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2015年11月5日

上午10時02分恢復聆訊

出席人士：石永泰資深大律師、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

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

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

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

麥高義資深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

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

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

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

主席：石大律師。

石先生：係，主席先生，咁少少嘢我哋想就同委員會報告嘅，就係我哋星期一早上，我哋係有兩個證人係以證人傳票係到庭，係要嚟呢個委員會嘅。佢哋分別就係蕭健煌先生同埋莫海光先生，就係分別就係恆利同埋永興佢哋嘅負責人。咁呢...

主席：恆利，同埋咩嘢話？永...

石先生：嘎，永興。

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C 主席：永興，係。

D 石先生：係。但係我哋星期一同星期二，就我哋係有一個安排就係會同專
E 家證人，其中一個係海外嘅專家證人係會面。所以就--同埋呢位專家
F 證人係會與香港嘅一個專家證人係有會面同埋傾談，所以我哋星期一
G 同星期二我哋主要係要嚟預留時間係要同專家證人會面同埋聯繫。

H 所以我哋而家暫時我哋嘅打算--即係當然同大家報告，就係星期
I 一早上我哋係會照係開呢個聆訊，但係就純粹就係等啲兩位證人即係
J 出嚟出現係報到，睇下佢哋嚟唔嚟。咁就如果嚟嘅話，我哋當然會注
K 意就係佢哋嘅證供，就係話「喺，你哋可能會遲啲再嚟就畀口供。」
L 同埋同佢哋攞咗佢哋嘅聯絡嘅資料就再作安排，咁佢哋可能係會出現
M 嘅啫，就唔會係作供嘅。咁就如果佢哋唔嚟嘅話，當然委員會會作考
N 慮下一步嘅行動。但係無論嚟與唔嚟，都唔打算個聆訊係會長嘅，所
O 以就星期一早上最可能發生嘅事情，就會係即係律師團隊或者部分嘅
P 律師團隊會出現好短嘅時間，處理咗啲兩位出現或者唔出現嘅證人之
Q 後，我哋就打算提議係聆訊就唔再進行，就會押後到到星期三，就將
R 星期一餘下嘅時間同埋星期二全日都係預留嘅，只不過係律師嘅團隊
S 與專家證人會面，咁呢個係我哋嘅提議同埋打算。

L 主席：好呀，好呀。請問有冇其他大律師有意見想講？如果有嘅話，我哋
M 星期一、二，基本上就係唔會聽取證供嘅。咁就星期一嘅早上就會正
N 如石大律師啱啱講，我哋會處理兩位證人佢哋出席嘅問題，因為呢兩
O 位證人係--我哋係可以畀到證人傳票佢嘅，咁而之前亦都係聯絡唔到
P 嘅。咁就所以各位大律師係如果你想出席星期一嘅聆訊嘅話，咁呀歡
Q 迎；咁如果你哋想有即係用你哋--更好用你哋嘅時間嘅話，咁星期
R 一、二就可以你哋鍾意喜歡做你哋做嘅嘢都得，咁就呢個就係個安
S 排。咁我哋今日再繼續，可以再繼續。繼續請番阿馮女士入嚟，唔該。
T 好，我哋可以繼續。

R 香港房屋委員會第二證人：馮宜萱女士（房屋署副署長（發展及建築））
S 宣誓繼續作供
T 石先生繼續盤問

T 問：馮女士，咁尋日我就係同你睇緊中國建築佢提交咗畀委員會嘅一個報
U 告，就係講緊其實佢哋嗰個採購嘅--個女喺度處理緊，等佢整好啲嘢
V 先。

U 答：好。咁問一問需唔需要提供番尋日個答啲啲問題？

問：我一陣問我問到--我講完呢一 part 之後，我會返番去尋日叫你攞番嚟嘅資料。麻煩你打番開 B5.7, B5.7, 11834。佢呢度就係講番尋日就係話，中國建築講番就係話啲物料送到去地盤之後有冇檢視過呢咁，咁中國建築就話由於房署嗰個 Form 6210 係冇要求去檢測或者檢視焊料嘅，咁所以就係冇 check 到送去公--地盤嗰啲焊料嘅。

跟住我哋睇番跟住嗰頁，就 11835，咁佢呢度又講到係有啲預製嘅組件嘅，見到嘛？“Precast units”，見到嘛？

答：見到。

問：咁就話就有啲嘅預製組件，就係將一啲做水喉嘅物料係送咗返內地就造預製嘅組件，咁中國建築嘅工程師就會就即係 check 晒所有有關嘅資料，就畀房委會就批核。咁然後，就何標記就會將有關嘅資料 send 去畀呢個有利呢個公司就遞交界中國海關，咁就做一大炸嘅呢個呈交嘅工作。咁跟住何標記就提供咗一啲資料，就話何標記就係由呢個 Prosperity 呢間公司係買呢個焊料嘅。咁呢個 Prosperity 就亦都呢間公司就係房委會批核嗰啲焊料嗰個文件裏面出現過嗰間公司嘅名。佢跟後來就 11836 就喺度即係繼續講番佢中國建築佢做過嘅乜嘢係 supervision，即係同埋 monitoring，即係一路監察嘅行動。譬如話 C1.2 嗰度，你就見到佢就話佢個 stock keeper，即係負責管理嗰個存貨嘅人，佢就會 check 番嗰啲送咗去嘅貨，用番嗰啲買嘢嘅單嚟到 check。咁但係呢就因為有關 check 呢啲咁嘅紀錄係房委會 keep 嘅，咁所以就中國建築係冇呢啲紀錄。

至於你落啲就係 soldering material，關於焊料嗰度呢，佢就叫你睇番 B1.4, B1.4 嘅，即係講番就係由於房署嗰個 form 根本唔需要 check 焊料，咁所以就更加就係冇紀錄。

跟住佢餘下講咗好多關於中國建築內部做咗好多嘅嘢，咁我唔同你即係仔細咁樣睇。但係我同你講番，就係中國建築佢自己對含鉛事件，佢有個結論係乜嘢呢咁？咁我就睇之前 11821, 11821, 你睇番 2.4 段度，佢就話即係佢哋嘅紀錄就顯示佢哋將啲用料係正式呈交界房委員攞審批之前，佢哋係 check 過嗰個二判商嗰啲文件，就發現嗰啲焊料其實係符合合約嗰個要求嘅。咁但係發現咗呢個含鉛事件之後，中國建築就用肉眼咁樣去嗰個項目嗰度，就即係喺公眾嘅地方睇，唔係入屋企睇，就用肉眼去睇嗰啲焊位，就察覺到嗰啲焊接位有啲乜嘢異常嘅表面嘅痕跡或者特徵。

咁中國建築就話佢已經叫咗做水喉嗰個二判呈交一份報告，咁但

係直至寫呢份報告嗰日，呢個二判係仲未呈交呢個報告嘅。咁佢跟住就係講，就話就其實係行內係有一個規矩或者一個程序係要 check 啲啲焊料嘅，咁跟住佢後來補充嘅文件都有提供，提到過就係行內嘅程序，其實係有話要驗呢個焊料。

同埋佢跟住又提到過，就係正如上面 2.2 段所講，2.2 段就係 11821 嗰度，就睇番佢以往嘅文件，就係話其實佢當日呈交去房委會擺准許，佢係話用“FRY”呢個牌子你記得喇，佢係用“FRY”呢個牌子，咁“FRY”呢個牌子嘅文件就係話，文件上係唔含鉛嘅，無級別嘅咁。咁總之即係中國建築就係話，「我睇番我哋之前做嘅嘢，呈交嘅文件就話係 fine 嘞，就唔含鉛嘞，我問咗嗰個 sub-contractor 叫佢解釋，佢就未畀到個報告我哋。」

所以佢--跟住就睇番 2.9 嗰個結論嘞，2.9 中國建築嗰個結論，就係話嗰個即係可能嘅原因就係做水喉嗰個二判或者係佢嗰啲工人，喺做呢個焊接嘅時候就背住呢個中國建築，即係 behind 中國建築's back 就用咗一啲唔符合規格嘅焊料，但係中國建築喺即係做呢份報告嘅時候，就有證據顯示其實究竟係邊個咁用嘅，邊個係即係用咗啲錯嘅焊料，佢就講唔出。跟住佢就話即係佢哋係用咗好多嘅辦法係走去呢個幫助或者紓緩呢個結果咁樣。

但係中國建築建佢嗰個立場就係話，起碼佢開頭係有呈交過一啲嘅樣本，嗰啲樣本又有文件去證明，就係“FRY”呢個牌子，就寫住係「無鉛」，咁起碼第一步就好似係做咗足。但係到到實際上落場做，由於有一個檢測嗰啲 sample--嗰啲實際上送咗去嘅物料，咁同埋後來做出嚟就發現原來係有含咗鉛呢，咁所以佢就只能夠去推論，就係總之係有人做嘅時候係用咗一啲含鉛嘅嘢，不過就唔知係邊個，咁呢個係佢嘅一個講法。

咁我哋睇睇另外嗰啲承建商佢哋各自對出事嗰個可能嘅原因嘅講法；咁跟住我可能會探討下就係其實睇番轉頭，可以喺邊一個階段其實做到啲乜嘢嘢去防止。呢個我哋睇咗中國建築，我哋而家繼續睇，就睇睇有利，有利就係 7.4。我哋擺個牛頭角下邨嗰個報告，17859，17859，你見到呢個就係有利嘅二零一五年八月嘅一個報告，你見到嘞。咁佢下面就--喺 contractual relationship 嗰一欄佢係咁講嘅，佢就話有利係大判，main contractor，即係主承建商；咁有間公司叫做明合，明合就係有利嘅關於水喉方面嘅一個分判商。咁佢話有利同埋明合都係有利控股嘅子公司嚟嘅，咁所以有利同埋明合其實係即係姊妹公司，同一個集團。咁呢個項目嗰個持牌水喉匠就叫做伍克明先生，伍克明先生就係明合嘅僱員嚟嘅，做咗三十一年。

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咁佢哋嘅分工就係咁嘅，咁就係有利就係整個工程嘅承建商；明合就係做水喉；呢個伍克明就係持牌嘅水喉匠，佢負責就係喺地盤上嘅監工同埋處理所有係有關即係水要擺准許、牌照嘅問題，同埋係有關嘅法定嘅程序同埋步驟。

呢度停一停先。你記得尋日我問過你就係關於呢個 licensed plumber，法律規定係其實你字面上一睇，就係要 licensed plumber 做嘅，係咪呀？即係除咗 licensed plumber 或者有授權嘅公職人士之外，就冇人可以做水喉嘅，你記得我同你睇 15 條，你記得嘛？尋日。

答：呢個提過。

問：記得。呢度就似乎就係即係有利佢講，就係呢個持牌水喉匠就係負責去監督，即係佢有話所謂佢做，佢話佢係監督或者係處理一啲法定嘅要求嘅嘢。咁以你嘅理解，其實一般嘅即係行內嘅人，其實佢哋好多時候都唔係持牌水喉匠，唔係真係落手落腳咁咁咁咁去做，而係只不過係可能係簽下紙，或者係純粹叫做做下監工嘅呢？以你嘅理解。

答：以我嘅理解，其實佢哋其實水喉匠可以監督一啲佢屬下嘅一啲工人去進行呢啲工作，咁如果我記憶所及，零九年代都有過一啲 circulars，即係水務嘅 circulars 都提過呢一樣都應該係可以容許嘅。

問：唔。

答：咁你變咗行內普遍呢個情況都會出現嘅。

問：唔。我哋--呢個未必係你嘅範疇，不過你即係好多謝你同我哋講咗內行個個認知，我哋遲啲可能要考慮就係，即係如果法例係話除咗持牌水喉匠冇人可以做之外，咁水務監督嗰方面又將個法律理解成為「唔緊要，佢唔使自己做嘅。」佢可以監工嘅啫，咁呢個我哋遲啲可能會探討下，咁呢個其實係咪一路對法律有個正確定係錯誤嘅理解，咁但係我而家呢度即係指...

答：唔，係，即係我只可以講係普遍業內嗰個理解都係咁嘅情況。

問：係。因為其實可能有個潛在嘅問題，你都明白，字面係咁寫，因為持牌水喉匠個牌佢嚟嘛，要考或者要識嘢，要讀書，就係佢去讀嚟嘛，咁但係如果佢唔使自己做，佢淨係監工，你請啲咩嘢人返嚟佢唔知嚟嘛，同唔同意？

答：佢係監工，不過就佢亦都可以係一個打埋人，即係佢都負責管理埋佢下面工友應該所做出嚟個質素係達標嘅。

問：唔，好。咁實際上我唔知道實際上嗰個持牌水喉匠會唔會真係逐個逐個接口去睇，咁呢個可能我哋遲啲同另外一啲證人探討一下，okay。

我哋繼續睇落去，就 17859 下面嗰度，就係佢話 “To procure contractually acceptable material” 嗰度見唔見到？下面數起第六行，“To procure contractually acceptable material”，見唔見？佢話即係阿明合就為咗要即係採購一啲即係合約規定可接受嘅物料，佢通常就會將所有嗰啲用嘅物料係透過有利就提交房委會係擺呢個事先嘅准許，咁先至開工嘅。咁佢話至於實際落手落腳去做，就係會再搵另外一個叫做 sub-subcontractor，即係佢判上就會再判，就判咗畀呢個叫永興嘅呢個判頭去做，咁呢個永興個老闆或者打埋人就係呢個莫海光先生，見到嘛？

莫海光先生同明合就已經合作多時嚟嘞，所以嗰個合約嗰個串連就係有利就判畀明合，明合就再判畀呢個永興，永興嘅負責人就係莫海光先生。佢跟住就講呢個明合角色同埋嗰個持牌水喉匠嗰個角色。

佢話莫海光先生就一路嚟內行都係即係獲大家嘅信賴，同埋係一個大家覺得佢好負責嘅一個判頭嚟嘅。佢就話之前原來係做過好多項目都有出現過咩嘢問題，所以就明合就好信任呢個永興呢個判--呢個公司嘅。咁佢就話雖然明合就會將一啲物料就透過有利就呈交畀房委會去擺核准，就其實就唔係所有嘢都係明合買嘅，明合同有利係同一個集團，所以即係佢幫埋明合講嘢即係差唔多係。其實啲料就唔係明合買嘅，直接買料呢，即係透過一個所謂 sub-subcontractor，判上判，由最後嗰個判頭走去買料係一個好常見嘅一個做法，咁你同唔同意？以你業內嘅理解。

答：以我理解，其實佢如果連工包料判畀個二判，一般嚟講，個二判就會買料，咁至於佢判咗三判，一般嚟講，我哋都可以容許佢判落第三浸。所以如果佢係將呢一個工作同個責任都判落去嘅時候，佢可以由呢一浸嘅分判商去採購，但係總體嚟講，嗰個責任仍然係屬於個總承建商嘅。

問：我明。即係合約上就還合約上，合約上你追究，房委會只係同嗰個 main contractor 有合約嘅責任。

答：係，正確。

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問：但係事實嘅理解，咁你都知道行內就係一路判落去，真係去買可能係隔咗兩浸㗎嘞已經。

答：呢個係有呢一個可能，同埋亦都喺呢個情況...

問：常見。

答：...嚟講，我唔知係唔係常見，不過係可以容許嘅。

問：係，好。

答：因為一般嚟講，我哋就希望佢只係判到第三浸。

問：唔。因為你越判落去嘅話，你都唔知去咗邊啲人手上㗎嘛？

答：所以我變咗係--我哋就會有一個限--有規限就係去到第三浸嘅。

問：Okay。規限係咩嘢，唔係一個合約嘅規限嚟嘅？

答：佢係合約上面嗰個 practice, general practice。

問：Okay。好嘞，跟住再睇落去，就係話就係由於一路就對永興嘅信任，明合一路就會叫永興就係負責去買料，佢呢度咁講嘅，你見到嘛？

答：見到。

問：咁佢話呢啲焊料，一般呢就好快就消耗咗㗎嘞，即係簡單講，就係你燒咗焊嵌咗落去就有咗㗎嘞，成嚟嘢即係變咗形，冇咗㗎嘞，焊燒完。係咪叫焊燒？消耗咗嘅，即係「耗材」可能叫做，係咪呀？所以就可能佢嘅意思就係呢啲好快消耗嘅嘢就唔係好大件嘅嘢，所以佢話就為咗唔好話將個即係 supply 嗰個供應因為出現問題而有延誤，因為好多嘅二判，包括明合就覺得比較方便嘅做法，就係由得嗰個--最後嗰個判頭，即係喺呢度係個永興就自己走去買，即係我諗佢嘅意思係方便，如果事事要隔咗一重，由中間嗰個判頭走去訂貨，就費時失事，就不如做嗰個人要到就佢去買，要買幾多就佢決定。咁呢個你頭先所講，就係即係到到第三浸都係容許嘅，對嘛？

答：唔，對。

問：係。咁佢就話就呢個亦都係一個標準嘅做法，就係永興負責走去買，咁而永興同埋明合之間嗰個合約亦都係咁樣去講嘅，咁樣去寫嘅。咁佢跟住嗰段就係話，明合就直至到最近就完全係唔知道用一啲唔合乎

規格嘅焊料呢個事情嘅，因為出事之前，從來冇人提過話嗰啲焊料嘅規格係有問題。佢話眾所周知，就係水務監督出嗰張 1005，尋日我哋講嗰張水紙...

答：係。

問：...亦都係冇要求係要走去測試呢個鉛嘅含量嘅。咁呢個可能就係符合番你尋日所講，就係話「你所講，就係我唔好理你嗰啲紙究竟係根據啲乜嘢嘅條例出。」有利就話「總之行內就覺得即係水務監督做法就係我驗咗嗰八樣嘢，我就會出畀你睇嘞，佢驗嗰啲嘢就唔包括重金屬」咁，有利就係咁講。咁佢跟住就--嗰段就話由於水裏面嘅鉛量係唔係話喺任何嘅測試嘅要求裏面，所以就冇人係做過任何嘅測試嘅。即係佢又有做，明合又有做嘅。咁佢再講，就係話行內就眾所周知，就係話供水系統咩嘢先至叫做係即係令人滿意呢？就係當水務監督批咗、檢測咗嗰個水務系統，根據嗰個 WWO46 第 V 部分。我哋尋日睇咗 046，046 就係開工前要話畀佢聽「我開工」，開完工我就話「我開完工，麻煩你嚟睇」咁。咁即係總之行內就係話即係靠水務監督，你嚟--根據 46 號嗰個 form，叫咗佢嚟睇，睇完之後，就 pass 嘞。即係佢呢個話係行內嘅一個睇法。

答：呢個係正確嘅，而係 WWO46 Part V 都有 indicate 水務署係有派員就去 inspect。

問：唔。

答：Part V 佢係有呢一個 part 喺度，可以睇睇張 form Part V。

問：好，我明。呢個我當然會遲啲問水務署。不過你講起，我哋睇睇，WWO Form 46 Part V，應該係 37626 嘅，你嗰個證人供詞嗰個 bundle，應該係 B15.2 嘅。

答：15...

問：B15...

答：...--15.1。

問：B15.1，37626。

答：Part V 應該係 37625。

問：625，係咪？Sorry，我用緊舊嗰個 pagination。37625。呢度我

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係諗住問水務監督嗰面嘅，不過即係你提出，就我而家擺埋出嚟講一講。

答：因為就正如即係你嗱嗱頭先你喺嗰封信嗰度提到呢一個--呢個 part 就係咁樣嘅。

問：係呀，係，Part V 呢嚟。咁你見到嘞，就係“Plumbing detailed in Part IV”，即係第 IV 部分所提到嘅供水系統。尋日我哋睇過第 IV 部分，就係完咗工之後，大家簽畀水務監督，就話「我完工嘞，你嚟睇喇。」咁嗰部分？

答：正確。

問：第 V 部分就係水務監督簽嘅，就話「你第四部分講嗰咩嘢，就話『我就睇咗嘞，喺邊日檢驗咗。』咁跟住佢就話「根據《水務條例》就有發現有任何嘅問題。咁所以第 IV 部分所講嗰啲喉管，我就批核」咁樣。

答：係。

問：咁所以話至於究竟邊個責任大啲，究竟佢係即係--呢個我哋遲啲再探討。不過，呢個就係佢裏面所講嘅 Part V。

答：係，正確。

問：咁我哋睇番 B7.4 嘅 17860，中間嗰段，嗱嗱講完 WWO46 Part V，我哋睇咗嘞。跟住再睇，佢就話就喺過去嗰數十年，就喺呢一個問題上，即係靠呢個 WWO46 Part V 呢樣嘢就作為即係核准呢個做法，就喺過去幾廿年都冇人曾經即係作出過一啲即係話出咗事嘅報告。跟住佢就話，焊料就唔係一樣貴嘅嘢，“Solder is not an expensive component.”咁嘅，「焊料又唔係一樣貴嘅嘢。」咁所以就即係冇人係可以即係合理地預計到--即係或者明合嘅管理層就有可能合理地可以預計到，就係有一個同佢合作多年嘅分判商係會用一啲唔符合規格嘅焊料。佢就好小心嘞，佢就話假如真係咁嘅話，即係佢冇作出一個指控，但係佢話「如果真係有人背住我面用咗啲唔合規格嘅焊料嘅話，我都有諗過會有咁嘅事情發生，因為呢啲唔係貴嘢。」佢係咁講，你見到喇。咁佢就繼續講就係話，實際上，就係明合同埋永興之間嗰個書面協議就話永興就係要負責係連工包料，明合就有叫永興係提供買嗰啲焊料嘅單嘅。明合就話，佢係完全係依賴莫先生嗰個經驗，而莫先生就係完全知道房委會對呢個水喉用料嘅要求嘅。佢話如果有任何嘅用料係房委會批准咗嘅話，都係基於莫先生提供嘅一啲樣

本。佢話如果吓，如果--佢亦都好小心嘅寫法，佢話如果實際上用嘅用料係同原先呈交昇房委會嗰套樣本係唔同嘅話，咁就似乎係莫先生就係即係辜負咗明合對佢一路以嚟嘅支持同理信任。

咁又係即係講番類似中國建築嘅嘢，就係話可能入嘅係一套，批核嘅係一套。實際用嘅可能唔係批核嗰一套，咁佢係嗰個主承建商，甚至喺呢度嚟講明合，即係嗰個 plumbing contractor，佢就話「我係唔知道，我係唔知情嘅。」咁佢咁講，okay？

咁跟住就--我哋睇番跟住後面嗰頁，17861。好嘞，伍克明先生，你記得呢個伍克明先生就係嗰個持牌水喉匠，持牌水喉匠就係明合請。呢個伍克明先生同埋佢嘅一個團隊，有隊 supervisor 嘅團隊就係定期走去檢查嗰啲接焊嘅工作。咁佢係佢即係喺呢啲咁嘅偵測嘅時候，就有報告過或者發現過任何唔合規格嘅焊料。佢點樣去檢測呀，佢點樣去 test 合唔合規格呢個，我哋就遲啲睇下問唔問到佢。咁佢係佢係咁講嘅，佢話亦都冇人投訴過話嗰啲焊料有問題，亦都冇人喺個地盤度係 spot 到一啲唔合規格嘅焊料。咁佢話有利即係係一個有經驗嘅承建商，咁多數一啲好似有利咁樣有經驗嘅承建商就全部就係靠晒呢個持牌水喉匠去安裝呢個水喉嘅工作。咁亦都係跟足行規就係由嗰啲二判，甚至係總之三判，到到第三浸，sub-subcontractor 去買料。佢話係今次呢件咁不幸嘅事件之後，先至發現呢一種咁判上判嘅做法原來係一個潛在嘅危機，就會影響供水嘅質素。咁呢個就係有利嘅說法，咁佢跟住就提出咗一啲即係一個補救嘅措施咁。

你睇到就係中國建築同理有利佢咁個理解，就係開頭第一浸喺佢咁即係同房委會嗰個交往，提出嗰啲攞 approval 嗰浸，應該就係入咗啲--唔係，起碼我哋見到就係中國建築係直情有埋嗰啲文件係 submit 咗個 sample 咁樣，好似“FRY”嗰個 sample。有利，我睇呢份文件，我就見唔到佢有一個 submission 嘅即係文件，可能有，可能冇喇，但係即係佢咁大家都係話個出事喺下一浸嗰度。

咁我而家睇一睇就係另外嗰兩個承建商，瑞安就係 B4.5, 6617。瑞안전個報告，你睇睇 6617，第 1 段，佢就話--因為我呢個係求其抽一個邨嚟講，即係好多個邨佢都有報告，咁呢個就係葵聯邨二期。咁佢講就話做水喉嗰個系統嘅工作就判咗畀何標記做，咁有關嘅持牌水喉匠就係林德深先生。咁喉管--就係批核咗出嚟嘅喉管就係以下嗰兩個牌子。咁佢話焊料亦都係批核咗，就係以下呢兩個牌子。

跟住佢就話，又係提到就係水喉就畀水務署驗咗，咁佢亦都提到就 Part V WW046，咁佢跟住第 7 項，佢就話所有嗰啲接收、要做測

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試，甚麼、甚麼嗰啲所有嘅 Issuance of Water Certificate，佢呢度個 Water Certificate 就係 Part V 叫做，即係行內所謂呢個 Water Certificate 其實可能都有唔同嘅理解嘅，對唔對？我之前問過你，你就話其實係 1005 嗰個 form 就叫做 Water Certificate。

答：其實呢個理解係兩樣都需要嘅。

問：Okay。

答：即係 WWO...

