction there would be no more checking, would there?

A. No, not in the system.

Q. In your Housing Department's mechanism, there would not be any more checking?

A. Correct.

Q. Am I right in saying this: for the approved samples, they are put in a locked-up room, and during the course of construction there would be no more checking; the approved samples would be just sitting there, wouldn't they?

A. During the course of the contract, they are kept as record.

Q. When the materials are delivered and used, they would not be checked against the materials sitting in the

locked-up room, would they?

A. It all depends. According to form 6210 --

CHAIRMAN: Sorry, we can't quite hear you. Please speak  
into the microphone.

Thank you.

A. I said a moment ago that when the materials have been  
approved, we put them into the locked-up sample room.

Under the inspection manual, we have form 6210. There  
are 30 items of materials which, under the contract, the  
contractor has to submit the delivery note upon delivery  
of the materials, and our staff would have to check them  
against the approved ones.

When they check the materials, if they are not sure,  
then they will have to go back to the approved materials  
for checking.

We said earlier that for tiles, the colouring, the  
sanitary fitments, we have the colour, coloration, we  
have to check the delivered materials against the  
samples. In some cases we do need to check against the  
samples.

MR KHAW: Yes. In some cases for the 6210 form, there are  
certain items that have to be checked, and it would use  
the materials in the locked-up room, but for solder  
materials, you have already checked and approved the  
materials, but they are not part of the 6210 items and

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Commission of Inquiry into  
Excess Lead Found in Drinking Water

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they will not be checked again?

A. Correct.

Q. Also, regarding Yau Lee and the licensed plumber, there is a part of the statement that I want to show you.

Please have a look at P1, page 13, paragraph 4.8.

Please have a look and I will put questions to you in a moment.

A. Yes.

Q. Here, it says, in the middle part, towards the end:

I asked Ming Hop's resident foreman. One of them saw, in the sample room, workers carrying a roll of tin strips, to demonstrate soldering.

A. I saw that.

Q. Yes, for the sample room, in relation to the Yan On Estate project, there is such thing as a sample room?

A. Yes.

Q. My understanding of the sample room is more like a demo flat, to show people how to fit on the fittings.

A. Right.

Q. Here, the licensed plumber said that someone saw the plumbing subcontractor demonstrating the soldering process. Have you ever heard of that or did you see it for yourself?

A. I never heard of it. I never saw it.

Q. Outside the sample room, let's say somewhere at the

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construction site, there are some plumbing subcontractor demonstrating the soldering process -- have you ever heard of that?

A. No, I've never heard of it.

Q. Have you ever heard of a situation where the plumbers, the plumbing workers, explaining the process of soldering, albeit not a demonstration?

A. No, I've never heard of it.

Q. I asked you a moment ago about the sample board and the submission. Maybe the things are not put on the board but they are just submitted.

Let's first of all talk about the soldering materials. When the samples of soldering materials are presented, I understand from the position of the HD that it is the main contractor that submits the samples.

For these soldering material samples, who would get hold of it? Was it the main contractor or the subcontractor or the licensed plumber? Who submitted the samples?

A. We don't know at that time.

Q. What about now?

A. After the incident, we asked Yau Lee to submit a report to us. According to the report, the work of procuring the soldering materials, the whole thing has been sublet to Ming Hop, and Ming Hop subcontracted the work

involving materials and the workers to Wing Hing. In the document it doesn't say clearly, when samples were submitted, who was responsible for the submission. But from the subsequent statement, the Yau Lee statement, we learned that it was Wing Hing that submitted the samples to the main contractor; it was the main contractor who submitted the samples to us.

Q. Let's say the Fry, the solder wire, before the incident did you yourself ever see this material?

A. No.

Q. Never?

A. I don't remember seeing it. I may have seen it but I don't remember seeing it.

Q. Please refer to page 39169. There is a photo there.

Please have a look at the photo. Before the incident, do you remember having seen it?

A. No, I don't remember.

Q. The point that I took with you a moment ago about the solder material, and it's not part of the 6210 items, after approving the sample you wouldn't check again.