問：總之水務監督出嘅一啲證明，證明佢 okay 咁就得？

答：Part V 係--Part V 係需要，另外就係因為要攞一個人伙紙之前，1005 亦都係需要嘅，即係兩...

問：人伙紙就係 building 方面嘅嘢，所以就係 1005，得。咁總之即係佢籠統嘅講法就係話水務署都 okay 咗嘞，就唔包括要驗--即係驗嘅。

咁跟住右手就係 6618 嗰度，咁講即係驗水出嚟嗰啲結果，咁我哋就唔使仔細咁樣睇嗰啲驗水嗰啲咁樣嘅結果。咁你跟住睇番就係右手面 6620，「Response of Sub-contractor 何標記」，何標記嘅回應。

咁瑞安就出咗信就叫何標記就解釋點解葵盛圍呢一度呢個用嘅料，就同嗰個 approved samples，即係批核咗嘅料係會有唔同。咁何標記就覆咗，咁主要嘅答案就係佢話直至佢回覆為止，何標記都唔知點解用嘅料係同批核咗嗰啲料係唔同。另外，佢就話何標記係完全知道合約嘅要求，何標記又唔知道原來市面上係可以買到啲含鉛嘅焊料。咁佢話何標記買嗰啲料，嗰啲單就有晒，嗰啲 purchase order，買焊料嗰啲單 disposed，即係攞咗。持牌水喉匠就係會去檢測員工之後嗰啲成--製成品，即係嗰個結果，即係睇咗嗰個接駁嗰啲 completed works，咁跟住就先至會向水務署係報告話完工，我諗佢意思就係簽 46 嗰張，因為 46 嗰張就係要個持牌水務匠簽，對嘛？嗰張係要水務匠簽？

答：對。

問：咁佢話地盤上何標記嗰啲代表就會去 check 嗰啲用料，同埋去 check 嗰啲手工，跟住就報告番畀何標記聽。咁佢就--何標記就話呢一個葵

盛圍嘅呢個事件，就似乎係一個單獨嘅事件，咁佢話事發之前佢係唔知道原來係用咗一啲受到污染或者係即係唔合規格嘅一啲焊料。

跟住睇番 6621，6621 就係講番即係瑞安佢做嗰啲嘅所謂品質控制嘅一啲程序。你睇番中間嗰度，中間嗰度就“Although 96 types of materials used in the project were required to be inspected as per the “List of materials”, soldering materials for jointing copper pipes was not included in the list.”即係話雖然佢哋係嗰個品質監控嘅程序，佢哋可能會 check 好多嘅物料，有 96 種咁多，但係就有 check 到焊料呢樣嘢。咁跟住就係講話 “in-process quality control on workmanship.”呢個就係另外一個階段嗰個質量嘅管控，亦都係有 check 到--冇要求去 check 呢個銅喉之間嗰個焊接。咁總之，即係一言以蔽之，你睇番右手面，就即係佢哋內部嗰個對焊料就係有一個特別嘅程序係要嚟 check。

我哋睇番 6623，就係瑞安。瑞安就發表佢哋意見，就對於事情--點解會發生咁嘅事情？佢就有 6 點，佢提出咗六個可能。「Based on limited test results and available information, not easy to conclude why the contamination is found in the soldering materials in pipe joints of copper pipe in 啟晴--葵盛圍」，即係好難先至--即係好難去話點解，咁佢哋提出咗就係六個可能性。第一個就係空氣裏面嘅鉛就呢個污染咗嗰啲焊接位；第二，就係啲工人就錯誤地買錯咗唔啱規格嘅焊料；第三，就係可能買嗰啲工人有買錯，但係啲人送貨去送錯咗；第四，就係啲料可能唔夠用，咁就--或者即係佢訂咗啲貨，啲貨嚟唔切，佢就焗住要用咗一啲原本諗住要嚟做第二啲嘢嘅焊料，或者從第二方面擺番嚟嘅焊料；又或者就係可能到最後一個階段可能要即係一啲叫做 pressure test，做一啲壓力測試嘅時候，可能有--冇漏，啲喉管可能會漏，咁所以佢為咗要即係補番，即係到最後個階段測試可能有啲甩漏，佢要補番，就擺第二啲嘅焊料就抵咗落去，咁就出事，呢個係第五個可能；第六個可能就係一啲佢話都唔知係乜嘢嘅原因，“Other causes that are not known yet.”咁跟住何標記就講話佢到而家都唔知點解。咁去到最尾嗰度，總之瑞安就話就係其實瑞安就唔係呢個始作俑者，即係唔係唔關瑞安事，瑞安嘅講法就係咁樣。咁佢亦都跟住就話，佢以後都會做好啲嘍，咁呀 used。

咁跟住就你睇番隔籬嗰頁，6624。佢解釋點解葵盛圍呢一個項目係有 check 呢個焊料，佢嘅解釋就係即係業內一路都覺得焊料係好微細嘅事情。咁佢話亦都係嘍，即係政府監控嘅 body，嘅個體嘅有關

部門都有 check 到個鉛份嘅。咁同埋佢話一路嚟講出水紙同埋出呢個人伙紙都有話過要 check 鉛，咁呢個都係即係業界嘅一個睇法，咁總之就係業界都有做，一路都有做，一路都有事，呢個係佢嘅睇法。

咁佢亦都係話唔關個大判事，即係所有嗰啲承建商都係話唔關佢事。咁出事就可能係頭先我哋聽見有人話「背住我做」又盛咁，呢度佢哋提出咗更多嘅可能，有更多可能係無心之失嘅理由，呢個就係瑞安提出，你見到嘞呢個。

我哋最後就睇一睇保華，保華就係 6.4。我哋睇呢個之前，麻煩你--對唔住，我哋睇咗 7.4，有利，因為有利嗰度，我有一點想同你睇睇嘅，7.4，17873。17873，呢個係有利嘅一個信件，你睇番下面嗰度，“Line of Command and Subcontracting”，見唔見到？呢封信其實係抄送咗畀你，如果你睇番 17877，佢有度係 cc 咗畀你，見到嘛？

答：見到。

問：“Line of Command and Subcontracting There was no specific item of inspection for solder materials or soldering works in our quality plan.”即係我哋嗰個品質監控嗰個計劃就有特別要求去睇呢個焊料。佢跟住就話，至於即係嗰地盤嗰度點樣分工，佢就話佢有個叫“Block Foremen”就係負責去睇即係呢個前線，即係呢個手工方面嘅嘢，或者用肉眼去睇；佢哋有個叫做 BS Coordinator 就係負責嗰啲去畫圖、繪圖嗰啲；咁有個 AQCC 就係負責即係提供物料，即係 check 物料嗰啲。跟住佢有句就係咁，佢話“since the usual practice was for the workers”，佢話由於一般嘅做法就係嗰啲包好晒嚟嗰啲焊料，就係嗰個工場嗰度就切到即係散晒先嘅，跟住就先至擺去工場--先至擺去地盤，所以就送到去地盤嘅時候，有利嗰啲工場--地盤嗰啲 staff 就做唔到話 check 下究竟送到去地盤嗰啲用料係唔係就係一早 approve 咗嗰啲用料，你見到喇，係咪？

答：見到嘅。

問：個--你知唔知道有呢個做法，就係好多人即係送到去地盤，其實事先已經切好晒一條條，所以送到去地盤，你根本就唔知係咩嘢牌子，你知唔知有呢個現象？

答：可以話有呢件事之前，我哋係唔知。

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C 問：唔。

D 答：喺呢件事之後，我哋都係聽番嚟嘅啫，係冇自己親身見過嘅，即係
E 呢啲情況。

F 問：唔。咁如果有真係咁嘅事情嘅話，你會唔會同意其實就係一個缺口嚟
G 嘅？因為就算你之前審批得點好都好，你送到去地盤可以係冇晒招
H 紙，一叭嘢咁樣送去地盤，而又冇人去到監測送去地盤嘅啲係咪
I “FRY”嘅話，咁中間其實啲人買乜都得，你同唔同意？

J 答：一般嚟講，總承建商都需要確保佢嘅物料係買得啱，同埋就係到地盤
K 嘅時候，來貨都應該係合我哋個合約嘅要求，咁呢個就係合約上面
L 嘅要求。咁就係佢一個承建商佢點樣喺地盤嗰度去執行呢個工作，佢
M 亦都需要分工。正如頭先提到就話有啲邊一個人喺個地盤嗰度幫佢打
N 理，呢一個分判裏面佢啲物料係合乎我哋合約規格，咁呢一個承建
O 商裏面，佢因為有一啲人--可能都唔係一個人，可能都有唔同嘅主管
P 嘅人員就去管理番每一部分啲物料供應，同埋到地盤嗰個--對嗰個
Q 單嗰個驗收嘅。呢個就一般我哋正常裏面嘅理解應該就係咁樣樣。

R 問：好。我哋繼續睇番有利呢個先，唔好意思，頭先我同你睇有利嘅時候，
S 就忘記咗同你睇埋呢一份嘢，因為呢份係有利一個補充嘅文件，我哋
T 繼續睇埋落去。咁佢呢度講咗地盤一啲嘅做法，就係即係搵晒啲招
U 紙，咁然後就斬晒，之後先至擺去地盤，咁呢個係有利所講嘅一個
V 做法。

答：係。即係我哋想睇就話，一般嚟講，呢個就即係唔應該係咁樣發生，
即係話照常理就係應該送貨到地盤，不論我哋房署會唔會派一個同事
同佢一齊去做呢個 checking，其實承建商都應該確保佢送去地盤嗰
一啲物料係合乎合約嗰個要求。

問：既然你講起，我就而家不如問埋你。就係好多時候，我哋尋日睇過房
署有張 form，上面有一啲 item 係話到明要 check，即係當住嗰個
房署嗰個代表喺個地盤度 check 嘅。

答：係。

問：我都明白好多時候就唔可以就地真係做啲好 elaborate，好複雜嘅
一啲化學嘅測試，有陣時要靠肉眼睇，對嘛？

答：呢個正確。

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問：視乎係乜嘢，即係好多時候係靠肉眼去睇，對嘛？即係你嗰個表，你使唔使睇番嗰個表？

答：嗰個唔使睇，我都記得，都有記憶。

問：唔使，得。你記憶？

答：唔。

問：即係唔同嘅嘢有唔同嘅 check 法，同意嘛？

答：正確。

問：有啲就真係你唔可以做啲好詳細嘅化學檢測，就係可能要靠眼睇有冇證書，有冇啲咩嘢 ISO 證書或者有啲咩嘢化驗嘅證書，對嘛？靠文件好多時候，對嘛？

答：呢一個一般嚟講，就係睇文件，document。

問：或者睇下個包裝，係咪呀？睇下包裝嚟係咪同...

答：對下佢個型號等等。

問：型號、包裝，對嘛？咁型號好多時候就有張包裝紙去睇，對嘛？

答：呢個都正確。

問：係。咁所以如果我知道冇呢件咁嘅事發生，因為呢度佢話已經一早剝晒啲招紙。但係如果要有一個機制去 check 啲焊料嘅話，我當你唔可以就地「beep」下佢有幾多鉛，但係如果起碼有人去喺個工場度--喺個地盤度睇，你要求佢起碼唔好已經拆散晒，散修修嚟，你起碼係用“FRY”嘅招紙包番住，咁係咪一個保障呢，睇番轉頭？

答：如果睇番轉頭或者係向前看，睇番轉頭都好難睇㗎嘞，因為咁多種唔同嘅原因，都會令到佢啲焊料會含鉛。

問：係，我明，我明。

答：如果向前看，就係個物料嗰個監控--個採購同監控嗰度，再加埋就係仲有個使用上面，都係需要有一個比較嚴謹啲嘅規管，就可以防範呢一啲問題出現。咁當然做完啲焊位之後，仲要再有一啲測試。

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問：我明。

答：咁最後驗埋水辦會唔會有含鉛咁，即係要全套由頭到尾都做晒咁多個步驟，就先至可以確保到最尾唔會有問題。

問：唔，我明。

答：因為你喺上游第一站嗰度 check 過佢冇事，難保佢下--跟住落去每一個站有邊一個部分出現問題察覺唔到嘅，到到最後可能都會係令致到嗰個焊料會含鉛，令致到水亦都有一啲即係含鉛嘅情況。

問：我明嘅。因為而家就眾說紛紜，你都唔知喺邊度出事。如果係最靚嗰浸先出事，即係用番頭先我哋見到瑞安講話，到最靚嗰浸原來真係用到最靚用晒啲料，可能啲工人真係求其擺啲嘢嚟到真係做咗兩個 joint。如果係咁嘅話，你一早嗰陣時你 check 幾多都有用，因為佢到到最靚原來先至出事，係咪咁意思呀，你？

答：即係呢一個係好多種唔同嘅原因，或者好多種唔同嘅情況、唔同嘅時段都可以令佢有問題嗰啲因素嚟嘅。

問：係，我明。但係如果有一個機制，好簡單嘅機制，就係喺你嗰個 list 嗰度一早--就算我唔係要嗰個地盤監督，即係呢個 H--房委會佢哋嗰個同事，就算我唔使佢擺住枝嗰啲驗鉛嗰啲嘢去「beep」下睇下有冇鉛，但係如果有一個機制，佢起碼堅持佢話「我要見到你送嚟嗰啲嘢，起碼有個招紙畀我望一望。」咁起碼可以隔咗第一浸，即係出事嗰個關卡，對嘛？

答：呢一點係正確。

問：唔該。咁我哋睇番跟住佢就有講呢個 17874 繼續睇，就係嗰個 procurement process 嗰啲，我哋唔多使睇嗰度，因為嗰啲--好多都已經講咗，即係有咩嘢監控甚麼。咁跟住睇番 17876 下面嗰度，呢個我同阿張炳良先生都睇過嘅，“Cost Difference in Solder Materials”，17876 最底嗰度，佢就係即係計下數，就係究竟用一啲即係唔合規格嘅焊料喺即係錢銀上賺幾多。咁佢就即係話「我哋做過一個實驗同埋研究，就係睇下如果用啲即係唔合標嘅焊料，喺經濟效益上會賺幾多？」咁你睇番 17877 上面，佢就話純粹用時間上嚟講，就用含鉛嘅焊料同埋唔含鉛嘅焊料，施工嘅時間佢就話差唔多。呢度都眾說紛紜，因為有啲人就話用啲含鉛嘅焊料可能係會快啲嘅咁樣，呢個我哋唔好理住，okay？即係邊樣快啲，呢啲技術性嘅嘢我哋唔好理。

答：呢一個我哋喺地盤實地測試過，兩樣嘅時間相差不遠。

問：即係有利都係咁講，有利都係咁講。但係有利講錢方面，佢就話每個單位用啲含--總之即係不含鉛級別嘅焊料就會貴 76 釐，你見到喇，"\$76 more expensive per flat"嘅，你見到，係咪？

答：見到。

問：係。咁佢就話以成層樓嚟到--嘅價值嚟到畀，呢個加埋都係三十幾萬就係即係好少兒科嘅事情，咁佢就話有利同埋明合就即係唔會係為咗咁少少--賺咁少嘅即係盈利係走去即係造假，即係佢嘅意思就係咁樣。咁但係即係我之前都問過張先生，就係三十幾萬，咁睇下喺邊個眼中嘅啫，咁即係如果係即係判到落去好多浸，咁 36 萬其實都係一個不菲嘅數字嚟嘅，你會唔會同意？

答：呢一個，琴日都答過你呢個問題。

問：係。

答：咁有就話如果...

問：佢呢個可能其實我哋遲啲陳詞會講，...

答：係，如果個...

問：...但係即係常理嚟講，你會唔會...

答：如果個業界知道個代價係咁大嘅，佢就唔會因此而鋌而走險。咁當然佢就話咁即使係有警察都會有賊，但係就喺我哋嚟睇，就係如果真係業內嘅從業員，包括去到前線工友或者係訂貨或者係分判商，或者係即係有關嘅人士，如果佢知道用啲啲含鉛焊料係會對個水質構成影響，甚至如果佢用含鉛焊料，佢做呢個即係焊接嘅時候啲啲鉛嘅揮發對健康有冇一啲即係危害呢咁，如果佢有呢方面嘅知識，可能工友都唔會鍾意用啲係含鉛焊料。咁我哋就話即係睇番整體嚟講，如果個業界嘅從業員係對呢方面嘅認知係可以有呢個所謂唔會認知不足嘅話，咁佢哋應該就係成個行業都唔會用一啲係違規嘅物料。

問：唔，好。即係你嘅意思其實就係--咁其實用番--即係公平啲講，就係三十幾萬嘅，咁個誘因就係會成條邨亦都係即係用一啲唔合規格嘅焊料，就可以慳到三十幾萬。咁但係即係我哋由於而家都未能夠確認係唔係即係啲人刻意地特登去用一啲唔符合規格嘅焊料，咁所以就即

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係呢個誘因只不過係其中一個可能，咁其他個可能可能就真係有啲工友真係貪方便都未定。

答：係。即係如果睇番瑞安，頭先你睇 6621 嗰版--唔係，六...

問：佢有六個理由嗰版，係咪呀？

答：6623 嗰版，咁佢就羅列咗係唔同嘅原因。

問：可能嘅原因。

答：咁有即係喺唔同嘅時間都可能出現呢啲原因，令到嗰啲係含鉛嘅焊料用咗喺地盤嗰度。咁所以...

問：即係有啲係牽涉刻意，有啲係牽涉無心之失，可能就係。

答：係，係嘞。所以現在我哋都好難就咁靠現在嘅文件喺我哋面前，就會知道其實係邊一個係真正嘅原因。

問：希望我哋遲啲搵到下幾浸嘅證人可以幫到手。我哋睇番保華，保華頭先我同你想睇嘅時候，我就搵亂咗戈柄，就睇番有利。我而家睇番保華，保華就係頭先我叫你睇嘅 6.4, 15087。保華嘅開頭--因為間間公司佢做呢啲報告嗰個 format 嗰個表達嘅方式都唔同，所以保華呢個，我同你--因為佢之前就有好多列表嗰啲咁樣嘅嘢，我就唔同你睇嗰啲。我就同你睇 15090, 15090, 第 5 段。我哋睇番 15089 嘅最底嗰度先，不如。15089 下面嗰度，"In accordance with Paragraph II, Part II, Schedule 2 of the Waterworks Regulations, WSD would only issues acceptance letters for "draw-off "taps, stop valves, gate valves" 一搵咁嘅嘢喇，"Therefore, there was no WSD pre-approval letter for copper pipe and fittings"，總之佢講就話係有一啲水務署嘅文件係特登要嚟批核呢個焊料呢樣嘅嘢，你見到嘞？

答：見到。

問：第 3 段又係嘞，www046 Note 7，呢個琴日都同你睇過嘅，應該係，即係有啲乜嘢嘢係需要你呈交 form 46 嘅時候，係特登就要寫埋喺個 annex 嗰度你用咩嘢料，你記得我琴日同你 go through 過嘅呢？

答：係，記得。

問：嘎。佢就話啲管，啲喉管就要報上，啲配件就某幾種配件先至要報上

嘅啫，所以佢就話用咩嘢焊料就有報過畀水務署聽嘅。佢跟住佢就話去地盤嗰度監工，保華就發現所有報咗嗰啲嘢就係完全符合 approved models 嘅。

答：唔。

問：咁喺第 5 段，佢就話保華嗰個判頭，即係負責做 plumbing 嗰個判頭 Golden Day--Paul Y，係咪？Golden Day 嘅，應該係。

答：唔。

問：噯，保華嗰個做水喉嗰個判頭叫做 Golden Day，就係同保華有個會面，就話佢係買咗四百卷“FRY”呢個牌子嘅焊料，就係同呢個 Prosperity 買嘅，就送咗去地盤嗰度，呢四百卷就應該夠用嘅。佢就話跟住 Golden Day 就將嗰啲送貨單呈交咗畀保華。跟住保華就又係嘞，提議點解會有咁咁樣嘅情況發生咗呢咁樣，佢又話佢就唔能夠揣測，但係佢就話可能係以下嘅原因：佢話第一，就係有啲水喉嘅焊工就可能係用咗第二啲焊資料嚟到做接焊嘅工作；佢話第二就係“FRY”呢個 Grade 99c 嘅市面上可能係有啲次貨--A 貨或者叫做次貨，或者總之 inferior quality 嘅 99c 呢個級別嘅焊料就係市面上流通，咁就啲焊工都 spot 唔到，呢個係保華提出嘅一個意見。佢就有話邊啲人造假，佢總之就係話啲焊工可能唔知咩嘢嘅原因就用咗啲即係唔符合規格嘅嘢。佢跟住就提議一啲即係 remedial measure 呀，諸如此類嘅嘢。

跟住我想你睇番，就係保華跟住係有一啲補充嘅資料--唔係補充嘅資料，係總之佢跟住另外有一個報告，就係 15097--sorry，15098，15098。佢有個大題目叫做“Causes and Circumstances”，你見唔見到？

答：見到。

問：噯。佢話個原因係咩嘢呢，佢就想睇--睇下 4.1，叫做 Multi-tier Subcontracting of Plumbing Installation Works，就即係判上判嘅呢一個現象。佢就話“The Independent Licensed Plumber”，呢個大草嘅 Independent Licensed Plumber 係邊個呢？如果你睇番 15096 頁。15096 頁，保華就話佢哋自己--你睇番羅馬數目字(iii)，落到最底。15096 頁最底嗰度，佢話保華就搵咗一個獨立，但係就好有經驗嘅持牌水喉匠，佢就叫做“The Independent Licensed Plumber”，見唔見呀？

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C 答：見到。

D 問：你睇番 15097 頁，佢話保華就諮詢咗一個行內佢好德高望重嘅持牌
E 水喉匠，就做過好多房委會嘅項目嘅。佢就話喺八月廿四號嘅時候，
F 保華就邀請咗呢個持牌水喉匠，佢個底係 clean 嘅，clean
G record，即係唔係牽涉喺最近嗰啲出事嘅水度嘅。咁就去同有關嘅
H 同事--保華牽涉喺呢啲項目嘅同事，就有個 workshop，有個即係工
I 作坊，就同保華嘅同事去分享，就去研究、去分享，就係話即係點解
J 會有呢啲咁事情呢咁樣。咁呢個 15098 就係佢哋傾出嚟嘅結果，第
K 一、就係話判上判，呢個持牌水喉匠就話呢個判上判咁樣嘅系統，就
L 可能係引致到有而家呢一個嘅情況出現。佢話而家就有八成嘅水喉嘅
M 分判商會再判畀第三浸嘅，佢話你咁樣判上判，咁就令到啲工作嘅質
N 素就有保證，你見到嘛？

O
P 答：見到。

Q
R 問：佢跟住 4.2 就話唔夠時間。即係長話短說，就話通常做水喉係大家都
S 臨到最尾先做嘅，咁大家趕工，你見到。趕工，咁就拿拿林咁要做嘞，
T 佢話尤其是你要做呢個--剩番一個半月要做三十九層，咁就用百幾個
U 水喉工去做，咁就可能係即係做得快，就會有甩漏，佢咁講吓，大致
V 係咁意思，你見到嘛？

答：唔。

問：4.3，4.3 就係喺嗰啲 copper joint 嗰度，係即係 pipe joint
嗰度用咗啲唔符合規格嘅焊料。佢就話持牌水喉匠就應該係唔會容許
佢嗰啲工人係用一啲唔符合規格嘅焊料，佢話因為嗰個後果係好嚴重
嘅，無論係即係呢個時間同埋金錢損失，其實都係好嚴重嘅，呢個係
呢個水喉匠嘅意見，你見到嘛？

答：見到。

問：噯。佢就話尤其是就係如果跟住出咗事嘅話，你就要拆番，然後再
嵌番，咁就好費時失事。但係佢亦都同時就話，佢係有陣時嗰啲技術
唔夠嘅工人，佢有陣時會即係出街走去買一啲 low melting point
solders，可能通街可以買到嘅，咁就佢即係求其其就整番嗰啲漏
水嘅一啲點。呢個持牌水喉匠就話，實際上就即係你係好難，甚至係
即係有可能係可以喺個地盤度係用肉眼可以分辨開，究竟你用落去嗰
個焊接位嗰啲焊料係合規格嘅定係唔合規格，肉眼睛唔到嘅。佢就提
議到，就係話「啊，不如所有呢個 small diameter 嘅級別嘅 copper
piping 就」--即係總之佢係提議，就係喺嗰啲焊料嗰啲級別嘅要求

度係作出一啲嘅改善，要用呢個 2% sliver 嘅 solders。佢話因為如果所有呢啲，譬如用一種叫做百分之二嘅銀嘅 solder 就可以解決到呢個問題，即係呢個係--佢話呢個係比較有咁容易啲--隨街可以買到嘅，即係呢個佢嘅提議嗰個方法。呢個係即係第三個呢個持牌水喉匠嘅方法。

第四個，4.4 就話，佢話行內就係太過倚賴呢個持牌水喉匠，因為持牌水喉匠係唯一一個可以簽嘢嘅人。

跟住攞多一頁，4.5，Procurement of Water Pipers and Fittings，佢就話即係業內好多時候--就頭先我哋都講過，就係話即係將採購呢一個功用，全部就 pass 晒落去畀下面嗰浸啲二判，甚至乎係第三浸啲個判頭。佢話為咗確保地盤上面用啲啲物資料係容易 trace 到，佢就話即係呢個啲大判就應該改變呢一樣嘅做法，就係自己擺番嚟自己做，咁呢個係呢個持牌水喉匠嘅意見。

跟住 4.6，就話其實可能就係市面上啲啲焊工，就可能對呢個市面上出售嘅焊料係有誤解。佢主要講，就話你喺街嗰度買呢啲咁樣嘅 solder materials，就可能叫做水錫焊，水錫焊用中文其實就有個鉛字，佢就以為水錫焊即係唔含鉛嘞。佢就話好多時候啲焊工出街買，「我要水錫焊」，人哋畀個水錫焊，佢就以為好安全，但係其實唔係嘅，可能裏面好多都係含鉛嘅，即係佢提出就係有呢個咁樣嘅可能，佢話“it is possible that plumbers may misconceive these as lead free solder materials for the copper pipes.” 佢就話所以當啲啲真係唔含鉛啲啲焊料，即係“FRY”嘅 Grade 99c 或者係用完唔夠用，咁啲啲地盤啲啲工人可能真係出街就即係求其走去買啲補充嘅一啲水錫焊，其實啲啲就可能係含咗鉛嘅。你唔使去逐個去評論究竟邊一個係有效啲，邊個有效啲，但係即係咁多個眾說紛紜，即係始終就係講番我頭先同你提出過，就係出事嘅位可能係唔同嘅位，對嘛？

答：的確可以有好多唔同嘅位都可能出現問題。

問：唔。如果係最靚嗰步，工人走去買 top up 嗰步出錯嘅，可能你前期做幾多嘢都未必可以補救到，頭先我問過喇，你都同意。

答：係。

問：但係如果個問題係出現嚟一開始買嘅時候，就已經係買咗啲唔合規格嘅嘢，咁你用一個既定嘅程序去要求，一早入紙擺申請，送到去地盤嘅時候，要起碼驗招紙，或者 beep 一 beep 一佢，咁就可以避免，

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對嘛？

答：對，所以現在嘅好--7月之後，有呢件事之後，我哋好快就有一啲措施，就係由佢即係訂資料嗰度--喺地盤來貨嗰陣時，佢要將佢即係做一個 warranty 添。即係更加嚴重嘅就係佢要 warranty，即係佢要 check 埋嗰啲物資料都係唔含鉛先可以放畀啲工友拎去用。

問：唔。

答：同埋工友用咗佢啲料喺做邊一啲單位，邊個 flat 嘅都要 traceable。即係知道邊個工人負責邊一部分，責任到人，咁先可以確保嗰個工友都唔會用咗一啲係唔合規格嘅料。我諗就係呢個係要全套，仲有埋地盤嘅監管，就係要--都唔係一個位，而係好多個位都要全部嗰啲關卡都有人去負責，去監督先至可以成事。

問：好，我而家問一問你，就係轉變一個話題，就係水喉嗰個用料喺 2000年，啱啱千禧年過咗之後冇耐嗰個轉變，之前你咪喺證人供詞度講過，就係大約二千幾年之前就唔係用呢個銅管，唔係用銅喉嘅，對嘛？

答：唔，啊，對。

問：之前係用嗰啲叫做 lined galvanized iron 嘅 pipe。

答：係，呢個係由九零年代中期一路就用起。

問：UPVC lined 嘅 galvanized iron。

答：Galvanized iron，係。

問：九五前應該開始嘅，對嘛？九...

答：嗰陣時應該係。

問：係。九五年前就用 Un-lined 嘅？

答：係。

問：九五年後就用 UPVC lined。

答：係。

問：即係裏面就 lined 咗？

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答：係嘞。

問：因為如果有 lined 到裏面，你就咁用嗰啲 galvanized iron 就會用腐蝕，對嘛？即係會有侵蝕，對嘛？

答：係，呢個亦都係因應水務署係 1995 年變咗都有指引嘅。

問：係。

答：有啲 circular letters，就係以後唔准再用一啲 Un-lined 嘅 galvanized iron pipe 嘅。

問：個原因就係因為會有化學作用，會有腐蝕出現，你知道？

答：會生鏽。

問：生鏽，係喇，嘎，嘎。好，我想睇番你嘅--因為我想搞清楚個時間嘅問題。你睇番你嘅證人供詞第 23 段，你嗰度就話其實香港建築業裏面做水喉，銅喉就用咗幾十年，...

答：唔。

問：...所以大家都已經好熟悉。但係你跟住就講，就話房委會就喺 2002 嘅時候--使唔使等一等？你搵到未呀？

答：見到。

問：你就話房委會係喺 2002 嘅時候，就開始喺佢嗰啲建築合約嗰度 specify 就係由 UPCV lined GI pipe 就轉到用銅喉，對嘛？

答：係，正確。

問：即係可唔可以咁講，就係 1995 年出咗嗰個 circular，即係水務署出咗個 circular，95 年之後，一個轉變就係房委會喺佢啲合約度就話你唔好用啲叫做 Un-lined 嘅 galvanized iron 嘅管，...

答：正確。

問：...請用 lined 咗嘅 UPVC lined 嘅 galvanized iron，所以 95 年至到 2002 年，房委會嘅合約嘅做法，即係梗係唔係話咁一刀切咁樣 2002 喇。

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答：唔。

問：大約就喺呢個 95 至 2002 呢個時段，嗰啲合約就要求係用 UPVC lined 嘅。2002 年之後，房委會嘅合約開始轉咗就係要求佢哋用銅喉，對嘛？

答：2002 年嗰陣時嗰個分水嶺就唔係一刀切嘅。

問：唔。

答：所以就係其實去到 2005 年落成嗰一啲單位、項目，就有一部分佢仍然係用 UPVC lined 嘅啫，係。

問：明白。

答：咁就即係有一個 transition。

問：明白。所以我哋成日--頭先一路我哋呢單案都成日講住話 2005 係一個分水嶺，就唔係一個一刀切嘅分水嶺，對嘛？

答：係，2005 年就係係嗰一年就有兩類喉管嘅物料都可能同時出現嘅。

問：明白。因為係 2002 年嘅開始房署喺佢嘅合約裏面要求啲人用銅喉？

答：正確。

問：所以你 2002 年開始叫人用銅喉，咁佢開始起得嚟，可能就 2005 年第一批用銅喉嘅公司屋就出世嘞？

答：正確。

問：噯，但係就開始嘅時候，仲有個交接期。

答：係。

問：但係 2005 打後，06、07 嗰啲就絕大部分都係用銅喉嚟嘞，因為佢就會可能係 2002、2003、2004 嗰啲合約開始，就開始 transition 咗就用銅喉，對嘛？

答：係，對。

問：咁就亦即係話用呢個 soldering 呢個技術亦都係你一開始用銅喉，

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就用 soldering，就用焊接㗎嘞，對嘛？

答：對。

問：銅喉就焊接，lined 㗎嘅 galvanized iron 就用嗰個所謂機械性就咁即係接駁，對嘛？

答：唔，對。

問：Okay。我而家就--我哋釐清㗎呢個時間嘅問題之後，我就想問一問你一個問題，你有聽過 ACQWS 呢一個委員會？呢個食水品質，畀番個全名佢先，ACQWS 嗰個全名係叫做--你等等吓，Advisory Committee on the Quality of Water Supplies，有冇聽過？

答：係聽過呢個名，但係就有直接嘅接觸。

問：嘎，okay。可唔可以睇睇 A2？第 888 頁。呢個係一個政府喺 2000 年嘅時候出嘅一個新聞稿，見到嘛？佢就係宣布喺 2000 年嘅 4 月 1 號就成立一個叫做 Advisory Committee on the Quality of Water Supplies，呢個食水品質嘅顧問委員會咁樣。咁就裏面就--佢嘅目的就係做 advice on matters relating to the quality of water supplies，即係對香港食水品質提供意見。

答：唔。

問：你知道香港個即係所謂公共行政就好多呢一類嘅委員會嘅，咁裏面可能係會有好多政府嘅官員係作為一個當然嘅成員，亦都會好多業界嘅人士參與，你而家望番呢個 press release，有冇印象係有呢一個委員會？聽過？

答：聽過。

問：聽過？

答：唔。

問：咁佢下面就有個 membership list 嘅，呢個通常呢啲委任就係兩年、兩年咁樣。

答：唔。

問：所以我哋唔使執着實際上嗰啲人係邊個喇。但係如果你睇番，你見到

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好多係教授，...

答：唔。

問：...或者係即係署長，譬如話你見到有 Director of Water Supplies 咁樣，嘎，或者有醫學會、九廣鐵路咁樣。你睇番 889 中間，咁有呢個 Plumbing Ware Trade & Sanitary Ware Trade Association 咁樣，原來有即係水喉業界嘅人士都有嘅。

答：唔。

問：你睇番 890 頁，咁 Conservancy Association 係環保嘅團體，或者即係區議會嗰啲又有。

答：唔。

問：890 頁下面，房署都有成員個嗰，原來，見唔見呀？Assistant Director, Housing Department。

答：見到。

問：見到？

答：唔。

問：所以水務署又有，房署又有，水喉業界又有嘅，呢個委員會。

答：唔。

問：呢個委員會而家仲喺度嘅，而家嘅主席係陳漢輝先生，呢個委員會。

答：唔。

問：我點解要即係問你關於呢一個 press release 呢？我就想你睇睇 bundle F，32 頁。F1，32 頁，第 tab 8--第 8 個 tab，呢個就係一個第 7 號文件，就叫做 Quality of Water in Buildings，見唔見呀？你睇睇就係第一段，呢個 preamble，“This paper sets out possible strategies for enhancing the entire water supply system such that Hong Kong citizens can have confidence in drinking high quality water directly from their taps.”咁好有趣嘅，呢個即係佢嗰陣時睇其中一個貨題就係話香港幾時可以做到就係直接可以飲水喉水呢咁樣。

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答：唔。

問：即係外國生活過，即係有陣時開水喉水直接飲嘅，香港就唔得嘅，我
哋自幼就聽到。呢度就係研究點解，同埋可唔可以做到同一樣嘢，可
以直接飲水喉水呢咁樣。

答：唔。

問：佢裏面，你睇下第 6 段--唔係，第 9 段，sorry，32 頁。

主席：想問下呢個係幾時，邊一年嘅？

石先生：呢個係 2001 年嘅，呢一個文件係，因為其實係有一個會議裏面
去 consider 呢一個文件嘅。一陣間我會畀主席同埋委員先生睇，其
實係有一個呢個委員會嘅會議個 minutes，係裏面嗰啲成員係討論呢
一個文件嘅。

問：呢個第 7 號文件裏面嘅第 9 段，你見到嘞。

答：唔，見到。

問：你睇番第 8 段先，佢話大廈裏面嘅食水品質問題就唔係香港獨有嘅，
佢話你上網去做下研究，就見到英國、美國、加拿大、新加坡都有呢
個情況，同埋係呢個做呢份文件嘅--應該通常呢啲委員會有個秘書處
嘅同事做研究，所以總之係做呢一份文件嘅人就研究過互聯網上一啲
唔同國家嘅經驗。你睇番第 9 段，佢話英國同埋美國最常見嘅問題，
點解水裏面會有沿呢？就係因為佢哋起樓嘅時候用咗有--用鉛造嘅
管，同埋用含鉛嘅焊料，lead-soldered copper pipes。“The
problem has to be addressed by dosing inhibiting
chemical additives during the water supply treatment
process to suppress ionization of lead and by
re-plumbing. These countries also have discolouration
complaints attributed to various causes including
rusting of internal plumbing, since the use of unlined
GI pipes is still permitted. On the other hand, Canada
and Singapore, like Hong Kong, have banned the use of
unlined GI pipes.”呢一段即係點解有趣嘅地方，就係佢頭個槪

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係直接講到我哋而家講緊嘅呢個問題，食水裏面含鉛。英美點解會有呢個問題，就係因為用咗用鉛造嘅喉管同埋用含鉛嘅焊料，見到嘛？

答：見到。

問：佢就有講到呢個現象同香港有咩嘢關係，但係佢跟住講嗰個第二個問題就係話水--嗰啲國家裏面另外一個問題就係水裏面有生鏽，呢個問題就唔適用於香港，因為香港就已經係禁止咗用一啲 unlined 嘅 GI pipes。我而家諗番轉頭，點解第一句佢話關於呢個 lead-soldered copper pipes 令到食水含鉛嘅呢個問題喺嗰陣時好似第 9 段呢度冇乜點講咁呢？會唔會係--我知道你唔喺呢個會議裏面喇。

答：唔。

問：但係你諗番時間上，嗰陣時 2001 年，香港係仲係用緊 lined UPVC pipe，唔係用緊銅管嘅，2001。

答：唔係香港，而係喺房委會嘅項目就用 lined 嘅...

問：項目，係，冇錯。

答：...GI pipe。

問：我明，我明。

答：但係出面市面...

問：係已經用緊嘞。

答：...呢隻物料係完全唔普遍嘅。

問：完全...

答：即係一般市面係用開銅喉。

問：我明，我明，sorry，我講錯咗。即係房委會轄下嗰啲屋就唔係用緊銅喉嘅？

答：並非用銅喉。

問：所以會唔會係即係因為咁，所以你睇第 9 段裏面所講，用銅喉用--

可能用咗含鉛焊接位嘅呢一個問題喺嗰剎那在房委會嘅人眼中就未必係一個問題，會唔會係咁？因為房委會嘅樓嗰陣時都唔係用緊銅喉。

答：我又唔會咁睇，因為其實我哋不鏽都會有一啲研發工作，或者睇番個市場，咁即係使我哋唔係話全部 specify 去用 lined 嘅 GI pipe，我哋亦都唔會忽視或者忽略第二啲物料，即係如果我哋係察覺得佢有問題嘅，其實我哋大家都會喺嗰段所謂即係研發或者係做嗰個 specifying 嘅過程都會參考嘅。

問：唔，唔。好，咁...