Let me put this to you about the protocol for inspection at the Housing Department. I know that you have some manuals regarding inspection.

A. (Nodded head).

Q. Let me put this to you, first of all. If, during the

course of construction, certain materials are needed,  
you would look at these samples and you would approve  
them. During of course of construction, would there be  
two parts where you would review the materials? The  
first is if it is under 6210 --

A. Yes.

Q. -- upon the arrival of the materials, then you check  
it --

A. Correct.

Q. -- to make sure they are complying with the approved  
specifications or the contractual requirements.

The second opportunity of doing it is during the  
course of site inspection. I don't think I need to show  
you the page. Well, there are site inspection  
materials, 100 per cent, 10 per cent, and so on and so  
forth.

For the second scenario, during the site inspection  
process, if you want to check the materials -- so the  
checking is not done upon the delivery of the materials.  
It's actually the checking the materials when they are  
being installed, during the course of construction;  
right?

A. Yes.

Q. So, during the course of construction, you would make  
inspection, so such inspections would be on the

materials which have already been unpacked and are being used. So sometimes it's difficult to check on the brand that is being used; correct?

A. Yes.

Q. Let me cite an example before I move on to another subject. Let's move on to B1, page 80.

Let's look at this example, on panel wall, the second item in the table. "Panel Wall", we can see that 100 per cent check on the drawings and the construction mock-up.

Mock-up means model; right?

A. Yes.

Q. Let's look at the 10 per cent check. There are several items, including grouting; joint reinforcement; (8) is sealant; moisture sealer; plumb and square, and so on.

Under the next column, "Random check (at least 3 times)", "Materials, type and dimensions".

For the 10 per cent check, some of them are sealant and moisture sealer. Let's take sealant as an example. If you install a panel wall, sealant is used. Would it be considered as a sundry item?

A. I can't give you an answer on that. From the BQ perspective, we have to look at the preamble, how it is written, to decide on whether an item is considered a sundry item.

Q. In other words, you have criteria to define certain sundry items?

A. (Chinese spoken).

Q. Is it that you have internal guidelines?

A. I think we have to go back to the BQ process. There are certain principles to go by. I'm not the expert in that area. I can't answer you.

Q. Thank you.

Lastly, I would like to put to you this question, and that is about application for water supply connection to the WSD and the forms related.

I am sure you have heard about our earlier discussion about the form WWO46, and there are annexes to this form. The annexes will set out the materials and the fittings for the plumbing works. The annex that you submitted did not including soldering materials as what we know. So I would like to know, further, when the form was submitted back then, the licensed plumber would list the plumbing components and fittings which would be used in the project.

Now, for this list, was it submitted by the licensed plumber?

A. Well, that was prepared by the LP.

Q. We know that in the course of construction, some fittings different from the original fittings submitted

would be used. There might be changes. So other witnesses have told us that if there are changes to the fittings to be used, then it would be for the LP to make the updates with the WSD.

Now, if there are really revisions or changes to the fittings to be used, at the HD, how do you work with the LP? What is the mechanism like? Say if the LP knows that among the five items, two items will be replaced or different materials are to be used with two items, would the HD have a record of the materials or components which have been changed and before they were taken -- before the LP updated the WSD?

A. So far, we haven't that kind of mechanism. We depend very much on the main contractor to monitor the work of the LP.

For the materials to be used at the project, we would look at and check them against the approved documents. We would look at the submitted documents.

Q. So, the past practice is that until the time when the LP notified the WSD of the changes, you would know about it, but before that you wouldn't know about it; right?

A. When the LP prepared the annex, then they will submit the form WWO46, form 46, and then we would look at the application form and check it.

At that time, not all materials have necessarily

been approved. There are some materials which have yet to be submitted. There might be materials like those in the form. When they submitted the form, we were not yet talking about the approval or vetting process.

It is very often the subcontractors would provide the materials. So the main contractor would know very well what are the materials to be used. So, when they prepared this form, they would put in all the materials that they were going to use.

Now, after the WWO form 46 was submitted, there might be a chance that the brands that were submitted or stated in the form were not clear, so they would be asked to provide another material for us to consider. So there might be sort of a time gap between the submission of the form to the WSD and also the latest edition of the materials to be used by the main contractor or the LP. In that case, the LP has to update the WSD subsequently.