答：仲有一樣，因為我哋喺九零年代中期，我地係決定使用 lined GI pipe 之前亦都研究過，做過試點，係用銅喉定話用 UPVC lined 嘅 GI pipe 係比較即係恰當呢咁，都做過一啲--一個 period 嘅，即係喺九零年代初期。

問：唔。好，咁即係話如果一個房署或者房委會嘅代表見到呢句嘢，佢就唔會話「哦，唔關我事」，因為我哋都唔係用銅喉嘅，因為你不斷要即係所以謂 raise your tentacles，一路去睇下，「咦，會唔會同物料有關啲，留意下先」，咁係會嚟嘛，係咪呀？

答：係，係，會嘅。

問：對嘛？

答：係，會。

問：會嘅。

答：唔。

問：但係我問題就係呢份文件就即係直情係話埋畀你聽，就話用銅喉裏面嗰啲焊料，英、美嘅經驗就係會導致含鉛個嘢，咁與會嘅人士其實都應該知道有呢個潛在個問題個嘢，係咪呀？

答：但係呢一句喺--即係睇晒成分個 context 嚟講，呢一--呢幾個字唔係特別顯眼嘅，即係喺--佢喺成分嘅 document。

問：我明。

答：就算喺 paragraph 9 呢一段，佢似乎都唔係個重點之一。

問：我明。

答：嘎。

問：你跟住你睇番第 19 段，"To ensure that the internal plumbing systems are in a good and clean condition, it may be considered desirable to follow a practice similar to that in Singapore by requiring consumers or their agents to employ Licensed Plumbers or registered plumbing contractors to arrange for periodical checking and submit inspection reports to WSD. The Licensed Plumbers or registered plumbing contractors will carry out remedial action whenever defects are found and a water analyst will confirm by water sampling and testing whether the quality of water supply within the internal plumbing systems is up to the required standard." 咁有一個提議，個提議就係話「啊，不如學新加坡」咁，就要求即係嗰啲用家或者佢哋代理人就要自己去請啲持牌水喉匠，就定期去 check，跟住如果交啲報告咁樣。

我跟住同你睇睇就係文件第 8 號，你揭一揭去第 40 頁，第 40 頁就係一個文件第 8 號。第 8 號文件佢個前言就可以話畀我哋聽之前嗰個第 7 號文件幾時開會傾過。你見到第 8 號文件就寫住 on 2001 年 1 月 15 號傾咗之前嗰份第 7 號。呢份係一個後期啲嘅文件，其實我哋有啲 minutes 喺度，但係我唔同你睇啲 minutes 住，因為即係十幾年前嘅事情，你個人唔喺度，我諗我哋直情就咁睇呢份文件本身。因為你睇啲 minutes，就一言--即係大家一言一語咁樣就未必睇到個重點。我哋睇番份文件本身，你睇呢個 paper no.8，我想你睇睇就係第 6 段，其實你睇番 41 頁頂嗰度，就係 Maintenance Requirements and Practices in Asian cities，佢就話其實就送--send 咗啲問卷係去深圳、台北、新加坡同吉隆坡同埋東京，就問下佢哋對呢個水喉--供水系統嗰個維修、保養佢哋嘅做法。

你睇番第 6 段，佢就話新加坡鼓勵嗰啲業主就每年一次起碼，就要做以下嘅嘢。咁第二就有趣，第二就話 sampling and examination of water by a water analyst，就係要啲人攞啲水質嘅報告。新加坡要求人哋做嗰啲水質都--喺呢度睇就唔包括鉛嘅，但係佢包括鐵，你見到嘛？E. coli 一拈咁嘅嘢，但係就有包括鉛嘅。

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答：唔，唔。

問：咁佢就話新加坡嘅做法就係所有公屋都要有呢個做法，同埋所有政府大樓都要有呢個做法。私樓就自願嘅，但係新加坡遲啲就--佢嗰陣時話就可能係想呢個立例，就係令到呢啲要求就係強制咁樣。呢個就係第8號文件。咁以你記得，因為房署其實有代表喺呢一個委員會嘅，其實你自己有冇記憶中有人提過或者聽過，其實對呢一個咁嘅提議後來個發展嘅方向係點呀，你有冇隱約記憶？我知道即係你未必個人有知道，可能要你返去做功課都未定嘅。

答：呢個功課可能要啲得好--比較辛苦啲，但係我想睇呢，似乎呢一份文獻就係講係 maintenance 嘅。

問：係。

答：係保養維修嘅。

問：係。

答：咁所以即係我就唔知道當年我哋去參與個代表係唔係屬於物業管理同維修方面。

問：唔，唔。

答：因為似乎呢份文獻佢講嗰個著眼點就係 maintenance 嚟嘅，同埋係嗰個 use--即係嗰個 owners、user 係一啲 occupation phrase 嘅資料嚟嘅。

問：唔。

答：我就咁睇呢一份 paper 嚟講。

問：唔。我畀你睇睇就係實際嗰個會議嗰個紀錄，好唔好呀？

答：好。

問：A2，858 頁。

殷先生：主席，我唔想打斷石資深大律師嘅問話，但係我想提出一個，就係馮女士今日係作為房委會嘅代表出席呢個研訊嘅。當然，我哋知道

呢個房屋署係作為呢個房委會嘅 executive part，幫佢執行，但係唔係所有嘅 functions--張局長都講過，唔係所有房屋署做嘅職能都係代表房委做嘢嘅，我想澄清呢一點，因為我聽到嘅問題似乎向一個方向，就係問馮女士關於房屋署一啲職責係唔係代表房委會嘅職責嘍？

石先生：我都明白，即係 Stephenson Harwood 攞 instruction 就係從房委會攞，所以如果我問馮女士嘅一啲問題，佢覺得其實在座佢而家 officially 戴緊個頂帽，作為房委會嘅代表，其實就未必係有能力可以做到嘅話，咁即係佢可以儘管提出。咁但係我諗即係般大律師都係 lay down a marker 嘅啫，咁如果馮女士佢遲啲都得，其實佢都係即係有咩嘢問題可以即係落到指示、吵到，咁就呢個就唔會成為一個問題。

問：好簡短嘅啫，因為即係就嚟我哋係有個 morning break，但係我想同你睇睇就係有關嘅會議紀錄，就係第 858 頁。

答：見到。

問：咁你見到就係嗰啲與會人士，咁下面你見到 present 有位 Mr Wong，Wong Bay。

答：見到。

問：佢就係當時嘅副署長，係咪，房署？

答：當時嘅助理署長。

問：助理署長，sorry。

答：佢係負責係屋邨管理同維修嗰邊。

問：維修嗰方面，管理、維修，okay。

答：管理、維修嗰邊，係嘞。

問：咁就同發展，construction，即係而家你哋呢個項目，咁佢個 portfolio 就唔會包括即係佢負責睇住譬如話房委會嘅建築方面嘅合同或者管理方面嘅？

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答：即使佢個工作唔係喺嗰個範疇，但係如果我哋--因為我哋有定時就係屋邨管理維修嗰邊，同埋我哋新工程嗰邊係有 liaison on control quality，我哋就會講一啲係大家都相關要關注嗰一啲質素嘅問題，咁所以我哋內部係有機制，我哋係嗰啲如果重要嘅資訊就可以大家係共享。

問：係嘞，即係我正想問你，就係有陣時譬如話你哋裏面就知好多呢啲公共嘅委員會架構，咁即係好多人出去開咗啲會返嚟，咁收咗啲--我哋叫做收咗啲風呀，收咗啲資訊返嚟，會唔會內部有分享，即係有一個機制咁樣去分享？

答：係，可以咁講。但係我睇番--即係我都係第一次睇呢啲文件，但係我睇佢重點，當年呢個 committee 同裏面嘅內容，個重點似乎係側重喺嗰個係物業管理、維修、保養嗰啲範疇，係多過你話選用物料、係啱唔啱...

問：或者施工期間要 check 下你究竟係唔係合規咁樣？

答：係嘞，就唔係嗰個 focus area 嚟，即係似乎睇，我就咁頭先嗰兩份文件同埋呢個 minutes 裏面嗰啲參與人士，似乎嗰個係佢個重點嚟。

問：我明你，係。好嘞，你睇睇 861 頁，sorry，860。860，佢第六段就係討論緊第七號文件，你見到嘛？

答：見到。

問：咁就“The chairman introduced that the purpose of this paper was to present the possible strategies...”咁樣，咁就即係個主席就作出一個介紹。咁跟住你睇番後面，6.2 應該係介紹完呢個文件之後，啲成員就大體同意，就係香港就係有需要好好咁咁樣去維修呢個供水系統，咁呢個我哋叫 stating the obvious，就係需要啲喇。咁跟住 6.3 就係即係嗰個主席就問咗一啲問題，就係水務署會唔會整一隊即係偵查隊出嚟去 check 下啲水管嘅情況，咁水務署就回覆。咁你跟住見到 6.3.2 就有一個成員，咁總之 6.3.2，我頭先同你講過，即係呢啲會議嘅紀錄，有陣時就頗難睇，因為有陣時係眾說紛紜咁樣，即係呢個成員講啲嘢，嗰個講啲嘢咁樣。咁但係即係你見到譬如 6.3.2，話有一位成員就提議咗啲嘢，咁 6.3.3 就另一位成員就有啲意見，咁 6.3.4 又係另外一位成員就有啲意見。我哋唔好睇嗰啲仔細嘅嘢，咁即係一般呢啲會議紀錄就係即係保密，就係唔講個成員嘅名，但係佢講嘅內容就開誠公布咁講出嚟，對嘛？

答：唔，對。

問：咁佢哋暢所欲言，但係就唔講佢個名。我想問嘅問題就係其實到到2002年、2003年左右嘅時候開始，其實個時間上點解咁有關係，就係呢啲會係2001年開嚟嘛，2002年開始房委會要考慮喺公營屋邨度要改建嗰個水喉嘅用料，用銅喎，咁銅喺呢一個會議裏面，考慮過嗰份文件亦都有傾過，係咪，大家有傾過水質嘅問題，就係知道有solder嘅問題，雖然唔係重點。

答：嗰一點如果我就咁睇，如果一般嚟講，大家睇呢類文件，嗰一點係大家都唔會特別著眼去針對嗰一點係再做工夫。即係似乎佢嗰個大嘅框嚟就的確係講一啲維修保養，同埋講另外一啲更加大嘅範疇，就係現有嗰啲樓宇係點。咁所以嗰一點咁細嗰一點，我就有理由相信與會者未必會將佢嗰一點就係cap得到。

問：我明。即係你想講其實就係話我哋而家15年後出咗呢個鉛水事件，咁我哋見到頭先嗰一段就可能個反應就係即刻嚟埋，但係你話即係總之當時嘅人就未必係咁諗，你嘅意思係咪咁？

答：呢個係正確。因為當時嘅人如果係咁樣諗，佢有咁嘅意識，佢當年應該會將佢著墨，就講多啲嘢，例如喺呢一個discussion，即係喺呢個paper講嘅時候，呢度有咁多deliberation，但係似乎--因為我有睇過佢啲minutes，如果嗰一點冇人提出嚟，...

問：係冇人講呢樣嘢，我有同你講。

答：係嘞，咁應該係有人關注就有人講，即係當年都冇人察覺或者關注到呢一個係問題喺香港。

問：有冇可能話因為我哋自己就做過一啲嘅research，我哋都睇咗啲會議嘅紀錄，咁就係真係冇人係即係特登係喺嗰一點嗰度擺嚟提出，因為你都見到其實paper number 7，佢個著眼點就係可唔可以飲水喉水。

答：係，係嘞。

問：咁大家要傾都係傾可唔可以飲水喉水。但係我有興趣嘅就係話返到嚟內部，尤其是2001、2002係啱啱準備緊考慮去轉用銅喉，而銅喉係需要用soldering嘅。房委會嘅內部喺頭先你所講，房署又好，房委會又好，佢哋內部返嚟傾，有啲交流嘅時候，有冇曾經話報告過有呢樣嘢，而click到喺考慮轉用銅喉嘅時候，即係我哋叫做有人put

two and two together, 就話「啊, 我哋而家轉用銅喉, 我哋需要考慮下業界有冇啲乜嘢已經見過嘅問題, 有冇需要精益求精呢?」
「呢個會雖然唔關我哋直接事, 但係有人提過啲」咁樣, 有冇人即係做過呢一個邏輯嘅說法? 呢個我哋而家睇 minutes 睇唔到。

答: 呢一點我亦都唔可以揣測話有抑或冇, 因為我當年就係冇可以--即係而家我第一次睇呢份 paper, ...

問: 我知, 所以就可能要做功課咁解。

答: 但係做功課, 我都有理由相信係唔會, 因為如果有人會將佢啲一點拎出嚟 flag up 去研究, 如果當年我哋會研究得到, 係可以即係所謂 traceable。咁但係我哋亦都--我問過啲同事「當時我哋寫個 specification 嘅時候, 咁係點樣參照嘅呢?」咁, 咁一般嚟講, 我哋即係當然就有參照埋我哋物業管理維修啲啲同事嘅意見、業界嘅意見, 同埋就係睇下當時行內, 甚至係睇埋有啲國際 international 嘅 context, 咁就走去寫嗰個 specification。咁我啲同事就即係話畀我聽, 其實當年都有 consult 過係 international 嘅 copper association, 即係佢哋啲啲...

問: International 嘅乜嘢 association?

答: Copper Association。

問: Copper, 係, 係。

答: 咁即係佢哋都會係即係廣納好多唔同嘅意見, 就去寫嗰份 specification。但係就你話有冇將特別係頭先你提到嗰份文件啲一點拎出去研究過, 我就未可以問佢哋, 但係我有理由相信係冇將嗰一點係拎出嚟 flag up。因為本身睇呢份文件, 佢個文件係冇特別著眼係講嗰個 point, 如果有嘅話, 佢可能就會多第二啲 papers, 特別係講係 lead in solder 或者 lead in water。但係我就咁睇頭先你畀我睇你份文件同埋呢個 minutes, 係睇唔到有任何嘅一啲所謂端倪或者係跡象, 顯示到當年與會人士有提及呢一點。咁當年如果係睇開呢個會, 即係呢一類或者 ACQWS 嘅會都有提及, 咁我覺得好難理解如果我去--參與呢個同事, 當年黃比先生, 就特別返嚟將呢一點就向我哋特別通知, 要切記, 都未必有咁嘅一個論據。

問: 我明。即係你而家第一次見到, 咁即係所謂一個 hunch, 一個 gut reaction 就會係咁樣。咁但係我諗準確啲, 不如返去可唔可以畀到啲指示, 搵一搵, 睇下可唔可以 trace 到就係有冇啲乜嘢, 即係

internal 嘅 minutes。或者頭先你話齋，喺即係公屋--即係你話唔同嘅範疇嘅同事可能都會互通消息，咁有冇啲即係大約嗰陣時嘅文件或者啲 memo，即係有冇提過？如果有，咁好容易，就係冇。

答：如果要我去尋找文件，要尋找檔案，呢個係十幾年前嘅檔案，咁我返去我話都要搵，同埋呢一個就係--如果黃比先生屬於係物業管理同保養嗰方面嘅啲啲文件，咁我諗如果我現在去搵，可能會有困難，所以我就唔可以擔保一定搵得到。咁即使喺我哋一啲即係內部嘅聯絡嘅會議裏面，就算係啲番當年紀錄，可能都要入倉嘞，因為呢啲係十幾年前嘅事。咁但係我哋都可以嘗試盡力而為，不過我亦都估計搵唔到嘅機會係好大。

石先生：我諗即係呢個就未必好大嘅原因，但係我諗亦都毋需要話係一個好快嘅 deadline 要畀到。

主席：唔需要，不過我想提出嘅就係因為我哋注意到你嘅 specification，喺 2000 年嘅 addition，同埋喺 2004 年嘅 additions 係有轉變。2000 年嘅 addition 就係 B2 第 779 頁，或者我而家講咗一啲 page 先，咁跟住我哋先 break。咁而 2004 年嘅 addition 就係 B2，就係 646 頁。咁因為就好似第一次講到 BS 1254，...

石先生：1254-1。

主席：...就係喺呢一個 2004 年嘅 addition 就第一次出現。咁喺 BS 2000 年個 specifications 都仲係講到就係話“Do not use jointing material based on red lead.”咁而喺 2004 年就出現咗呢一個 1254-1(1998)，咁呢度有講到就係話呢一個 lead-free solders 就係唔可以用嘞。不如我哋而家 take 一個 20 分鐘嘅 break 先。唔該。

上午 11 時 47 分聆訊押後

下午 12 時 09 分恢復聆訊
出席人士如前。

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問：馮女士，咁就頭先主席就叫咗你睇就兩個年度嘅嗰啲 specification，一個就係 2000 年嘅，2000 年嗰個 B2/779 應該係，嗰個你見到“lead based materials”嗰度，見到嘛？

答：見到。

問：嗰度就寫住“Do not use jointing materials based on red lead.”2000 年嗰個年代，公營嘅房屋就未用 copper pipe 㗎，頭先佢哋講咗，都仲係用緊嗰啲 lined galvanized iron pipe，對嘛？

答：正確。

問：嗰陣時嗰個合約嗰個 specification 講話“Do not use jointing material based on red lead.”係咩嘢意思？即係你用 galvanized iron，就唔係用即係 soldering 嘅物料應該係，咁呢個即係 jointing material，佢指嘅係咩嘢？

答：現在我諗都要返去考究番。但係一般嚟講，其實以前我哋亦都唔係有一啲-- general spec. 嗰 part 都有講。你揭去後面嗰一版，780 嗰版，有講 galvanized iron pipes, UPVC lined galvanized iron pipes 係 ductile iron pipes, jointing copper pipes, jointing plastic pipes, 係 jointing between dissimilar metals, dissimilar material, 即係係一個全部都包括晒嘅一個即係整體嘅一個係 specification 㗎。

問：咁所以即係你嘅意思就係話...

答：但係除咗 specification 之外，我哋有 drawings，另外仲有...(聽不清)，咁夾埋就會係形容當時我哋用咩嘢物料。

問：唔，係，我明。但係即係我諗即係以所謂行外人嚟講，我哋嘅問題就係 2000 年嘅時候，就用咗即係“Do not use jointing material based on red lead.”呢個咁樣嘅即係而言，到到 2004 年嗰個版本就 refer to British Standards 嘅 1254-1 嗰個。

答：正確。

問：嗰個就係 lead-free solder。咁即係兩者之間嗰個背後嗰個思路係乜嘢，點解會有啲轉變？

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答：不如講一講我哋個 specification 個發展歷史，咁就即係個 specification 我哋一向就係分開咗，就係 material、workmanship 同埋 testing 咁樣嘅寫法。咁因應 96、97 年之後，我哋就根據 WTO GPA，全部都應該係 non-discriminatory，唔可以有 brand names，咁佢將全部嘅 specification 入面就重新再檢視一次，就全部將任何有少少 brand names 有關嘅 specs 都要改寫，咁第一個重要嘅大嘅改變。咁跟住就另外到到我哋每一個 trait 入面嘅 review，咁因為我哋就係 2002 年，我哋話要轉用銅喉，就取代咗，或者係可以局部或者逐步去取替咗 UPVC lined 嘅 GI pipe，我哋有一啲 review 係 going on，咁由一啲同事就專責去統籌，應該就係屋宇裝備工程師個組別嘅同事嚟。咁特別去 review 嘅時候，亦都會因應最新嘅 British Standards，就去將佢再檢視一次，然後先至寫出就係 2002 年我哋用嗰陣時候嗰個版本。咁 2002 年出一個 spec 之後，咁我哋嗰啲 spec library，一般嚟講就四年 update 一次，但係中間可以有唔同嘅 sections 就各自再 review 再出。但係一個 addition 我哋四年一版，咁所以就係見到 2000 版同 2004 版嗰個轉變，其實反映咗我哋 2002 年係轉用咗銅喉嗰陣時候嗰一個最 update 嘅情況嘅。咁呢個可以能夠解釋番，即係「點解兩個版本會有咁大嘅分別呢？」咁。咁其實我哋嗰啲 spec library 2004 年嗰套先至可以話全部將嗰啲任何有 brand name 有關嘅都係 remove 晒。

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問：我知，但係...

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主席：或者我哋睇一睇 2004 年嗰個 addition，646，唔該，B2 646。

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答：646。

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主席：我就係想--因為呢度係好 specifically，好針對性咁講，就係話要用有鉛嘅焊料，咁其實基本上都係返番去頭先石大律師佢一路問嗰個問題嘅方向，就係如果係房委會裏面有討論過，唔會有突然之間走出一個咁樣嘅 specification 出嚟，而呢個 specification 係好特別、好針對性咁講，係要有鉛嘅物料。

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答：或者我講一講，即係所謂有鉛物料嗰個，點解會有咁嘅 spec，即係我都睇過一啲同事畀我嘅資料，佢就顯示其實當年寫呢個 specification 嘅時候，當然係參考咗好多業內或者係即係國際間嗰一啲嘅 general practice 係點寫。咁因為睇番佢如果 refer to

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BS 裏面提到，1254 嘅 part 1 裏面，咁佢嗰個如果係一個--有個 table，咁嗰個 table 下面嗰個就會寫到，就係 lead-free 嘅 solder，同埋如果係 phrasing 就要 cadmium-free on drinking water，就有咁上下嘢寫喺度。

主席：佢有一個 note 就寫住"soldering alloys with lead and brazing alloys with cadmium are not permitted in installation for water, for human consumption."

答：係。咁所以就可能我哋嘅同事就係因應嗰個 BS 裏面有好多唔同嘅嘢寫喺度，就特別係著眼，就抽咗呢一點出嚟寫落去咁解。咁呢個係我哋做--即係嘅同事做一個 specification 嘅時候，佢都要小心，係揀一啲重點寫出嚟，同嗰個一向嘅即係慣常做法係一致。

問：亦即係可唔可以咁講，就係如果想即係快手，純粹就咁話整體 British Standards 咁，咁就係可以齋係用作一個整體 1254 就算數？

答：正確。

問：但係你嘅意思就係你嘅同事就睇真啲 British Standards 裏面，就抽出咗佢覺得重要，值得 highlight 嗰句，就即係主席話齋，就針對性地就係提醒大家，「喺，我寫到明啲嘞，我唔寫其實都包咗啲嘞，不過我寫到明畀你」咁解，係唔係咁嘅意思？

答：呢點係正確。

問：因為其實你可以唔寫，你唔寫都包咗，因為即係 generally incorporated，個 British Standards 其實，可唔可以咁講？

答：係。呢點可以咁講，一般嚟講，就咁寫 refer to 就係 BS 乜嘢，咁就已經當講完啲嘞，咁...

問：不過英文我哋叫做...（聽不清），我直情係畫埋畀你睇，就特別留意呢嚟嘢，係咪咁解？

答：係，正確。

問：咁即係話你話你哋個 library 就係 update 就係 2004 嗰陣 update 咗，generally 咁 update。但係其實你 2002 嗰開始批核一啲合約

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出去，其實即係斷件嘅合約都已經開始係用咗呢款 wording，係咪？

答：其實係呀，因為我哋啲同事都同我講，就係話即係佢呢一套就係沿用番就係 02 版本嗰陣時出嗰套，就擺落去 04 版。

主席：二零零幾話？

答：2002 年。

主席：02。

答：2002 年我哋個 spec，2002 就係個 spec 就轉咗落去，就用一啲銅喉，咁所以其實呢一份應該就係 2002 年嗰陣時就已經用落去做一啲銅喉嘅--用銅喉嘅合約應該就用呢個版本。

主席：即係呢一個 2004 年呢個版本？

答：應該就係。

主席：就係 2002 年曾經改過，就即係小改，就 2004 年就大改？

答：係。

主席，就變咗個...

答：即係 2004 年嗰個 addition，一個叫做集大成，就集合咗將過去譬如 2001 年、2003 年嗰啲改動就 update 晒一套，出過一個新嘅 library。但係就 between 兩個 addition 中間，有個別嘅 specification 可能會有 updating，咁就 update and review from time to time，咁都可以就隨時 issue，可以 use 嘅。

主席：我明。咁你呢度嘅意思就係話加咗個細項三上去嘅，即係話要用 lead-free 嘅 solders，就完全係冇咩特別原因，只不過係你哋寫 specification 嘅時候，嗰啲同事覺得「啊，呢個都寫落去都好啱」，就唔係因為你哋房署或者房委會係知道有呢個問題，所以寫落去，係咪咁 嘅意思？

答：呢個理解係正確。

問：其實我都想追問一樣嘢，即係任何一個改動，即係譬如話 2002 開始慢慢改動，就係即係啲合約開始寫，就係叫人哋用銅喉，咁加上就係如果叫人用銅喉，就會開始用呢個相關嘅 British Standards，叫佢用 lead-free 嘅 solder。任何一個咁樣嘅改動，之前都應該有個蘊釀期，係咪？即係唔係即刻突然間馴醒覺轉，所以你 2002 年開始有呢個改動，由 galvanized iron 嘅管變成 copper pipe 嘅，至到有所謂合約上開始要直情講埋用乜嘢嘅 solder，之前有個研發期，有個研究或者討論，「啊，好唔好改呢？應唔應該改呢？」咁有冇嘍？

答：有，呢個有嘅，應該。

問：有嘅？

答：唔。

問：咁啲啲技術上嘅可能考慮、見面、會議，有冇呢啲研究嘅文件咁樣，係會啱嘛應該？

答：應該係會有呢類咁嘅即係 discussion 係出現過，因為通常一般嚟講，如果我哋改一個 specification，第一，自己部門內部嘅同事有一個 review，亦都會係同一啲業界有一啲聯絡，咁然後先至會去將佢推薦。

問：咁就同埋就係而家唔係話怪責你寫咗呢個 specification，要你寫 lead-free，個要求人哋用 lead-free solder 係啱。但係而家反而個著眼點就唔係話即係寫 lead-free solder 呢樣，而係你考慮轉話要人哋用銅喉，要人哋用 lead-free solder，整個考慮嘅過程裏面，有冇順帶考慮埋就係有咗呢個條款，係咪有順應要改埋譬如話地盤啲啲即係監察嘅程序，邊啲嘢擺落 PLU1，邊啲嘢擺落 PLU2，呢啲係整體地考慮啱嘛應該，對嘛？

答：呢點係正確，所以正正就係點解琴日睇咗張 form 係 2005 版本，嗰張 610 嗰張 form，就係正正係因為有 specification 係 2004，2004 係差唔多我哋一個分水嶺，咁就有好多 clauses 擺落去嗰陣時，就要求佢有一個叫 verification check。因應咁樣就出，就即係喺嗰度就睇咗一次，就將佢擺晒落去嗰張 form 入面。咁所以我哋其實係相應地係可以話差唔多係由頭至尾都會睇，即係除咗 specification 寫落去之外，都會諗埋第時日後喺地盤運作上面係點，有啲乜嘢相應嘅地盤嘅 site inspection 嘅工作要做，都會一併考慮埋。

咁當然可能有個 time lag，即係譬如我頭先提到就係譬如 2004 版本嗰個 addition，先至正式係擺咗咁多銅喉嘅料落去，雖然佢 2002 年開始用，係嗰陣時我有--中間有一啲係出一個--一般係講叫做 DCMP 嘅 instruction，就會出呢一啲咁嘅新嘅 spec。同時，相應地如果係到到 site inspection 有關，佢都要有同步，有一啲改變，就 site inspection 都會改。

再者如果真係係一啲好 critical 嘅 item，就算 pass 個 assessment 嗰啲 items 都會再一次改埋。咁全部都係要 in sequence，因為有 specification 之後，出 tender 先至用新嘅 specification。咁所以跟住就會下一步就到 site inspection，咁然後再做就做 pass assessment。咁一般嚟講，我哋如果同事都好有呢個咁嘅意識，就係當日佢嗰個規格嘅改動，就會係一條龍服務，in sequence，幾樣嘢就會一連串咁樣去有一個改動。

主席：等陣，我又想 interrupt 下佢。不如我哋又用番 2004 呢個 specification 去講。就我見到，其實 PLU1 裏面，我哋可唔可以去番前面，去到即係 PLU 最前最前嘅時候，即係講啲 item 嘅時候。即係我想表達嘅嘢係乜嘢，如果你睇番我哋講緊 water supply，講緊供水系統嘅嘢，嘅物料，嘅 materials，PLU1，water supply，基本上所有同 water supply 有關係嘅嘢全部都係 PLU1，換句話嚟講，係由銅喉去到 valve，去到任何嘅嘢都唔驗個喎，係有一樣嘢係驗嘅基本上。PLU1 呀，你睇番 PLU1 裏面所有嘅嘢，總之凡係同供水系統有關嘅都唔驗。但係如果你去到 PLU2，就連個廁紙架都驗。

答：主席，呢個就唔係話驗同唔驗嘅分別，...

主席：唔係，即係你話--我哋尋日聽到就係話去到個地盤嗰度睇定唔睇吓嘛。

答：呢一點我可能會有個少少嘅澄清，唔係話驗同唔驗嘅分別，只不過琴日大家提過嗰張 form，嗰張 form 裏面嗰個著眼點，...

石先生：37641。

答：...嗰一個其實就係有一個因應於就係有個 on-site delivery verification 嗰一個，如果有嗰個字眼擺咗落去我哋嘅 specification 裏面，就先至會將佢特別係抽出嚟，就喺呢張 form 6210 嗰度提出嚟。而呢張 form 嘅意思或者個意義，唔係話個總承建商唔需要 check，而只不過就係話喺呢一個 list 裏面，呢個清單裏面，就 contractor 就要喺我哋嘅 site staff 嘅面前嗰度 check。

主席：Okay。

答：即係呢個--咁唔係話唔 check，所以我呢點就唔可以 construed to mean 係我哋係唔 check。

主席：即係換句話嚟講，PLU1 裏面所有嘅嘢，都唔會喺一個房屋署嘅人員面前係驗收？

答：主席，咁呢一點我哋都要澄清，因為其實我尋日提過，嗰個用料係即係好多，千百款，咁而呢一個表列，只不過係佢有三十款咁上下嘅。

主席：我知。

答：咁所以就係有好多物料唔係需要總承建商喺我哋同事面前 check，但係唔表示咁就係個承建商就可以唔 check 啲物料。

主席，我明，呢個另外一件事。總承建商 check 唔 check 就你唔好理佢住先。你因為係房委會又好，房署又好，你係大業主嚟，即係你嗰咁多錢去開一幢公屋，咁你大業主，我諗唔多唔少都要關心下究竟我啲錢係唔係使得咁先得，係咪？咁即係我就好奇怪，就係因為跟住好似 PLU2 就係講緊嗰啲廁所、衛生間裏面嗰啲嘢，或者排污嗰啲嘢，嗰啲你又全部擺晒落去 PLU2 個嗰，就要有機會係房署嘅人員係驗收。PLU，但係供水系統裏面所有嘅嘢，都有一樣嘢係話有機會喺房署人員面前驗收。即係因為我就做刑事多，係咪？咁即係職業上，咁原來你--譬如你由 04 年開始，就已經將嗰啲嘢擺咗落去 PLU1，去到 2012 年，大大話話過咗 8 年咁上下，10 年、8 年咁上下，你都係 PLU1，你十幾年原來都唔需要係喺房署人員面前驗收，咁換句話嚟講，我偷雞你都唔知。

答：其實如果係要加番一個係 on-site delivery verification 嘅要求落去合約嗰個規格裏面，亦都唔係只限於係 PLU2，即係如果而家咁，即係現在我哋今年就有加埋 PLU1 嗰啲落去。

主席：即係事後之後，但係你明我意思，我睇番你由 2004 年去到 2012 年都係 PLU1，即係從來都有人--即係我有一啲唔係好明，就係你要 consume 咁大量嘅 copper pipe，而運到去地盤嘅時候，原來係有一個房署嘅人去驗收，喺佢哋面前係。咁因為你而家知道，其中有啲 valve、有啲 taps 諸如此類就畀人偷龍轉鳳，而家我哋知道你啲 report 出嚟係咁樣樣。

答：嗰個個案亦都唔可以話作係偷龍轉鳳，因為嗰個純粹就係話佢填咗張 form WWO 46 嘅時候，其實我哋嘅同事仲未去到批料嗰個階段。如果去到批料嗰個階段，就一定要係符合個水務署嗰啲批准嘅要求，有四個 criteria，即係有 type A、B、C、D 咁樣。

主席：唔係，我哋知道譬如有啲話咩嘢 viceroy 嘅水龍頭，跟住又畀人換咗另外一隻呀諸如此類。

答：嗰個佢唔係換嘢，佢係 submit 個 sample 畀我哋嘅同事批核，呢個就係後者。咁而係佢批完辦之後，應該一般嚟講就係個 licensed plumber，就會同番水務署就去修訂番或者修改番 WWO 46 後面嗰個附件，呢個一般嚟講，都係香港慣常嘅 practice。因為第一次佢填張 form 入去嘅時候，係喺個開工嘅時候冇幾耐，但係仲未去到全部啲辦係批晒嘅階段，咁但係批個辦，譬如假如佢批嗰隻係即係譬如 XYZ 咁先算，但係佢之前張 form 就寫 ABC，但係 XYZ 本身一定係根據係有一啲係水務嘅要求，係可以批核得到，即係包括有譬如係一啲水務嘅批文，或者係個 BS trademark 等等，我哋同事先會批，跟住佢先會訂購去用。

主席，唔係，即係你嘅意思即係話畀我聽總之就係某一個裝置，總之佢係符合呢一個英國嘅標準，咁實際上裝咗，裝 A 又好，裝 B 又好，裝 C 又好，其實基本上係唔重要，係咪咁嘅意思？

答：呢點唔係咁嘅意思。

主席：咪係囉。

答：我嘅意思就係話唔係存在偷龍轉鳳嘅問題，而係佢就喺地盤用嘅物料就係我哋同事當年批准佢用嗰隻物料，即係有 sample approval，同埋有佢嘅 submission。同埋我哋批嘅時候，同事亦都會喺一個團隊裏面，都 check 過佢嗰啲提交嘅，包括係化驗嘅報告同埋係文件，同埋有冇一啲水務署嘅批文，咁然後先至批准佢用呢啲物料。

主席：我知，呢啲係 on paper submit 個 sample 畀你哋嗰陣時，但係

實際上去到施工嘅時候就係冇人 check 㗎嘛，係咪？

答：實際上...

主席：即係 on paper，我完全唔懷疑你係有一套既定嘅程序，但係如果你--譬如好簡單，你去到個地盤度，原來成個供水系統由第一項去到第尾項，最尾個項都冇人 check。咁而你哋去到最後，你哋最後去到收貨嘅時候，你哋又係話「啊，我哋淨係 conduct 一個 performance test 嘅啫，我哋淨係想知道啲水究竟得唔得，work 唔 work，啲水流唔流」，基本上冇人再睇究竟裏面啲啲部件究竟係唔係啲啲隻部件，咁就好似唔係幾好啱，係咪？

答：主席，呢一個亦未必係咁嘅情況，因為我哋有一個--唔需要叫同事同個承建商一齊 witness 去驗收，但係喺佢平時，即係 day to day 個 general checking 嗰陣時候，如果睇個張 form，佢一般嚟講就係有啲係 10 per cent，咁佢大概都會睇番啲啲 brand 嘅型號啲啲唔啲，同當時我哋批啲啲物料係唔係相符，喺嗰度同事係可以 check 得到。

主席：咁我明白。

答：就所以就唔係話完全唔 check。

主席：另外一樣嘢我想問一問你，即係你同唔同意其實 British Standards 同呢個 quality of drinking waters 其實係冇直接嘅關係？

答：呢個問題我都好難以作答，即係我只可以講就係話因為既然係個--有一啲《水務條例》要求我哋係 comply with British Standards，咁我哋就 comply。咁但係呢個 drinking water 嘅 quality 係咩嘢，我哋一般都會理解為就係驗水版嘅時候，就會將一啲重要嘅 parameters，就將佢係羅列出嚟，咁如果符合晒啲啲 parameters，就應該係有一啲所謂係優質嘅食水，或者係有一啲最基本係可以符合一個衛生要求嘅食水。

主席：咁係即係呢個你嘅理解，我唔同你有爭議。不過，好簡單如果我哋睇下而家我哋成日講嘅 British Standards 1254-1(1998)，呢個 British Standards，其實係講緊 copper 同埋 copper alloy 嘅 plumbing 嘅 fittings，講緊 fitting with end for capillary, soldering or capillary brazing to copper tubes.。1254-1(1998)呢個 British Standards 裏面所講嘅係

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講究竟你啲銅係要用乜嘢 material 用，你嗰個 tubes 個 wall thickness 係要幾多、個 temperature 如果要燒焊嘅時候、個 maximum temperature 係幾多、個 maximum pressure 係幾多。全部都係講呢啲好 technical 嘅嘢，完全同水嘅 quality 係一啲都有關。咁你點可以話「啊，我 fulfill 咗 British Standards，所以啲水就一定係冇問題」呢？因為兩件事嚟，conceptually 係兩件事嚟。係呀，即係你都係用番--即係想講番頭先嗰個答案？你明我個意思嘛？

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答：我明你嘅意思，咁但係...

主席：因為嗰度係講緊你要做呢啲銅喉，要接駁嘅時候，你嗰啲銅喉就要點點，最厚係、最薄係幾多、凸出嚟幾多、可以承受壓力幾多、熱力係幾多，諸如此類，同水係完全冇關。

答：我只可以講就係話嗰個成個 plumbing installation，佢有佢嘅 system 嘅 performance 同埋有 system 嘅 integrity，咁佢一什係有一啲基本嘅要求要 fulfill，咁我哋根據個 British Standards 裏面嗰啲要求就寫落去合約裏面。

主席：得，好嘞。咁另外一樣嘢我想問，我嘅理解你哋有好多位 Chief Architects，有兩位 Chief 嘅 Building Services Engineer，我嘅理解，我睇咗佢哋嘅--即係我忽忽一望，望過佢哋嘅口供，咁呢個 Chief Building Service Engineer，佢 involve 啲供水系統裏面，就只係 involve 啲嗰個泵房裏面嘅嘢，啱唔啱呀我嘅理解？

答：不如我咁講，分開兩個部分，一個就係中央系統裏面，負責 specification 方面先，主席頭先睇到關於我哋嗰兩個就係 project 裏面嘅 Chief Architect 同 Chief Building Services Engineer，佢嗰個執行上面嗰個工作。但係咁我要講一講，就係我哋點樣去負責發展同埋係管理或者打理呢啲 specification，中央嘅系統，咁其實 flush salt water supply system 就有兩個部分，第一個部分就係 water pump 同埋 associated pipework inside pump room，泵房裏面。另外一部分就係 pump installation outside pump room，就泵房以外。咁頭先見啲 project 負責工作嘅部分的確就係咁樣分，泵房裏面就係個 Chief Building Service Engineer 負責，咁以外就係個 Chief Architect。但係我哋寫個 specification 嘅時候，譬如啲嗰個係水泵同埋係 associated pipework inside pump room，我嗰個 spec 就叫做 FWP，咁另外個 specification，個

pump installation, 就係 water supply installation 就係 PLU1, 同埋 sanitary appliances, 就係潔具嗰啲就係 PLU2。咁喺我哋分工裏面, 個 Chief Architect 就係負責係 PLU2, 但係 PLU1, 即係關於呢個係 water supply 呢一部分, specification, 同埋係 FWP 嗰兩個 specification, 就係 Chief Building Services Engineer 負責。

主席：得，即係換句話嚟講，我哋可以搵嗰個 Chief Building Services Engineer 負責寫呢一個 PLU1 嗰個人嚟話畀我哋聽點解咁寫？

答：係可以，主席。

主席：得，唔該。

答：就嗰位同事都係證人之一。

主席：Okay。好，我問完嘞基本上。

問：我想同你澄清少少嘢先，就係關於一樣嘢，如果寫咗喺 PLU1 底下，同埋喺 PLU2 底下，嗰個 relevance, 在地盤驗需唔需要在房委會或者房署嘅同事面前去驗，就係取決於 form 6210, 即係 37641。就送達嘅時候，需唔需要在職員面前開始檢驗，就係 6210 所寫嗰咩就要嘞？施工期間會有啲 spot check, 即係或者你叫做 random 嘅 check 又好，或者即係 spot check 又好，嗰啲就係我哋尋日睇過，有啲 100 per cent、10 per cent 或者 random, 就由嗰個文件去取決？

答：正確。

問：嗰個係 B1/86。

答：係，嗰個係同--呢一個 form 同嗰啲物料係完全冇關係，嗰啲就係全部所有喺地盤嗰啲裝置同物料都應該係涵蓋，就所以就係同呢一個 form 係冇關係。

問：好嘞，我哋睇番尋日睇過嗰個 B1/86, B1/86, 一咋嘢，其實係由 79 開始。咁呢度就係 list of items requiring various category checks, 見到嘛？

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答：見到。

問：咁就有 100 per cent、10 per cent，同埋個 random 咁囉，尋日我哋都睇過呢一個文件。咁就呢一個就係去決定究竟施工期間房署嘅職員去到巡視嘅時候，佢哋對啲乜嘢嘅物料應該採取一個乜嘢嘅態度去 check，如果 check 嘅話，係要十件抽一件定係要 check 晒定係 random，就係跟呢一個表嘅指示去做，對嘛？

答：呢個正確。

問：好嘞，咁你睇番第 86 頁，第 86 頁嗰度就係有講到係關於 plumbing 嘅 arrangement。咁我哋尋日就講過就嗰度係有講過話係要 check 焊料，咁你就搵唔到焊料。咁但係我哋睇下譬如話 PLU1.02 嗰度，“Plumbing above ground water supply pipes”嗰度，咁個 pipe testing 100 per cent 或者 cleaning of water tank。嗰個 pipe testing 100 per cent 嘅意思係乜嘢，可唔可以解畀我哋聽？

答：嗰個 pipe testing 就主要係講譬如 pressure test 呀等等嘅嘢，即係一個 function 嘅 test 嚟。

問：咁但係就要起好晒之後先至 test 嘅呢個 100 per cent？

答：Pipe 我諗係一個個 zone 去 test 囉，就未必一定係起好晒，即係如果佢 zone by zone 可以 test 到，係可以一個個 zone 去 test。

問：Okay，okay，得，得。

答：但係佢一定要有某一個系統係已經係完成咗，先至可以進行。

問：得，得。咁而側邊嗰啲 10 per cent check，你尋日就舉過個例子，就係可能十件搵一件嚟 check，咁呢度就可以--即係你 10 per cent check 就可以斷件計嗰啲就搵一件嚟到 check 咁解，嗰啲係咪？

答：其實唔係搵一件，而係譬如係有十個 flat，咁我同事就會去一個 flat 嗰度，佢裏面嗰度 check 咗佢，但係就唔係鋸佢出去驗，就唔係嗰一隻款嚟。

問：Okay，okay。咁佢裏面有嗰啲--我有度想睇睇，就係 pipe joint 係咩嘢嚟？

答：Pipe joint 就係顧名思義，即係 joints of pipe，即係兩條喉

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管接駁嘅位。

問：就唔係 solder 嗰樣嘢，完全唔關事？

答：佢都係靠 visual 睇嘅一般嚟講，呢一類 check，如果佢喺呢度唔係將佢去所謂拎去化驗，...

問：化學分析，唔係？

答：唔係化學分析。

問：就算 6210 上面嗰啲都唔係化學分析，嗰啲都係可能係靠眼睇，睇文件咁嘅啫？

答：係嘞。咁其實就再講番少少關於我哋嗰啲，頭先講 specification 嗰度，我哋亦都 from time to time 去做一啲 update 或者 review，咁其實 PLU1 同埋 FWP 嗰兩個 specification，其實我哋喺 2010 年就請咗一個顧問，幫我哋再 review 番呢一啲 installation 嗰啲 specification，咁 review 咗之後，2013 年已經完成個 review，就喺 2014 年嗰個最新嘅版本應該就係會 update 咗。

問：咁 PLU1 as a category，PLU1 基本上就係包含水管，PLU2 就係包括即係潔淨、潔具嗰啲咩嘢，對嘛？

答：潔具，正確。

問：咁就而你尋日都講過，即係合約嘅規定屬於 PLU1 裏面嘅嘢，就唔係強制一定要事先提供樣本畀房委會批核，但係好多時候啲承建商都會咁做？

答：其實 general practice 佢哋都會。

問：係，但係...

答：即係呢一個係已經係差唔多係約定俗成。

問：約定俗成㗎嘞？

答：做咗好耐，佢哋一定係會批，因為其實唔批--一般嚟講，係特別係啲大件嘅物料或者重要嘅物料，佢都一定會係畀我哋審批。

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問：就擺個安心，即係唔好話去到，發現原來唔收貨或者盛，咁就唔知點算嘞？

答：係嘞。

問：即係佢約定俗成，佢擺咗冇蝕底嘅呢啲嘢，係咪？

答：正確嚟講，佢一般都要擺呢個即係 approval，然後佢先敢去所謂訂料，去用。

問：即係雖然唔係合約強制 PLU1 裏面嘅嘢一定要事先擺到，但係即係作為約定俗成嘅做法，佢哋一般都會咁做，係咪？

答：係，即係呢個係一個差唔多係一個 standard practice 嚟。

問：PLU2 就合約直情規定你係要一定擺咗事先嘅批核先，先至可以去做？

答：係，呢個係正確。

問：Okay。咁但係 PLU1 嗰個 definition 就係 water supply 嚟？

答：係。

問：Okay。咁但其實即係我又問番，即係英文就叫做 what is the why and reason behind 擺佢落去 PLU1 定係 PLU2。即係我明白你頭先講，就話一般嘅人都會咁做，雖然合約冇規定，PLU1 嘅人都會係事先入定紙。咁點解覺得 PLU2 嘅嘢，合約上係咁緊要，一定要佢事先入紙，擺咗批核，PLU1 又唔使呢？撇除嘅人係咪都會咁做呢個考慮，點解覺得 PLU2 要強制佢入咗紙畀你批核先，而 PLU1 又唔使？

答：其實 PLU2 應該就係啲啲 sanitary appliances，係啲所謂大件嘅嘢嚟，PLU2 就係 sanitary appliances，即係大型嘅潔具嚟。潔具，因為情況一樣，我哋就唔可以 specify 個 brand name，我哋一定要係寫個 performance-based specification，就唔同即係一般出面私人都有寫個 brand name，咁我哋就冚嚟都將佢只係寫個 specification 嘅 performance，冇 brand name，冇 discriminatory 嘅一個 indication。咁所以就一定要佢 submit 畀我哋批核個隻，即係譬如型號等等，係咪合乎個規格，咁一般嚟講，可能 check 嘅嘢都會可能比較多少少都唔定，咁就一定就要即係有一個版，同埋係你話個批版嘅過程可能就咁解。

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問：咁其實理論上你話 non-discriminatory，即係唔可以純粹話 X 牌子我就係要你一定要畀個 X 牌子我，咁呢個原則其實都係 apply 落去 PLU1 裏面嘅嘢？

答：我諗可以諗番即係以前或者再早一代，當我哋仲可能有啲用 brand name，有啲甚至我哋所謂叫做 approved list of materials 嗰一類咁嘅運作嘅時候，就舊時可能有一啲 brand name 係可以擺落去用嘅，咁然後嗰一堆就演化成為現在，即係呢個 PLU2 嗰一個 specification。

問：唔係，我明，但係頭先你--我頭先我問你個問題就係話個原則點解覺得 PLU2 嘅嘢要事先可以批核，PLU1 就唔使，咁你頭先就講咗兩樣嘢，第一樣嘢就係你哋而家寫 specification 就唔可以寫牌子，咁所以我要睇你擺嚟畀我嘅嘢，我就去試測下，先至決定批唔批你。咁但係呢一個 argument 就同樣應用喺 PLU1 包含嘅嘢，你 non-discriminatory 就乜嘢都 non-discriminatory 㗎喇，對嘛？

答：呢個正確。

問：咁所以其實你剩番就係第二樣，就係 PLU2 嘅嘢比較大型啲，PLU1 嘅有可能係細啲咁，係咪？

答：我諗又唔可以咁樣分，即係 PLU2 就係根本就係嗰啲潔具有關嘅一啲...