MR KHAW: Thank you.

CHAIRMAN: Are there any other questions? No? No further questions?

Thank you, then, Ms Yung, for giving us your testimony. Thank you very much.

(The witness withdrew)

MR YIN: The next witness is Mr Ricky Yeung Yiu Fai. He is

the chief architect of Lower Ngau Tau Kok Estate  
Phase 1.

MR RICKY YEUNG YIU FAI (affirmed)

Examination-in-chief by MR YIN

MR YIN: All right. I will now read out the witness  
statement of Mr Yeung.

(Paragraphs 1 to 67 were read in English)

CHAIRMAN: Let's take a break for 10 minutes.

(3.41 pm)

(A short adjournment)

(3.55 pm)

MR YIN:

(Request 5 and paragraphs 75 were read in English)

You heard the statement read out. Do you have  
anything to add or amend?

A. No.

Q. Would you adopt this as your witness statement?

A. Yes.

MR YIN: Thank you.

Cross-examination by MR KHAW

MR KHAW: Regarding your statement, Mr Yeung, this is about  
the Lower Ngau Tau Kok Estate.

A. Yes.

Q. It was completed in March 2010, and thereafter you were  
involved in the maintenance of the housing estate?

A. Yes.

Q. When you were involved in the maintenance and repair -- for repair, there are two parts: the first one is during the defect warranty period, all the rectification that takes place there; the other part is post-warranty period.

A. Yes.

Q. For repair works during the warranty period, in connection with Lower Ngau Tau Kok Estate, has there been any repair work regarding water pipes?

A. Yes. During the maintenance period, after the work, we do have a two-year maintenance period. If the contractor -- the contractor does have the obligation to fix the defects during this period, otherwise we will issue a maintenance certificate to certify the obligation of rectifying the defects. But if the defects are not yet completed, then we will deal with them.

You asked a moment ago whether there were any defects regarding the plumbing system. My understanding is no.

Q. After the certificate of maintenance has been issued -- the certificate of maintenance is for the main contractor, and after this certificate has been issued, if any further maintenance has to be done, it would be

for the term contractor to do?

A. Yes, that's the estate contractor.

Q. My question is, for this repair and maintenance work, during the two-year warranty period, the main contractor will have to be responsible -- during these two years, if the piping has to be replaced, I know that the soldering joints would continue to be used, but after the maintenance period, when the maintenance has been taken over by the management, there would be compression joints; are you aware of that?

A. In principle, if during the contract period there are defects, we would ask them to rectify them in accordance with the contract.

If the contract specifies a certain type of procedures, they would stick with it, unless there are circumstances that prevent them from doing so, and then they would resort to other procedures.

Q. For Lower Ngau Tau Kok Estate project, if soldering joints are specified in the contract, then you would expect them to use soldering joints during the maintenance period?

A. Yes, you can put it this way.

Q. After the two-year period, when the management office takes over the maintenance, they would resort to compression joints; are you aware of that?

A. So I've heard. This is the contractual obligation.

Q. Do you know why there is such a difference, within the two-year period, soldering joints would be used, but after the two years, if there are any problems, they would resort to compression joints; do you know why such a difference?

A. Where circumstances permit, they would stick with the requirements under the contract. If the defects occur indoors, it would be dangerous to use the soldering joints because that would involve a naked flame, then they would use some other measures, and compression joints may be one of the other measures that might be considered.

The estate management, I'm not sure how they work. Maybe it is an occupied flat or it's unoccupied.

I don't know; maybe they have a number of methods.

Q. Are you saying that even within the two-year maintenance period, if you have to ask the main contractor to rectify the defects, if we are talking about an occupied flat it is likely that soldering joints would be avoided?

A. The method has to be safe. If it is not safe, the contractor or the Housing Department would not allow that.

Q. In the light of your working experience at the Housing

Department for these solder materials, there is a type  
called the solder wire --

A. Well, this is not what it's called in the contract.

Q. I am asking you whether you have heard of any lead-free  
solder wire?

A. Not before July, in Chinese.

Q. Have you ever heard of the solder strip, tin strip?

A. No.

Q. Let me refer you to your statement, the annex to your  
statement. Page 39497, B15.3. Perhaps we should take  
a look at the previous page, 39496. Ming Hop sent a fax  
to Yau Lee, and this is about the materials, the  
components, and also the samples submitted. This is  
faxed to Yau Lee as additional information. There are  
some verbal comments from the Housing Department  
regarding the samples.

There is an end feed capillary versus integral  
solder capillary fittings. Let's have a look at these  
two, end feed capillary and integral solder capillary  
fittings.

The next page refers to the solder ring fittings.  
My understanding is that this is the integral solder  
capillary fittings. For these integral solder capillary  
fittings, before July have you ever heard of this?

A. Not that I can remember.

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Q. Not that you can remember. For these integral solder capillary fittings, it is in fact pre-soldered. The soldering material has been put on the joints; are you aware of this?

A. Yes, after July.

Q. Let's find out what you know about it. For these integral solder capillary fittings, according to your understanding, is this pre-soldered fittings?

A. Yes.

Q. In the Housing Department, in the light of your experience, do you use integral solder capillary fittings? Have you ever used this in the Housing Department?

A. I am aware that recently some of them were used, yes.

Q. Before July, was this used in some of the building projects, these integral solder capillary fittings?

A. Not for the projects I am responsible for. I am aware that this is used in some projects but in my project I never used it.

Q. So you are aware of these projects. Are you talking about the projects before or the ongoing projects?

A. The previous projects.

Q. Right, the previous projects.

Please have a look at B2, PLU1, list of specifications in B2. I would like to understand, when

we talk about integral solder capillary fittings -- yes,  
I can see it now -- they are under "Copper pipe  
fittings", page 582. PLU1.M130.5, "Copper pipe  
fittings", the first paragraph:

"(In English) Copper and copper alloy fittings such  
as end feed capillary, integral solder capillary and  
compression type bushes ..."

Et cetera, et cetera. So, going by this paragraph,  
this kind of capillary fittings with in-built soldering  
materials, do they belong to one of these copper pipe  
fittings?

A. Yes, that's how it is written here.

Q. For such integral capillary fittings, am I correct in  
saying this, that there is this benefit. Now, works may  
do welding and soldering, and it's difficult for them to  
use both hands sometimes, so if there is integral solder  
capillary fittings, then they can manipulate it with  
just one hand?

A. I am not the worker so I don't know.

Q. All right. So, for the copper pipe fittings in relation  
to integral solder capillary fittings, they have to  
comply with BS 1254, and that is lead-free materials  
should be used; do you know about that?

A. That's mentioned in M106. Integral solder is also  
mentioned in M106 as well.

Q. M106, we are talking about soldering alloys. So do you mean that for such integral solder capillary, they belong to copper pipe fittings or they belong to the soldering alloys as mentioned in M106?

A. That is on page 584. The second paragraph or bullet point 2, "Use of integral solder fittings" is mentioned here. Point 3 sets out that only lead-free category solders should be used.

So, if we take these two together, that means lead-free materials should be used.

Q. Thank you. Also, going by your experience at the HD, have you seen any plumbing workers, in the course of construction, doing any demonstrations on how to solder the joints? Have you seen that kind of demonstration?

A. No, not so -- never seen it.

Q. Have you heard about such demonstrations being done?

A. For myself, I haven't seen any workers holding the welding machine or equipment and doing the welding.

It's only recently that I have tried to learn more about it and I have watched some video, but personally, I haven't really first-hand seen workers doing the welding work.

Q. Now, on the specifications, on PLU1, generally speaking, apart from some exceptions, samples do not have to be submitted to the HD, but then many witnesses have told

us that in relation to soldering materials, as a general practice, the main contractors would submit samples for the HD, for vetting and approval.

So I would like to ask you whether the HD has any internal guidelines or checklist or schedule, setting out that the HD's staff should ask the main contractor to submit samples of such materials, or there is a clause in these guidelines saying that the main contractors must submit such samples. Have you seen those guidelines or clauses in those guidelines?