問：沖涼缸？

答：係嘞，一啲 component 嘅嘢。

問：洗手盆啲啲，係咪？

答：主要係嘞，嗰啲係屬於係 component，就係一啲大件嘅，即係譬如你話係即係坐廁、洗手盆嗰類嘢。咁而 PLU1 就真係一啲係好 generic 嘅 material，例如係嗰個 pipe，一般嚟講，以前我哋都唔會寫 brand name 嘅嘢嚟。即係我哋以前一向都唔會寫佢用乜嘢嘅型號，即係譬如咁講，一啲係好 general 嘅 material，係 commonly use，同理就係可以係國際性上面一般都可以好方便咁樣可以採購，就根據一啲 specification 係跟一啲國際標準，例如係 British Standards 等等，都已經可以足夠去採購嘅一啲物料嚟。

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問：即係唔同牌子之間冇乜嘢分別嘅可能？

答：係。

主席：我又真係唔係好同意喎，你銅喉唔同嘅生產商生產出嚟嘅銅，係個質素係可以有好多分別個喎。

問：會唔會？

答：Copper pipe 一向以來，我哋睇得返嚟，甚至現在，即係事後再檢測，驗呢啲嚟，嗰個 pipe 全部都係 copper。

主席：咁即係換句話嚟講，最平嗰隻就得，係咪咁嘅意思？

答：呢個價格就唔係考慮因素，總之合唔合嗰個規格，總之就係睇佢合規格嘅物料，佢個生產出嚟嘅物料係符合嗰個 specified standard，咁嗰隻可以係一隻合用嘅物料。

主席：即係我隨便--我可能未必所講嘅係正確，是否係因為供水，尤其是飲用水嗰個系統已經有《水務條例》係監督，咁所以所有有關供水嗰啲裝置，就全部入晒去 PLU1？

答：簡單啲去形容，其實呢一個情況都會出現，即係《水務條例》裏面嗰啲，其實全部都係涵蓋嚟 PL --呢個我都唔敢肯定，但係...

主席：係呀，所以基本上都唔使 test，因為有《水務條例》監督住？

答：咁基本上面，我哋就係話我哋都係採用一個 risk-base 嘅 approach，即係風險為本，如果我哋察覺得到佢係有風險，就即使佢《水務條例》裏面，如果我哋知道得到，我哋都可以有咁嘅理由相信，可以去針對性去抽查。但係即係如果我哋喺有任何端倪，又冇任何線索嘅情況底下，就未必會察覺到呢個風險嘅存在。

主席：唔該。

咁繼續，石大律師。啊，我哋要早啲午膳，我哋而家休息，兩點

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半再繼續。Okay，我哋兩點半再繼續，唔該。

下午 12 時 52 分聆訊押後

下午 2 時 30 分恢復聆訊

出席人士如前。

香港房屋委員會第二證人：馮宜萱女士（房屋署副署長（發展及建築））
宣誓繼續作供

石先生繼續盤問

問：馮女士，我想同你再簡短地澄清下關於 PLU1 呢個級--呢個即係類型--類別嘅嘢，同 PLU2 呢個類別--類型嘅嘢個個分別。PLU1 就係啲啲水喉系統啲啲，PLU2 就係啲啲潔具啲啲 sanitary item 啲啲。

答：Appliances。

問：即係 PLU2 就會包括啲啲咩嘢類型嘅嘢，洗手盤、沖涼缸啲啲，係咪？

答：正確。

問：PLU1 就係喉管，總之整個供水系統啲啲嘢？

答：係。

問：咁 PLU1 同埋 PLU2，頭先我哋講過其中一個分別，即係不厭其煩咁樣再講番，就係 PLU2 就係合約規定一定要事先擺到房委會嘅即係 approval（批核）；PLU1 就唔係強制，不過好多人都咁做。咁你頭先畀過一個解釋我哋點解兩者之間會有呢個咁嘅分別，第一，你就講可能係有--即係 PLU2 裏面嘅嘢多數係大件啲嘅嘢；咁 PLU1 啲啲喉管又可能係細件啲嘅嘢。咁但係無論大細都好，都係需要符合合約裏面所要求啲個 spec 啲個要求，無論係 performance 也好，或者化學即係成分也好，點都好。咁點解一樣係需要房委--房署去 pre-approve，另外一樣係唔使呢？

答：不如我講一講啲個--即係唔係話大細或者係...

問：係，係嘞。

答：...pre-approve 問題。而係 PLU1 主要就係嗰個 plumbing system；而 PLU2 就特別係抽咗一啲係 sanitary appliances 出嚟咁解。咁而一般嚟講，雖然話 PLU1 就唔係 mandatory 全部嘅物料都要所謂預先 pre-approve，但係一般嚟講 general practice，基本上嘅物料或者合約裏面全部第二啲 specification 嘅物料，承建商都要有一個 material approval schedule 畀我哋。咁一早定咗就係佢要將有一啲物料係等我哋嘅同事有一個審批嘅過程，咁呢一類嘅過程即使我哋合約唔寫明係一個 mandatory 嘅 practice，都係一個我哋 general expectation of contractor 嘅 practice。

問：停一停先，我明。In general 啲人係咪都會咁做，但係我想明白就係你背後個 thinking，點解合約上面有啲你規定就要，有啲又唔使？你唔好理有啲人係咪都係咁做，如果係咪都會咁做，你不如叫埋佢做，係咪？但係即係點解合約上有一種嘢你覺得係特別需要強制佢畀定你？譬如話沖涼缸、洗手盤，點解有需要事先畀定你哋去睇，反而啲喉管就唔使呢？

答：不如我講講，我就話 in general，其實嗰個 practice 就係即使我哋唔寫明，唔訂明，就承建商都係會畀物料我哋批核嘅，呢個係一個 general practice。

問：明白。

答：即係我哋抽離啲，唔係淨係講 PLU1 同 2 嘅分別。即係就算我合約裏面第二啲 clauses，未必有話 mandatory 呢啲一定要 pre-approve。

問：我明，係。

答：但係一般嘅 practice，我哋都係咁樣去運作，咁呢樣我想釐清先。

問：得。

答：咁第二點我先至再解釋點解 PLU2 有少少特別嘅咁，我就可能同佢以前嘅前身有少少關係，因為我哋就唔可以再使用--有寫一啲 brand names 嘅時候，咁以前就有一啲--呢類物料，同佢整體嗰個--可能係嘅整體嗰個 design 或者個 appearance 有關係，嗰一啲嘅特別嘅 appliances，就會有一個所謂“pre-approve”嘅一個過程咁

解。咁最--我要--我即係再將佢抽離咗少少，唔係話我哋唔寫--唔要 pre-approve 嘅，就係忽視嗰啲所謂細嘅嘢，並唔係咁嘅意思。我哋呢點要澄清先，即係嗰個物料嗰個審批係我哋一個--比較重要嘅一個過程。咁即使我哋唔係寫話 mandatory，其實都有呢個需要。咁...

問：Okay。

答：...但係就點解呢個特別咁--即係 PLU2 有咩嘢咁特別呢？我就解釋多少少，就係同佢個前身有少少關係咁解。

問：即係譬如話前身可能你會出個 spec--specification 嘅時候，你會講埋某牌嘅潔具、某牌嘅沖涼缸。而家就唔寫得，你淨係可以寫啲好基本，好 neutral 嘅嘢。咁但係可能你哋作為一個發展商，你都想譬如話嗰個沖涼缸可能矜貴啲，或者係某個特別嘅牌子，你又唔可以寫落個合約度，咁所以就要有呢一個即係 pre-approval 嘅過程？反而喉管就即係--其實即係又唔係特別要佢好靚，咁所以就唔需要事先要 approve 咗，係咪咁解？

答：我諗唔係咁嘅意思，而係一般嘅物料我一定要合規格，呢個係--即係呢個必然嘅。

問：係，明白。

答：咁個物料審批亦都係要確保佢提供嘅物料係可以係合乎合約個規格。咁但係點解 PLU2 有少少特別，可能嗰個設計上面，或者係嗰個 design 上面，亦都想佢有一啲係--有一套嘅 design 係可以 compatible，即係就唔會搞到佢就隻隻嘅唔同嘅 product 擺埋一齊嘅時候，可能就會比較突兀啲嘞，咁可能就會睇睇佢，會唔會嗰一個嘅 approval...

問：即係成套廁所可能要靚啲，即係同樣嘅色調或者盛？

答：或者係同埋嗰個色調系列等等，即係唔會夾埋一齊之後，原來就係望出嚟就完全係唔 compatible，雖然佢睇落去嘅規格都可以合乎嗰個要求，譬如一個紅加個綠，即係就唔會搞到咁樣樣。

問：即係呢一啲係 on top of 一啲基本 specification，on top 嘅嘢，就唔係話所謂合約可以好死板地用 specification 寫到出嚟嘅嘢？

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答：咁基本一定佢要合乎個合約規格先，即係呢個係必然嘅。

問：係，係。

答：但係有一啲就係話即係你成套系列嘅 design，如果要佢 compatible 嘅話，咁可能就要睇晒一套，嗰陣時就有個 pre-approval 呢個過程，就比較會係等到嗰個 de--即係成個--我哋嗰個項目團隊就可以有呢個機會去睇晒佢一套，就去批核。

問：明白。即係簡單嘅例子，你唔會喺合約度寫明話所有廁所都需要用某個色調嘅嘢，咁但係實際實踐起嚟，你要嗰個 pre-approval 可能除咗要 vet 佢嗰個基本係咪符合 specification 以外，可能就係要睇呢一啲--可能美感上嘅嘢？

答：係，係咁嘅意思。但係就其實一般嚟講，全部我哋 specify 嘅物料，承建商佢要確保佢可以係合乎我哋規格，然後先至可以訂料去用，呢個係一個 general 嘅 condition。

問：唔，okay，明白。另外，就有一個--頭先我就係問緊你一個問題，就係關於二千零一--Sorry，2002 就開始你哋嘅合約，就要求人哋係用銅管--銅喉，開始即係要求啲公屋裏面嗰啲供水系統係用 copper，合約開始。

答：最初嗰陣時，其實就合約個 specification 就有兩套系列並存，一套就係 UPVC lined 嘅 GI pipe，一套就係銅喉。咁兩套並存，其實承建商係可以選擇用邊一套，咁但係一有呢個 choice 之後，就全部承建商都係選用銅喉。

問：可能佢哋因為做私樓用慣銅喉，係咪呀？

答：係，係。

問：好。咁我頭先都問過，其實。你唔使而家畀到我，但係可能呢個係一個對 document，對文件嘅一個 request，可能 Mr Yin 或者 Stephenson Harwood 可以即係聽住，就係我哋想睇一睇有冇一啲喺房委會作出一個政策上嘅改變？由 lined GI pipe 轉做 copper pipe，呢個過程裏面--我哋唔好講話中間有個 transitional period 兩者存在，呢個係實踐起嚟嘅事情，但係有一個所謂政策上嘅改變。咁你頭先都同我哋講過就係呢個政策上嘅改變，除咗係研究嗰個 clause 點樣寫之外，就應該都會研究埋由於轉用銅喉，有冇啲乜嘢順應嘅實踐嘅措施相應，譬如話你改變你嗰個 list，使唔使加

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啲嘢，使唔使--呢個可能係一個逐步逐步嘅一個過程，改咗個 clause 先，咁跟住同事又會話「啊，由於改咗個 clause，我哋使唔使研究有啲咩嘢 knock-on effect 呢？」咁樣。

我哋想搵番，我知道可能要用耐啲嘅時間，唔使聽日界，咁我哋都未必需要主席畀一個 deadline，咁但係可唔可以搵到就係由於呢一個政策上嘅改變，房委會有冇做過一啲嘅 step？呢啲肯定係政策改變前做嘅，關於用銅喉，譬如話 pros and cons，安全或者係 specification 上嘅考慮，譬如話有冇啲咩嘢 memo 呀盛去講「啊，我哋要考慮用咩嘢 spec 嘞，我哋嗰個 clause 係咪應該要加一嚟嘢呢？」整個 draft 望下呢類嘅嘢。同埋研究埋順應嘅一啲實踐起嚟嘅措施，咁大家同事之間，即係你知好多呢啲嘢都會有文件嘅往來，一套嘅文件可以話到畀我哋聽，整個由 GI pipe migrate 到變成 copper pipe 之間所一啲技術上同埋文件草擬上嘅一啲內部嘅考慮嘅文件，可唔可以搵到一搵畀我哋？可能呢一個係會 spend 一段時間，由 2000、2001 可能開始考慮，一路到到可能 2004。就未必要成箱，因為我哋係針對好細嘅呢一點，就係即係由轉做 copper piping 引致嘅一啲改變，你明白我嘅要求嘅嘢嘛？

答：主席，我明白大律師嘅要求，不過可能真係需要一啲時間去搜集呢啲咁嘅紀錄，可以咁講。咁就因為可能都需要一啲時間。

問：係，明白，明白。

答：但係一般嚟講，我主要講個常規，就係我哋都係點樣會改，有啲嘢改，一定係有一啲譬如 feedback，即係根規日常啲啲有啲用家嘅 feedback，保養維修嘅 feedback，或者係我哋同個業界啲啲聯繫，包括施工同埋日後啲個即係使用等等，咁呢個就係一個常規，都係咁樣做。但係如果你話實際上要攞番啲一啲文獻或者係一啲檔案出嚟，的確我需要時間去搵，因為呢個都係十多年前嘅一啲紀錄嚟。

問：得，可唔可以盡量搵。

石先生：我諗--我唔知主席使唔使 hold 咗個 deadline，要幾時畀，定係即係畀佢用...

主席：唔需要，唔需要。

石先生：搵住先喇，即係如果搵...

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C 主席：搵住先，係喇，聖誕節之前都得。

D 答：好。

E 問：盡量搵，好唔好？你哋知道我個目的，就我想睇下有冇一個 paper
F trail，大家個陣時個思路諗下，「啊，轉咗銅，轉咗銅，啊，用咗
G 咩嘢 solder，用咗咩嘢 solder，有冇諗過 solder 有定冇，如果
H 冇就係你一個 blank，如果有，有冇正反考慮，有冇咗咩嘢要整落去
I 呢？」咁，可能係冇嘅完全係，咁就有，係咪？

J 答：係呀，我可以--即係我諗我可以搵多少少資料，就大概籠統可以記憶
K 所及，就係點解要有呢個改動，因為我哋使用嗰隻 UPVC lined 嘅
L galvanized iron pipe，喺業界真係十分不普遍，即係除咗我哋
M 係一個大戶去用之外，似乎坊間係...

N 問：冇人用。

O 答：係冇人用。咁我亦都睇住個大勢所趨，咁既然成個大勢都係咁，咁自
P 己都應該改變我哋個 practice，就順應個個大勢，就用番銅喉。再
Q 加埋就係好多用--好多即係啲住戶，佢入伙之後，如果佢要改動啲喉
R 管，佢就搵出面啲坊間嘅師傅，個個都係用銅喉，咁我諗而家我就
S 係睇番就係成個業界其實用銅喉嘅情況係十分普遍，反而我哋自己就
T 孤芳自賞，就用嗰隻 UPVC lined 嘅 GI pipe，就似乎冇乜嘢人，
U 冇乜嘢第二啲人係用，咁就順應個民情，或者個大勢所趨就改動。咁
V 我諗呢一個我記憶所及，就係咁上下嘅一個 feedback 過程，令到我
哋去改。咁但係有冇文獻特別寫，過程中間大家點樣商討，咁可能真
係要搵多啲時間要去搵啲資料。

問：我明。即係剛才你畀嘅例子就係個 driving force，即係背後點解
要改，原來就係因為咁樣，可能有一啲嘅 paper trail。但係比較
有興趣嘅，我哋就係決定咗改之後，或者決定緊改嘅時候，譬如話有
冇考慮過安全方面嘅問題。有可能你搵出嚟嘅文件其實係冇嘍，因為
大家都覺得係即係呢樣嘢其實已經係 tried and tested，即係佢
毋需要特別講，可能係冇，個答案係，fair enough，咁就有，咁
但係起碼就搵咗先，我哋想知道。或者有冇人特登話要坐低，「我哋
研究下安全問題先」，可能學你話齋，可能行內根本大家都覺得都安
全，「講乜嘢呀，冇問題嘅」，可能係咁，fair enough，起碼我
哋想知道先。

答：不如我都可以口述埋。

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C 問：好。

D 答：其實我都嘗試過啲呢個資料，即係 trace 下「點解我哋咁樣寫落去，
E 特別係講即係 soldering 或者 lead-free 咁 specific 嘅呢？」
F 咁，咁我哋搵過，真係搵唔到一啲 physical record 係點解。即係
G 我哋搵到嘅就係喺個即係 BS 嗰個 1254 嗰度裏面個 table，就的確
H 喺個 footnote 嗰度寫咗係嗰個即係關於 soldering 嗰個物料，咁
I 佢就喺嗰度 dig up 出嚟，就係我問啲同事就係咁上下嘅過程。咁我
J 都嘗試過去啲有冇紀錄，咁如果大家要我哋再去啲，我可以嘗試再啲
K 多一次出嚟，不過我哋 initially 去搵，係搵唔到呢一個點解會咁
L 樣嘅做法，或者係當時係咪 aware of 呢個 risk，似乎就唔係。

H 問：Okay, okay。盡量試下搵，即係尤其是...

I 答：我盡量再搵，但係就即係我哋已經曾經嘗試過自己都去搵呢一個紀
J 錄。

K 問：我明。即係 not so much about 點解要改個 clause，而係改個
L clause 之後嘅我哋叫一啲 knock-on effect，即係會唔會影響到
M 你哋 draft 嗰個 form 或者即係加咗啲 item。我明，即係有陣時可
N 能話如果呢度冇，就肯定係冇加到，但係中間個 thought process
O 冇...

M 答：係，或者大家都想知道冇冇曾經傾過，而真係...

N 問：如果冇就冇，係咪，即係。

O 答：據我哋初步嘅理解，問啲同事同埋啲埋紀錄，正確地講應該係冇，因
P 為當年大家亦都真係唔 aware of 呢一個 risk。

Q 問：Okay。咁麻煩你再啲一啲先，因為而家我講係好原則性咁同你講，叫
R 你搵一搵。

R 答：係，咁我哋都曾經嘗試過，自己都去即係尋根究底，不過係未成功。

S 問：好，好，唔該。咁我想同你而家去即係我哋 move on 去講另外一個
T 課題，就係你睇睇嗰個 Task Force，應該係房署自己嗰個 Task
U Force 嗰個報告，就係 A1, 691 頁。3.3.2 段，就係 691。佢裏面
V 就講到有一個現象，我哋唔係講緊啲焊料，我哋就講緊-- sorry，
呢個係水務署嗰個 Task Force。

答：水務署，係。

問：我講錯咗，水務署。我呢個唔係講緊啲焊料，呢個係講緊另外一啲嘢，佢個標題就叫做“non-compliance with BS”，即係與英國標準不符。佢就話有啲閥門，valves 係閥門，係咪，叫做？valves 係閥門咁嘛？

答：係。

問：同埋一啲水喉，就即係拆咗出嚟之後去驗，就發現唔係入畀水務監督嗰個 WWO 46 嗰張 form 裏面嗰啲閥門同埋水喉嚟。咁雖然佢哋係屬於 approved list 裏面嗰啲即係我諗係牌子或者種類，但係總之就係之前入紙唔係寫嗰樣嘢。咁同埋佢就話驗咗呢一啲擺咗出嚟嘅水喉同埋閥門之後，就發現原來佢裏面係總之就唔符，即係對於鉛嗰個要求佢係超咗，見到嘛？係“Did not comply with the BS requirement in respect of the lead contents of 4-6 per cent for the copper alloy, 0.5-2.5 per cent for the copper alloy for taps.”咁樣，即係總之係超咗標嘅鉛嘅成分。呢個報告就話雖然呢個水喉同埋閥門有呢一個咁樣嘅現象，就係個排--即係嗰個種類係唔同咗，同埋嗰個含鉛量係超咗標，不過佢用一啲嘅分析，分析過之後，佢用嗰啲叫做改數分析，你都知道，isotropic analysis，就發現佢裏面含嗰啲鉛就唔係水裏面發現嗰種鉛，所以食水含鉛呢件事就唔關呢個水喉同埋呢個閥門裏面嗰啲鉛嘅事情。呢一度我哋嘅專家證人佢哋會自己去獨立地去審議水務署佢呢個報告嗰個 modeling 嗰啲嘢，但係咁我想問一問，就係你個人諗唔諗到乜嘢嘅理由，就係會係呢個寫入去 WWO 嗰個 form 46 裏面 approve 咗嘅嘢？即係你知 WWO 46 嗰度有個表要寫嘢落去，尋日都講到，寫一炸嘢落去，呢一種嘅水龍頭同實際用嘅係唔同。咁呢一個房署嘅人員有冇任何嘅 role to play，有冇身分喺呢樣嘢上面？

答：不如講一講一般嘅流程，...

問：係呀，我就想知道。

答：...嗰個流程 WWO 46 最初入嗰張 form 嘅時候係喺合約開工有幾耐嘅事，咁一般嗰陣時候，其實即係即使工程師都未或者係未完全係正式所謂過晒一個批辦嗰個階段，咁但係嗰張 form 入咗去先。跟住如果係個承建商要提交一啲物料，...

問：對唔住，停一停先。你話係即係未開始--你話係未開始做嘅時候已經入咗去？

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答：唔係，係喺合約，即係嗰個合約開工有幾耐嘅時候，就填咗一張 form，一般嚟講就個 licensed plumber 填咗之後，就畀我哋嘅同事，我哋嘅團隊可以係則師或者工程師都得，咁佢就會再審批，跟住就簽名。咁但係...