A. I think the colleagues are abiding by the contractual requirements in doing their work. So if there is a clause setting out that the sample should be submitted, then they would do so accordingly.

As to whether there are special forms or guidelines, as far as I understand, there is none.

MR KHAW: I don't have any further questions then, Chairman.

CHAIRMAN: Any other counsel have any questions?

Mr Li?

MR LI: (Chinese spoken).

INTERPRETER: Sorry, the speaker is not coming through.

Cross-examination by MR LI

MR LI: After the incident, you said you watched some videos showing how the workers do their soldering. What is that video?

A. From YouTube.

Q. So it means that you did some research on YouTube and tried to see how solderers do their soldering. So it is not that you have videotaped the works on sites and you have watched the records?

A. Yes, there are some such videos. Some on-site staff have shared such video with us.

Q. So does it mean that some on-site staff videotaped the works of the solder workers?

A. There is a Review Committee set up, and the HD has arranged for an on-site visit, to a site in Lei Yue Mun, and a demonstration was done and the Review Committee members could take a look at how soldering was done in relation to joints, and that was done after the incident, the lead in water incident.

Now, as a colleague said, since this was done for members, they have already videotaped it and shared the footage with other colleagues.

Q. So it's not the videotapes on the works at the 11 or so housing estates?

A. Well, we are talking about the Housing Authority Review Committee.

Q. So you are not talking about the videotapes on the works done in these 11 housing estates?

A. No.

MR LI: All right. Thank you.

CHAIRMAN: Any other question?

You have a question. Please, go ahead.

Re-examination by MR YIN

MR YIN: (Chinese spoken).

INTERPRETER: Sorry, the speaker is not coming through  
clearly.

MR YIN: Mr Yeung, you talked about the maintenance period,  
which is two years. Am I correct in my understanding  
and that is, after the works have been completed, the  
main contractor will have to be responsible for the  
maintenance works for two years?

A. Yes.

Q. In the two years, for one year the housing estate is  
still vacant, with no population intake, and then after  
the one year has lapsed, the maintenance certificate is  
signed; right?

CHAIRMAN: Please repeat your question.

MR YIN: In the two-year maintenance period, in the first  
year, the flats are not occupied yet, and then in -- the  
first year, then there will be a final certificate.

A. Let me put it this way. The contract provides for  
a completion date. As I stated in paragraph 2, and that  
is on 31 March 2012, the chief architect certified the  
completion of the domestic blocks, and then we had to

apply for and obtain OP and after the OP was done, then we can have population intake.

So the population intake might be some time after 31 March, but would it be as late as one year after that? I'm not so sure. Maybe it's half a year or nine months after that date.

Q. I would like to ask you, after you obtained -- or, rather, before you obtained the occupation permit and after you have certified the completion of the works, during that period, if defects have to be made good, so you are just doing works similar to what you are doing during the construction stage; is that right? So it means there was no people living there, so it would not be too inconvenient to do soldering work?

A. Now, say if there was bursting of water pipes before the population intake, the main contractor would be asked to make good the water pipes and they have to do it.

Q. Am I correct in understanding that in relation to plumbing works -- well, let's not talk about other works for the time being -- if they have to make good certain defects, the main contractor is asked to make good defects, then usually they would do it in the period before the occupation permit is issued; is that right?

A. Yes, correct.

Q. So you said that in principle there is this two-year

maintenance period, and that is the main contractor has to be doing maintenance work during the two-year period. So if the contract requires, say, soldering be done, then the main contractor, in that two-year period, still has go for the approach of soldering, if water pipeworks defects have to be made good?

Questioning by THE COMMISSIONERS

CHAIRMAN: You became the acting chief executive before or after the incident, the lead in water incident?

A. I started acting on 7 July 2015.

CHAIRMAN: All right, you started your acting appointment on 7 July.

I have several questions for you. I have posed similar questions to other chief architects.

You know that lead is poisonous?

A. Yes. Well, too much lead may be poisonous.

CHAIRMAN: And do you know that there have been lead in water incidents in other countries?