問：呢個係起樓好早期？

答：係嘞，即係 contract commencement 有幾耐。

問：因為通常喉管就最耐先整。

答：咁但係嗰陣時其實批辦嗰個過程，可能啱啱起步，係未批完，咁所以通常佢哋簽嗰張 form 嘅時候，如果我哋同事簽嘅時候，其實嗰陣時佢哋仲係可能批辦嘅過程係啱啱開始或者正在進行中。咁一般嚟講，就係水務署同埋個 licensed plumber 都有一個所謂即係慣咗嘅 practice，就係 licensed plumber 可以繼續一路將嗰啲物料嗰個清單，當佢有更改嘅時候，就可以水務署度再做番一個修訂。咁呢個就應該水務署都有 service letters 提過呢點，係可以咁做，直至到佢即係最後報 completion 之前，就要有一個 update 嘅 list。咁呢一個...

問：佢係要正式改個 WWO 46，即係要文件都應該改番？

答：佢應該改個 annex，咁嗰部分就係由個 licensed plumber 就係同水務署嗰邊再可以 update 番個 list，咁...

問：我明，咁點都要有啲文件要改咗㗎，係咪？如果真係後來改咗。即係話 day one 我寫 X 牌，後來我發現整下整下，我要用 Y 牌，咁我點都要喺個 annex 加咗個 X，加番個 Y 落去？

答：呢個工作就會係個 licensed plumber 會係佢即係跟進嘅工作。咁但係喺嗰個我哋嘅同事個團隊，佢批嘅物料嘅時候，佢一定係要經過嗰個批評嘅過程，就要確保佢哋係符合水務署嘅要求。咁所以佢批而就用嘅物料，就必定符合 WWO 46 裏面有一個 category，有幾種，可以有 BS Kitemark，可以水務署批文等等，嗰一啲要求。咁佢一定要 check 到佢係符合嗰一啲 approval 嘅 criteria，先至可以批准嗰隻物料喺地盤嗰度用。咁但係與此同時，就係假如佢批呢隻物料，係同 WWO 46 個 annex 裏面嘅物料有出入，咁嗰個 licensed plumber 就應該上水務署就改番個一個紀錄，或者改番個一個清單。

問：係嘞，因為我嘅腦袋中就係即係用呢啲物料，同水喉有關嘅物料，

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potentially 就房署方面要 approve?

答：係。

問：頭先我哋講話你開工前，你要 approve，就算合約唔需要，啲人都會畀你 approve，咁呢樣野。所以 housing 自己會有一套嘅 approval，我 approve 你用某種嘅水龍頭咁。WFO 46 又要寫個 annex，又要畀水務署又要批，咁所以我知道即係兩者之間就應該到頭來，大家個文件度應該 show 到都係 housing 批你用嘅水龍頭就同水務署最終版本，佢紀錄批你用嗰個水龍頭都應該一樣，即係我就 in my simple mind，即係理論上係咁樣諗嘅應該？

答：係，呢點都係正確，係，係。

問：咁先後嘅次序，頭先你所講，就係可能成幢樓開工冇幾耐，都未有耐要鋪喉嘅時候，就先入住一份 WFO 46 先，可能嗰個係一個好初步嘅 idea，「我諗住大家傾過，不如用 X 呢個牌子、呢個型號或者呢一款喇」咁。咁就寫咗先，因為開頭最需要嘅就係一個 intention to commence work，其實 46 係，係咪？

答：係。嗰個係 "materials intended to be used"。

問：係，intended to be used 咁樣，我打算用呢樣嘢。咁好嘞，時序上就係可能開頭嘅時候就有呢樣嘢，咁畀 housing 去 approve 用邊種喉，喺呢個時序上係後來先發生，係咪？

答：一般嚟講都會係，但係即係嗰段時間可能有一某隻料都可能批緊或者批咗，但係另外有好多隻都仲係未批，或者未係提交都唔定。即係嗰個時序就係呢一個 submit WFO 46 嗰個時間係比較早，咁一般嚟講，就肯定未係全部批晒啲物料。

問：Okay。咁總之入 WFO 46 嘅時候係比較早，咁後來佢哋塵埃落定，佢哋打定主意，我真係而家決定要用 X、Y、Z 呢三個牌子，咁佢就正式就係同 housing 攞咗 approval，畀埋個貨辦 housing 睇，housing 就 approve 咗話「好喇，你可以用 X、Y、Z 喇」。

答：咁 housing 就會跟番住水務署啲 criteria，然後先至去審批，所以審批嘅過程一定 check 到佢係符合水務署嘅要求。

問：好。咁佢批咗 X、Y、Z 出嚟，即係房署覺得 X、Y、Z 呢三個牌子嘅水龍頭係會過到 water 啲關，咁我就批出嚟？

答：正確。

問：咁但係批咗出嚟，可能同 day one WWO 46 嗰張紙上面嗰個 intended to be used 嗰啲係唔同，咁就要個 licensed plumber 就走去同水務署講話「喂，而家我哋最終塵埃落定係用 X、Y、Z 呢三個牌子喎，唔係 day one 同你講嗰個 A、B、C 喎，唔該改番個 annex 嘞」咁，係咪咁樣個時序應該就係？

答：係，呢個係正確應該係。

問：Okay。如果係咁嘅話，頭先我哋睇番嗰個 Task Force 裏面 3.3.2，佢話實際上搵出嚟嗰個龍頭，拆出嚟嗰個閥門同埋嗰個水龍頭去驗，發覺原來唔係 WWO 46 裏面所寫 intended to be used 嗰啲龍頭喎咁，咁你以你睇下嗰個，點解會有呢個事情發生咗？即係係咪基本上就係可能房署可能審批咗，但係有人忘記咗或者有同呢個水務署改番呢會係？

答：據我哋嘅認知，應該係呢個情況，即係就個 licensed plumber 冇將佢去水務署嗰度，將呢個 annex update 番。

問：Okay。我哋當然我哋會問番當時即係負責嘅同事，因為嗰兩個 Chief 都 name 咗，咁我哋會問番個 chief architect 或者個 chief building services engineer，佢哋會清楚啲，係咪應該？

答：佢哋每一個項目嘅同事就手頭上應該有佢嘅紀錄，會比較清楚少少當時嘅時間係點。

問：得，好，得。咁但係佢後來就發現，實際用嗰兩隻龍頭同埋閥門，雖然係 on the directory of pipes and fittings accepted by 水務監督，你睇番 3.3.2，但係都係超咗標個喎，裏面嘅鉛量。咁你--我知道你唔係水務署，你嘅意見，點解會有咁嘅事情發生，即係水務署 list 咗 A、B、C 牌，咁你就照批畀 A、B、C 牌，但係驗出嚟又超咗個喎，點解會有呢個事情發生，你諗？

答：呢一個就可以話兩個層次，第一個層次就係話 WWO 46 裏面個 annex 用嘅物料，同最後我哋喺地盤嘅物料有分別，呢個第一個問題喺呢度。第二個問題就係即使嗰啲物料係有水務署嘅所謂 pre-approved list，但係佢嗰啲 alloy 合金嘅含鉛量都係超標。咁第二個問題其實就係同第一個係冇必然嘅關係，因為有一啲係即使佢同 WWO 46 annex 2 嘅物料係一樣，驗出嚟佢...

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問：都可以超標？

答：...alloy 都係會超標，咁所以就唔係兩個有直接必然嘅關係。

問：我明。

答：係嘞，咁...

問：即係頭先嗰個例子，即係話個 licensed plumber，可能佢走去同個水務署講話「唔該，我想 amend 番我個 annex，將佢裏面嗰啲水龍頭變成最終我哋落墨用嗰三款，which is on your list」，咁就改咗。咁第一個問題就解決咗，大家就嗰個 document reflects the actual taps used。第二個問題仲存在，就係我用隻水務署批我用嗰三種 on their list 嘅都含鉛超標喎咁。

答：係，正確，即係變咗我...

問：咁呢個問題你有咩睇法？

答：呢個第二個問題嚟，即係同第一個問題係冇必然關係。

問：我明。

答：咁呢個問題就係即係我只可以話我哋睇佢嗰個水務署當年嘅批文，咁我哋就會批個承建商可以用呢隻物料，但係跟住落嚟嗰個即係生產過程嗰個品質嘅監控嗰一部分，有可能係某一個批次出現一啲 deviation，即係呢個我就可以就係從一個即係 layman 或者抽離啲嘅角度去睇呢一件事。

問：即係嗰個牌子可能退步咗，或者可能係冒牌，或者 day one 決定將呢個牌子放入去個 approval list 嘅時候就可能睇漏眼，即係好多原因嘅可能？

答：我諗原因就即係好多種，咁但係就再講番我哋自己嗰個監控過程，咁我哋即使係將有一啲所謂 leak valves 或者各樣嘢，如果即使我哋做一個 testing，都係做一個 performance 嘅 test，未必會就做 -- 就唔會做一個將佢嗰個合金成分再去分析嗰個 chemical analysis 嘅 test 嘅，咁我諗我哋都要講一講即係一般我諗業界常規運作都會係有咁嘅流程，就除非特別有原因，你話懷疑邊一隻或者邊一類嘅物料嘅合金成分係唔啱 BS，如果唔係，一般都會相信個生產商就會按照佢當時嗰個批核嗰啲物料就去生產嘅。

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問：所以譬如話 day one 呢幾隻嘢，佢後來就判出嚟--驗出嚟就係含鉛超咗標，但係 day one 係房署 approve 咗嘅，因為佢屬於水務署嗰個 list 裏面佢 approve 過嘅牌子。

答：正確。

問：咁房署喺 approve 呢幾個龍頭嘅時候，佢就按水務署嘅本旨辦事，佢就有真係獨立地真係走去刮啲嘢出嚟驗下鉛，就有呢個步驟嘅，化學分析呢個步驟係冇嘅，係咪呀？

答：正確。

問：咁同樣地，我尋日可能問過你，但係我忘記咗，就係譬如話我哋尋日睇過有人擺過啲“FRY”嗰啲 solder 嗰啲焊料畀房署去問下，咁亦都係批咗嘅，咁同樣地嗰個步驟，可能房署就係信話「“FRY”呢個牌子出名，佢話到明係 lead free，咁我就覺得“FRY”係我 approve 你。」亦都係冇話刮出嚟去驗佢有冇鉛嘅？

答：或者我講一講，呢條問題，其實“FRY”佢係有兩款 solder material，有一款係 lead free，有一款就唔係 lead free 嘅。

問：我明，佢呢度就大大隻字 lead free 㗎嘛，佢尋日我睇過啲相係。

答：係，但係因為“FRY”佢有兩款，即係一款就係 lead free，一款就唔係 lead free，咁兩款其實個樣子都係一卷，不過係嗰個 label 就係唔同顏色咁解嘅，咁所以就係唔係一定係買“FRY”嘅就係 lead free 嘅。

問：我知，我知，即係“FRY”嘅無鉛版本咁。

答：係。

問：Okay，咁即係你就係信基本上就話佢話「我用“FRY”嘅無鉛版本。」咁大家行內裏面造成“FRY”無鉛就係信㗎喇，咁就？

答：係，因為呢一個--即係呢一個 solder material 係行內好普遍，...

問：我明。

答：...又好慣用，又好常用，直頭一講，就通行都知嘅。

問：我明，我明，即係佢用“FRY”嘅牌子嚟到話明係“FRY”無鉛，咁大家

就有信心知道「你話得係“FRY”無鉛，就係。」佢走去搵個冇牌嘅，尤其走咗去五金舖買番嚟嘅，畀一卷嘢你，你會點呢？你會唔會 test 呢？

答：如果你話現在，就當然係會喇，但係如果你話以即係當時就大家都唔知道呢一個係一個問題或者係一個 risk 嘅，咁當然當其時我哋同事亦都即係冇咁嘅所謂 awareness 會咁樣去 check 佢呢一個咁嘅 item。

問：咁即係話當時如果有人嚟，佢又唔係用“FRY”呢個大家即係聞名嘅一個牌子...

答：或者佢用“FRY”，買咗一隻冇鉛嘅，我哋都唔知嘅，即係...

問：哦，okay，或者佢用一個冇包裝紙嘅，去鴨寮街或者五金舖買咗一卷嘢嚟畀你，咁佢就話「我話畀你聽我打算用呢隻，我話係無鉛嘅。」咁就接受喇，當年？

答：當年，我諗批閱辦，因為而家 from hindsight，因為我哋真係冇叫啲同事去 check 佢用緊個卷...

問：得，明，明。

答：...或者嗰一條係咪有鉛，而當其時我哋更加唔知道有一啲係所謂用 X ray fluorescent 嘅 check，或者用一啲 lead check 嘅 swap 可以 check 到，咁所以喺有嗰個 awareness，亦都有嗰個相應嘅配套底下，咁其實我哋嘅同事，就係我哋有要求佢咁樣做呢--進行呢啲測試嘅。

問：得，明白。最後，我問你一個問題，就係有關啲預設嘅配件，prefabricated part，咁我麻煩你就係睇一睇 B3.1，B3.1，1169，1169，呢個就係房委會嗰個 interim finding，其實好多 finding 嘅，即係 final 嗰個報告又有，但係我哋睇一睇你哋個 interim finding，因為我想搵嘅係一個事實啫，我求其攞呢一份就得喇，就第 27 段，(a) 嗰度佢就話食水過--含鉛超標嘅事件就唔應該係有關你用一啲預設組件，即係廚房或者廁所預設組件，即係唔關事嘅，佢話除咗啟晴邨之外，其他嘅地方，廚房同埋浴室就唔用預設組件嘅，就真係啲水喉匠就喺呢個--實際喺個 unit 嗰度即係安裝啲啲喉管嘅。咁佢就話就算係預設水喉嘅組件，即係喺廚房或者浴室度用預設組件，都只不過係喺啟晴邨嗰度係作為一個試驗計劃嗰度去做嘅啫，咁而喺啟晴邨嗰度就七個即係食水含鉛嘅單位裏面就得

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一個係牽涉到一個廚房係有預設嘅組件嘅咁樣。關唔關預設組件事，呢個我哋遲啲可能我哋嘅專家會慢慢去了解，但係我有一個問題就想問一問嘅，係即係我諗係喺監管方面，就係如果預設組件，咁啲預設嘅組件係喺香港以外嘅地方生產，喺內地造嘍嘛？

答：呢一個生產過程係喺內地嘅。

問：喺內地，咁即係話連啲水喉嘅接駁都會喺內地做嘅？

答：水喉接駁喺嗰個 prefabricated unit 裏面啲啲就會係，但係有好多水喉嘅接駁其實就唔會喺嗰個 unit 裏面嘅，有啲喺出面。

問：就成嚟嘢嚟之後，就喺外面駁，...

答：再駁。

問：...但係 within 嗰個預設組件入面啲啲水喉接駁就會喺內地嘅時候整，係咪呀？

答：正確嘅。

問：咁做嗰個人就唔係持牌水喉匠嚟？

答：持牌水喉匠，一般嚟講，就係話佢可以容許佢係有一啲 supervisory 嘅角色，而係有一啲 qualify 嘅 workers，就係同佢一齊去做呢個工作。

問：即係基本上，我哋撇除持牌水喉匠，根據第 15 條條例嗰個正確演繹，係咪一定要自己一個人落手落腳做，因為如果係法例正確嘅演繹，係要求佢一個人落手落腳做嘅話，即係以往嘅理解完全錯嘅話，就無論你係香港工人、大陸工人都唔得嘅，okay。

答：係。

問：但係即係就算我當你係可以有個 supervisory role，即係你嘅意思就係呢個持牌水喉匠，你就 expect 佢係一個香港嘅林德森或者伍克明或者佢哋，佢哋--即係你呢個就 expect 佢哋可以喺香港就對一啲內地嘅工人就即係作出呢個 supervisory 嘅功用，係咪呀？

答：呢個一般嚟講，就係佢自己都可以上去即係一啲生產嘅場地嗰度...

問：睇住佢做？

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答：都呢一個一般嚟講，嗰個就係生產同埋嗰個監控嘅過程都可以有咁嘅 expectation 嘅。

問：唔，okay。但係你真係覺得佢真係會走上去睇住佢哋做？

答：呢一個就要問番個總承建商佢點樣去管理佢嗰個生產線。

問：但係 prefabricated unit 係咪嗰個 main contract 容許㗎，講明嘅，係咪呀？

答：全部都一定係個...

問：講明㗎嘛？

答：係，全部都係總承建商去負責嘅，即係不論嗰啲生產嘅產地係喺香港地盤現場，抑或喺香港地盤以外，都係由個總承建商係負責嘅。

問：但係業內好似有個感覺就話「Okay，噏，我唔理你，你預飛，簽紙就得㗎喇。」咁，係咪咁嘅呢，其實？個 licensed plumber，「你實際有冇上去唔緊要，最緊要要你個名。」

答：呢一點，我就唔敢代個水喉匠去答嘅，但係一般嚟講，如果簽得名嘅話，佢都應該係有一個即係管理嘅角色同埋個責任喺度嘅。

問：我睇一睇林德森講乜，你睇一睇 bundle Q，唔該，第 17 頁，呢個就係佢有一個會面嘅時候嘅紀錄㗎嘅，佢就話--第 3 段，就林先生確認有關嘅水務表格 WWO 47，林德森先生就係負責係做啟晴邨同埋葵聯邨，佢就話有關嘅水務表格 WWO 46 同埋相關嘅材料將會係由佢簽署及遞交，但據佢記憶所及，佢就未能確定實際安裝喺啟晴邨同葵聯邨嘅水喉配件是否有跟足該份申報表嘅申報內容而安裝。即係佢都唔 sure WWO 46 裏面寫嘅嘢係唔係即係實在--如果實際安裝嘅嘢。佢就話「林先生稱就啟晴邨及葵聯邨所使用嘅水喉配件嘅更改，作為負責該項目嘅水喉匠的他曾向該工程項目的駐地盤屋宇裝備工程師」，即係 Building -- Chief Building Service Engineer，係咪呀，呢個係？

答：呢個係如果係個--呢個名應該係 Building Services Engineer。

問：唔係 chief？

答：唔係 chief。

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問：唔係 chief, okay。「提出需向本署申報」，即係向水務署申報，「惟該工程項目的駐地盤屋宇裝備工程師曾向他表示無須修改及再次遞交有關的水務表格 WWO 第一及第二部分，由房署與署方的相關人員溝通即可，故林先生並無向本署遞交有關更改水喉配件的水務表格。」即係話房署有人同佢講話「你唔使 amend 嗰份 annex to 嗰個 WWO 46 嘅。」佢係咁講，你見到嘛？

答：我第一次見到。

問：好，你今日見到原來林德森咁講話其實房署人叫佢唔使改嘅，你有咩嘢反應？

答：我就咁睇落去，覺得呢一件--即係呢一個--呢一句句子有少少係匪夷所思，因為一般嚟講，照計，我哋嘅同事未必會咁樣同林先生去叫佢唔做某一啲嘅工作嘅。

殷先生：主席，我嘅指示就係呢一段入面所講話該工程項目嘅駐地盤屋宇裝備工程師未必係指房屋署嘅，嗰個 contractor，嗰個承建商自己有一個係吻合呢一個咁樣嘅名稱嘅人嘅。

石先生：Description，哦，得。咁遲啲我哋要逐個問，因為有兩個人人都叫做 Building Service Engineer，即係主席你知道 Housing 都會有一個 Chief Building Service Engineer。

主席：唔係，跟住嗰句話「由房署與」...

石先生：「處方」，係喇，「由房署與處方」咁嘛，咁即係好似即係個 context 就係由房署...

主席：由房署嘅屋宇嗰--即係屋...

答：不如我咁講一講，其實我哋合約裏面有要求個總承建商係聘用一個 Building Service Engineer，去負責佢地盤統籌一啲 building services 嘅一啲工作嘅，咁第一點。咁第二點，一般嚟講，我哋地盤都未必有一個所謂駐地盤嘅屋宇裝備工程師，即係 Resident Building Service Engineer，喺呢一個咁嘅合約裏面，我哋係有呢個咁嘅人員嘅，個 project 嘅 Building Service

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Engineers，就並非或者有一個係所謂駐地盤嘅 Building Service Engineer。

問：個 project 就有個 Chief Building Service Engineer，但係嗰個就唔係 on site 喺度即係...

答：佢有 Chief，下面有 Senior，有 Project 嘅 Building Service Engineer，但係我哋有咁嘅 luxury 有一個...

問：得。

答：...係駐地盤嘅 Building Service 嘅 Engineer。

問：Station 喺度嘅，okay。

答：係喇。

問：即係如果係咁嘅話，就我哋 China Construction 都會問下佢有冇嘅，遲啲就，因為呢個係 China Construction 嘅，中國建築，okay。已經忘記細節咁諸如此類。Okay，咁到最後就係有兩樣，就係 follow up 番尋日即係想請你幫忙嘅，第一，就係我想問你，就係話你哋內部嗰個架構，即係關於長期 update 嗰個 manual，因為尋日你同我哋講就係嗰張 form，37641，係 part of 一個 manual 嚟㗎嘛，咁我就話裏面有冇一個架構、一個 structure 可以畀到我哋睇你哋內部。

答：37641 係...

問：37641 係嗰張 form，37641，...