A. Well, not before July.

CHAIRMAN: So, in other words, you were not aware of the causes of the lead in water incidents?

A. Yes, I didn't know.

CHAIRMAN: So let me tell you then -- there are two reasons, because there might be pipes which contain lead and also there might be lead in soldering materials. These are

the two main reasons for lead in water.

Before July, of course you know now that lead-free soldering materials should be used, but before July 2015, did you know that there was this requirement?

A. No, I didn't know.

CHAIRMAN: So, in other words, you wouldn't know that in relation to connecting or joining pipes -- well, there are two types of soldering materials -- do you know there are two types of soldering materials, Mr Yeung?

A. Yes, I now know, but not before July.

CHAIRMAN: And of course you would not know that the soldering materials for connecting pipes should be lead-free?

A. No.

CHAIRMAN: So is it fair to say then that the specifications mention about lead-free soldering materials and that you were not aware of the rationale behind such a requirement?

A. I was not the one who drew up the specifications so I didn't know.

CHAIRMAN: All right. Thank you.

Any other follow-up question?

If not, then thank you, Mr Yeung, you can now leave. You are finished with your testimony. You may now leave.

(The witness withdrew)

Tomorrow morning, there will be another chief architect? Sorry, it should be the chief building services engineer, working on six housing estates.

MR YIN: Eight or nine, I suppose.

CHAIRMAN: So you have to do a bit of homework tonight.

Please do not repeat tomorrow.

MR YIN: It won't be me tomorrow, it will be Mr Ho SC, but I will pass on the message.

CHAIRMAN: Yes, please pass on the message to Mr Ho SC.

MR YIN: I will have a look. Mr Eric Leung's witness statements are rather short. There may be eight or nine, but they are more or less the same. So maybe we adopt a format, mutatis mutandis, with necessary modification.

CHAIRMAN: If they are the same, you can just put all the housing estates in one single paragraph and read them out.

MR KHAW: Chairman, we will have Mr Leung tomorrow. I heard that Paul Y is suffering from a manpower problem.

INTERPRETER: Mr Khaw is not coming through; we can't hear him.

MR HUI: Chairman, if possible, the witness be invited next week. This is only a request on our part. We will try to work with you if it is inconvenient but --

CHAIRMAN: Definitely it would be inconvenient. I will  
decide after tomorrow.

MR KHAW: After tomorrow, we would like to continue with the  
statements from the main contractors. We would like to  
start with Yau Lee, because Yau Lee involves a number of  
projects (Chinese spoken).

INTERPRETER: Sorry, the interpreter can't hear Mr Khaw.

MR KHAW: For the main contractors, the relevant  
subcontractors and the licensed plumbers, we would like  
to take them all together first, and then we will  
proceed like this for other contractors.

Yau Lee's legal team have told me about a manpower  
problem.

MR LI: Chairman, yesterday I raised a matter with Mr Khaw,  
and we did look at the timing. The other counsel in the  
same team is not in town. He said we should be given  
more time to work out the arrangement.

My understanding is that there is an intention to  
take Yau Lee first. According to Mr Khaw, we would like  
to have Yau Lee and Ming Hop and all the rest of them  
together. We are going to have the expert and then  
there will be an intervening holiday. It would be  
rather difficult for us to make the preparation.

I know that Wing Hing, they haven't got the  
statement ready yet.

CHAIRMAN: It should be available. Are you talking about  
Mr Mok Hoi Kwong and Mr Siu Kin Wong?

MR KHAW: They should be available within these two days.

MR LI: If they are available within these two days then  
we'll go ahead with these. Next week, it might be too  
much of a rush. I hope there will be a bit more time.  
Let's work out the arrangement tonight. If this can be  
put back, I'm not sure whether there are other main  
contractors who would like to go first.

CHAIRMAN: If you can find one that would like to go first,  
I grant you.

MR LI: This is something I would like to ask for your  
indulgence, Mr Chairman.

CHAIRMAN: All right. Let's carry on tomorrow. We will  
decide after tomorrow's session. Thank you.

(4.36 pm)

(The hearing adjourned until 10.00 am the following day)

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