答：Okay，得，得，得，見到。

問：即係 form 6210，你記得嘛？

答：記得。

問：咁你有冇搵到即係相關嘅資料係關於即係你--房署裏面嗰個架構，即係究竟有冇邊啲同事、邊個部門即係負責去 update 嗰個 manual 嗰個問題？

答：好--我諗我即係講多少少個 story。

問：好。

答：就首先就有呢啲 inspection form，都係因應個 specification 嘅要求，咁我哋就會有一個相應嘅 site inspection 嘅 procedure 嘅，咁而喺今朝我都提過，關於係 fresh water plumbing installation 嘅 specification，就包括兩個部分，一個就係個 泵房，同埋喺 pump room 裏面嘅裝置，另外一個就係 plumbing installation 係 outside 個 pump room，而喺個 泵房裏面嗰個 specification 就屬於我哋有一個叫 FWP 嘅 specification，而喺個 泵房以外嘅就係喺 PLU1 同埋 PLU2 嗰兩個 specification 嘅，而喺負責呢一啲 specification 嘅同事，個團隊，Chief Building Service Engineer，我哋叫 CBSE2，個 team 就係負責打理 FWP 同埋 PLU1 嗰一個 specifications，而 Chief Architect (Development and Standards) 就係負責 PLU2 嗰部分嘅 specification 嘅，呢個就係大家個分工，咁就佢都係同樣係遞屬同一個助理署長嘅。

咁任何呢啲改動，其實我哋有一啲即係部門裏面就有一個叫 Joint Technical Group Building Services，另外一個就係 Joint Material Group，咁就係由呢兩個--如果 PLU1 同埋係 FWP 嗰部分有任何改動嘅，就會係由呢一個 Joint Technical Group Building Services 就係負責，而另外一個 PLU2 嘅，就係由個 Joint Material Group 嘅同事就負責去睇嘅。咁呢一個平台或者呢啲平台就係有我哋部門裏面新工程組嘅同事同埋就係物業管理同維修部分嘅同事同時係進行一啲 review，就因應係有一啲 performance feedback，同埋就係一啲最新嘅物料嘅發展，然後加埋就係諮詢埋業界，然後先至再--甚至係規管部門，先作一啲改動或者係 update 嘅。

另外就到到嗰啲 specification，佢要經過審批程序，都係部門我哋有一個 Development and Construction Management Board 就去再即係參考、參閱，然後先至出嘅。

仲有，就係--呢個就係講嗰個大概情況，再講多少少嘢，就係喺 2010 年嘅時候，我哋請咗一個顧問，就幫我哋就再 review specification for 一啲係 Building Services 嘅 installations，咁就包括埋頭先我提到嘅 fire service and water pump，即係 FWP 個 specification，同埋仲有 plumbing，就係 PLU1 嘅 installation。咁嗰個就係我哋就想我哋 specification 可以與時並進，因為用咗咁多年，我哋就會有一個 review，咁而嗰一年，就我哋搵直情--唔係淨係自己做，仲聘用一個係顧問嘅屋宇裝備嘅公司幫我哋去進行呢一個 review，同埋 cope

with changes in international standards, 因為知道就世界上有好多可能新嘅發展同改動, 包埋 trade 同埋 professional practices, 就因住即係可以話與時並進, 根據最新嘅 technology, review 埋嘅, 呢個工作就係 2013 年就完成咗, 而所以話頭先講到最新嘅 spec. 就係 2014 年版本出現嘅。

咁但係喺呢一啲即係 review 嘅同時, 我就講番就係呢張 form 6210, 即係大家睇而家呢度係 3741 呢張 form, 咁呢一張 form 其實就係因應或者順應當年 2004 年嗰個 specification, 就應運而生嘅, 因為 2004 年嗰陣時就有好多我哋嗰啲 review 之後, 就擺咗一個 clause 落去, 就係寫到明, 就有個叫做 on-site delivery verification, 咁既然合約個規格有呢個要求, 個 site inspection 都要有呢一個 on-site verification, 就係咁嘅意思嘅。咁呢一個就係--即係呢一個就係我話所以係我哋地盤嗰個檢測好多時都會係因應嗰個合約規格與時並進嘅時候因而發展嘅, 咁呢個 form 就係 2005 年。

咁就一路就如果我哋話我哋收到如果有任何嘅警示令到我哋去改動個 specification, 咁呢一啲 inspection forms 嘅內容都會應運而生, 就再改動, 或者因應我哋喺 site practice 發現某啲物料可能係 prompt to 某一啲嘅 incidents, 我亦都會擺落去呢一個咁嘅要求裏面嘅, 咁呢個就係由地盤前線嘅 feedback, 同埋就係我哋有一啲係用家用咗之後個用戶嘅 feedback, 同埋仲有就係業界裏面係與時並進嘅要求, 一併去改動。咁關於呢個 form 自己, 就即係我就再講番個 form, 頭先我提到 review 個 specification 就已經係有兩位係即係 chief 嘅同事負責, 咁去到呢個係叫做 DASM, 即係呢張 form 裏面嘅運作, 咁呢一個 manual 就係叫--就係一個係 site inspection 嘅 manual 嚟嘅, 咁其實我哋呢一啲 manual 就每一年都有個 annual review 嘅, 咁當然個 review 就唔係張張 form 每一版都有嘢要更改嘅, 但係每一年都有一個 review, 因應當年嗰個 feedback, 就去 update 個 manual, 同埋有一啲--某一啲嘅測試等等, 可能都要與時並進嘅, 咁呢個就係整體運作係咁。而係負責嘅同事--呢一個 manual, 嗰個 review authority 就係 Chief Architect 嚟嘅, 咁就係我話因住機構嘅改變, 就會係可能有唔同 designation 嘅同事, 就 review authority 就 2002 年至 2012 年呢十年就係一個--個 post title 就係 Chief Architect 1, 2012 年就係 Chief Architect 4, 2013 到現在就係 Chief Architect 5, 咁就因住我哋機構個改變, 就有唔同嘅 post 去負責, 而個 issuing authority 一向有一個即係適任嘅 Assistant Director 就去負責做一個 issuing authority, 咁呢個就係我哋

嗰個運作上面嘅 operation。但係即係成個 document，即係呢個 manual 裏面嘅改動就係集思廣益嘅，同埋係因應嗰個即係地盤或者係業界不斷嘅發展，亦都係與時並進。而我哋有 record 都係每年都有 review，咁一向以來，每一年都有些微嘅改動，就係睇下佢係改邊一部分嘅工作。

問：你剛才講嗰個 reviewing authority 嗰咋，譬如話 CA1、CA4、CA5 就係即係呢個係 attach to 個 post 嘅，即係 whoever occupies the position of CA4，就係佢做喇？

答：係，正確。

問：因為呢啲調嚟調去㗎嘛，我哋知道係。

答：係，但係佢下面係有一個團隊嘅，因為我哋一向嘅工作或者運作就係有分工，有合作嘅，就唔係佢自己一個人就即係自己做晒一份。

問：得，得，得，得，得，明白。另外就係可能你已經即係解答埋我呢個問題㗎喇，就係咁呢個我哋尋日講咗啲例子，就係關於即係 paint 嗰幾度，係點樣即係寫咗落去嘅。

答：係，我就係話因應個 specification，當年佢寫落去嘅時候，就即係寫到明或者訂明咗佢要有咁嘅 requirement，咁跟住就喺個 form 度會 reflect 出嚟。

問：因為--係，冇錯，因為我都睇過 FIN7，好厚嘅，FIN7，我哋睇一睇，不如，FIN7，900 頁--唔好，我哋由頭睇起喇一係，呢個就係--哦，呢個啟德--呢個啟晴邨嚟嘅，okay。呢個啟晴邨嗰個 contract book 嘅其中一部分，因為成本嘢好厚嘅，你知道喇，嗰啲 contract，咁我哋就抽咗即係有關嗰啲出嚟。呢個 FIN7 就係 proprietary suspended ceiling，有度係講 paint 嘅，佢嗰啲 requirement 就好多，你見到，你睇番譬如話 895 咁樣，佢呢度就講到有 Submission Requirement，呢度就係講佢如果要呈交一個 sample 畀房署去 approve 嘅時候，嗰啲 requirement 就係跟呢個 Submission Requirement，係咪咁解？

答：係，正確。

問：咁就有一大堆就 quality requirement 咁樣就到 896 咁樣，你跟住睇喇，“quality and performance requirements are as follows”，896，咁就有“Preliminary examination of paint”

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咁諸如此類，呢度就係教就係當第一部分，即係要房署去 approve 嗰啲漆油嘅時候，就要跟呢一拵嘅 criteria 去 test，係咪咁解？

答：係，正確。或者...

問：呢個就係 part of the contract，其實即係個 contract 本身已經話到明教你哋點做㗎喇，其實，係咪咁解呢？

答：通常佢呢個係 submission requirement，即係佢要畀到一啲 certificate，就係證明佢嗰個物料係 comply 嘅。

問：哦，即係佢未必一定要係畀房署，房署做呢啲 test 嘅，佢只要畀到啲文件證明佢 fulfil 咗呢啲 test 已經得㗎喇？

答：通常係 document check，因為如果唔係，我哋啲物料咁多--即係咁多...

問：係喇，佢畀桶漆油你，你就擺番去咁樣驗，就唔係咁做嘅？

答：係，咁我哋一定就係睇番佢嗰個 test certificates。

問：Okay，得。咁你跟住睇 897 嗰度，897 就係“On-site Delivery Verification”，呢度就係個合約嘅規定，就係去到個地盤嗰度要 verify 嗰啲物料，就係用以下嘅方法去 verify？

答：正確嘅，係喇。

問：咁所以譬如話 verification item 就一拵嘢，proprietary brand name、manufacturer's name 嗰啲就叫你用眼睛，睇下嗰個包裝嘅資料係唔係符合 Approved sample，咁就中呢，咁就即係 tick，譬如話 labelling，咁就 visual check 咁樣，即係個合約本身就已經講到明呢啲 paint 係要 check 嘅，用呢啲嘅 check 法，咁所以就順應地，喺頭先我哋睇嗰張 form 上面就有提及到譬如話有相關嘅 FIN7 嗰個 clause。

答：係。

問：其實即係話畀人聽，就話「喺，呢度 paint 呢度呢，個合約就要你 check 嘅」...

答：係。

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問：...「你就攞番本合約，跟番個合約裏面叫你點 check，你就點 check 喇」咁，係咪咁解呢？

答：呢個係可以咁樣去理解嘅，係，但係呢個 on-site delivery check 即係話佢一定要即係 check 晒呢一啲 items up，佢呢一個就講到明，就係“inform CM’s representatives who may present to witness the verifications”。

問：係，“inform Contract Manager’s representatives who may present to witness the verifications”，但係一定要㗎嘛，根據你嘅 record form？

答：正確嘅，係。

問：咁所以基本上就係合約裏面定下嗰個 on-site 嗰個 verification 都係靠肉眼或者係靠一啲文件上嘅證明？

答：係。

問：好，唔該。你等我睇下先。

石先生：我有第二啲問題。Sorry，我有第二啲問題。

主席：就邊位...

陳先生：My Chairman, may I openly apply to ask questions of Ms Fung?

主席：仲有冇其他律師想問問題，想問？除咗水務署之外，有冇其他律師係想問問題，Mr McCoy，仲有冇其他律師想問問題？冇，仲有一、二、三、四，三個，咁不如我哋 take 一個十分鐘嘅 break 先，跟住十分鐘之後，我哋再繼續。

下午 3 時 28 分聆訊押後

下午 3 時 40 分恢復聆訊

出席人士如前。

主席：Mr Chan。

香港房屋委員會第二證人：馮宜萱女士（房屋署副署長（發展及建築））
宣誓繼續作供
陳先生盤問

問：Ms Fung, I know it's been a long couple of days. Perhaps I can speed things up by first asking you this. Did you hear the oral testimony of Prof Cheung on Monday and Tuesday, or if not, did you have some opportunity to read the transcript of his evidence?

答：我聽過，但係我有睇過個 transcript，我聽過張主席嗰個答問嘅。

問：And is there anything, in terms of the evidence that you heard, that you would disagree with or wish to bring up?

主席：呢個問題太闊，太...

問：Ms Fung, you were asked some questions yesterday about the Housing Authority's lack of awareness as to certain lead-related risks and about the authority's risk awareness approach in general. Do you remember that?

答：我記得嘅。

問：I would like to ask you a few more questions in this area, and let's see if we can perhaps add a bit more light and context to the matter. Let me start with the Housing Authority's approach specifically to the risk of non-compliance with the specifications which the Authority has included in its building contracts and documents, since this really goes to the heart of

matters. Am I right that, as a matter of practical reality, a given building contract that the Housing Authority may have may involve dozens or indeed hundreds of specific requirements on design, technical or managerial matters?

答：Can you please repeat the last part of your question?

問：Yes. Is it right that for the average or standard contract that the Authority will have in terms of its construction projects, the number of specifications that you will find in the contract would number in the dozens if not the hundreds?

答：The specification I think is over 9,000.

問：Oh, in the thousands?

答：I think I've got it in --

問：Over 2,000? 9,000 or 2,000? Anyway, it's in the thousands.

答：If I can refer to the paragraph. It's 9,000-something.

問：So in the thousands? I don't need a precise figure from you, but it's a high number. Isn't the reality...

答：Over 9,000 and about 280 refer -- related to the plumbing installations. I think it's a total of over 9,000 specifications and about 280 are relating to plumbing installation.

問：Yes. Now, the reality is that, in theory, any one of these stipulations could be breached by the contractor of the...

主席：你可以用中文答又得，英文答又得，...

答：Okay。

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C 主席：...隨便你。
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E 問：I'm sorry, yes, we should have raised that. Whatever
F language you are most comfortable in, Ms Fung, in
G answering in, please feel free to use that, although
probably logistically it's helpful if you are
consistent in the language that you use for your
answers.

H 答：Sorry, please repeat your last question.
I

J 問：Yes, of course. So, of the 9,000-odd stipulations in
K total, of which I think you have told us there are
L nearly 300 relating to plumbing, from a risk
perspective, in theory anyway, any one of these
specifications might be breached or not followed by
a contractor who's required under the contract to
follow the specifications; is that right?

M 答：一般嚟講，我諗係我哋風險管理，就唔係同嗰個 specification 數
N 目嘅多寡係而掛鈎嘅，主要原因，我睇番我哋都係一個係如果用喺一
O 個風險為本嘅角度去睇，就不論嗰一啲 specification 嘅要求係點
P 嘅情況，我哋都會要搵一啲方法去處理嘅，咁一般嚟講，就係如果睇
Q 番嗰啲物料，我哋知道佢會係容易有問題出嘅、高風險嘅，就會有一
R 啲 measures 去處理，咁而一啲比較相對地大家都感覺佢風險唔高
嘅，就照一般嘅常規去處理。

S 問：So, in other words, it's necessary, given the limited
T resources of the Authority, to base, really, its
U priorities on some risk management system or some risk
V management assessment; is that correct?

答：呢點係正確嘅，即係根據--一般嚟講，就我哋嘅合約就將嗰個即係承
建嘅責任就係將佢係叫個承建商去負責嘅，咁喺我哋嚟講，就作為房
委會一個公營機構嘅業主，就派駐我哋嘅同事同埋一啲駐地盤嘅人員
就幫我哋手，所謂做一啲就係抽查嘅工作。

問：In relation to the lead incident that we are now
inquiring as to, would you agree with this, that the

real question in relation to awareness is not whether the Authority or others in the industry should have generally known that lead can be harmful to health, or indeed that lead may end up in water through a number of different possible ways. I suggest to you that the real question as to risk is much more specific, namely: what was the risk that contractors within Hong Kong who were required by contract to use non-leaded solders would not do so?

主席：我唔明你條問題，太長。

陳先生：I will break it down. I will break it into two parts.

問：Do you agree that the real risk that the Housing Authority had to guard against in this case, in relation to the use of non-leaded solders, was the possibility of contractors not complying with the specific contractual specifications? In other words, having specifically specified in your contracts that non-leaded solders were not to be used, ...

主席：都係太長。

問：...there would be a risk of non-compliance?

主席：太長，follow 唔到。

陳先生：I was thinking of doing it this way, Mr Chairman: if I put the proposition, I simply want to see whether the witness agrees with it.

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主席：你個 proposition 太長，你可唔可以簡單啲？

陳先生：Okay.

問：Ms Fung, isn't the great risk, in relation to the contracts that the Housing Authority has, not that you have not included a specific clause as to non-lead solder, but that they would simply not be followed in practice?

主席：對唔住，我可能係一個刑事嘅法官，太長，請再簡單啲。

陳先生：Yes.

問：Why don't I approach it this way, Ms Fung: isn't it right that in relation to the construction industry in Hong Kong, which is very large and very active, before this lead incident, the Housing Authority had no knowledge of any incident in Hong Kong where a contractor had used a lead solder when it was told to use a non-lead one?

答：主席，我諗我哋冇察覺過有咁嘅問題，咁關於個 risk，就嗰個 risk 就係 risk of occurrence of 呢啲-- of this non-lead-free solder，我哋係冇察覺過嘅。

問：I will ask you a few questions in a moment as to the process by which you select contractors for Housing Authority projects. But could I first ask you whether it's safe to assume that in the construction or before the construction of these 11 affected estates, there was a careful vetting process in relation to each of the contractors that were selected?

答：呢一點係正確嘅，我哋有一個房委會嘅承建商名冊，佢哋一定要符合

一啲基本嘅要求，先至可以喺個名冊上面，包括係技術嘅要求，佢喺香港嗰個工作過往嘅業職等等，同埋財務要求等等，咁係有一--佢有一定嘅要求，包括埋仲有就係喺屋宇署，佢有一個係註冊嘅承建商，同埋就佢亦都需要有各類唔同嘅 ISO 嘅要求，例如係品質管制，就係 ISO 9000，環境管理就 ISO 14000，仲有就係安全嘅管理 OHSAS 18000 等等，咁佢仲要有--而家就有--有埋 ISO 50001 嗰個能源管理嘅要求，咁喺我哋嚟講，一般要求個承建商都要係有實力，同埋係喺香港都有--起碼有三年嘅經驗嘅。

問：I pause for a moment because I have been requested to pause to allow the transcribers to hear the translation first before I continue. Ms Fung, do you recall questions put to you yesterday involving an incident of lead contamination in Scotland, and also similar matters in Wales and the United States? If you don't recall, that's perfectly fine.

答：我以前係未睇過呢啲過案，係琴日係第一次睇嘅。

問：In relation to foreign, overseas experience, may I ask you this. As far as the Housing Authority is concerned, does it actively consider or take into account guidelines given by the World Health Organization, the WHO?

答：簡單回答，我哋係沒有嘅，因為我哋相信如果 WHO 有啲關於世衛嘅要求，就一般嚟講，會喺法例裏面都已經反應咗嗰個要求同埋各類嘅檢測。

問：Now, in relation to the WHO -- and do tell me if this is not within your knowledge -- are you aware that part of the fundamental mandate of the organisation is to direct and co-ordinate international health measures and matters of international health awareness? Is this something familiar to you? If not, I will move on.

答：No.

問：That's fine.

答：呢一個唔係我哋一個即係工作職能嘅範圍，我哋所以--如果要即係睇番一啲全部呢啲要求，都會係睇番相關香港嘅法例，然後去遵守，咁啲遵守嘅同時，如果我哋覺得可以做得更加好、更加安全嘅，我哋可以再做多一步，不過建基於都係香港法例、法規嘅。

問：You were taken earlier today, I believe, to a further new document to this inquiry. I believe it's in bundle A2 at page 888. It's a report of an Advisory Committee. Perhaps we can go to that document. It's bundle A2, page 888. To begin with, this is the press release in relation to the setting up of the Advisory Committee. Do you recall a series of questions being asked in relation to the work of this committee?

答：（沒有可聽到的回答）

問：Could you ask you please then to go to the report of the committee, which I believe is at bundle F1, page 32. The first page of the report, just for context, starts at page 30 of the bundle, and I believe you were taken specifically to paragraph 9 and the first sentence of that paragraph. That's page 32 of that bundle. Paragraph 9, the first sentence, reads: "In the UK and [the United States of America], the most common problem is the presence of lead in water since during their development stage, lead pipes and lead-soldered copper pipes were widely used." Do you have that statement in front of you?

答：Yes.

問：Can you please tell the Commission whether, in your knowledge or experience as an architect, the use of lead pipes and indeed lead solders were, in certain countries, quite common place up until relatively recent times, the last few decades; is that correct?

答：如果作為我一個喺房委會--房屋署做副署長嘅角色去睇呢一個文件嘅內容，佢呢一句嘅意思就話畀人聽喺英國同埋係美國有某一啲問題，但係呢一個問題似乎當年喺呢個會議裏面都冇人將佢 pick up 作為

係一個喺香港需要面對嘅 issue。

問：In fact, if one is referring to the development stages of the United Kingdom and the USA, we would probably be looking quite a few years back. My question is, if the context is one of maintenance, the maintenance of buildings and the safety of water quality there, that is an entirely correct statement, to point out that, in the past, leaded solders had been used; is that correct?

主席：我唔係好明你嘅意思，我嘅理解就係鉛嘅水喉就用咗幾百年，有鉛嘅 solder，就好似唔係好 common 用嘅啫，如果我嘅理解係冇錯誤，呢一句我諗個意思就係可能話喺起屋嘅時候就出現咗呢啲咁樣嘅問題，因為可能幾--應該咁講，呢一、二百年起嘅屋就最初就可能都用鉛嘅喉管，好喇，跟住去到譬如 1993，我哋見到美國 EPA 個報告，2000 年蘇格蘭個報告，咁就發覺喺呢啲新造嘅屋裏面，當起呢啲咁樣嘅銅喉接駁嘅時候，就發覺有人用鉛嘅 solder，我嘅理解就係咁嘅意思，就唔係話乜嘢 maintenance、乜嘢嘢，基本上就係話「啊，historically 就有呢啲咁嘅 problem，以前就用鉛管，後來用銅管，就有鉛嘅焊料」。係喇，就係咁樣嘅理解，係咪呀？

陳先生：Yes.

主席：即係簡單啲嚟講，因為唔好講到咁複雜。

陳先生：Yes, Mr Chairman. I understand that.

問：Do you have any comments in relation to what has been stated at the first part of paragraph 9, from the perspective of the Housing Authority?

答：第一，我第一次睇呢一句，今日先第一次睇，但係同埋係我就覺得當年就有人有意識到或者認為係銅喉或者銅喉嘅焊料係會含鉛係有問題，因為如果唔係，可能呢一個諮詢委員會都當時可以將佢拎出嚟做一個課題就去探討嘅，但係我睇完呢一段，由第一句去到最後個句，似乎都有再跟進呢一個課題嘅，咁所以我有理由相信就係當時呢一個

委員會亦都有將呢一個問題拎佢出嚟作為一個係 risk area 需要去 address 嘅，我就會咁樣去睇就呢一--去解讀呢一段第 9 段。

問：Thank you for that clarification. Now, Ms Fung, moving to a slightly different area. You were asked certain questions yesterday about a document issued by the Water Authority in August 2012, titled "Guidelines on Cleansing and disinfection of Fresh Water Inside Service"; do you recall that?

答：（沒有可聽到的回答）

問：You may need to say "yes" rather than just nod. Now, if I understand your evidence correctly, yesterday, you seem to say that, in certifying that the materials used in the 11 affected estates conformed with the British Standards, you looked to the 2012 circular and the eight testing parameters in that circular. Do you recall that part of your evidence?

答：Yes.

問：First, may I just clarify with you: am I right in this, that of the 11 affected estates under inquiry, only three were completed after 2012, ie after the guidelines were issued?

答：I think I have to check that, as a matter of fact.

問：Perhaps I can assist with this. In relation to Kwai Luen Estate, I believe that was around 2014; Kai Ching, 2013; and Wing Cheong, that's 2013 as well. But certainly so far as we can see, the remainder of the estates were completed prior to 2012.

答：That's correct.

問：Thank you. Now, in relation to those estates and the certification process there, what then was the Housing Authority -- what did it take into account, in the absence of the 2012 guidelines?

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答：我諗全部嗰啲測試都係要因應當時 prevailing 嘅 requirements 去做一啲測試嘅。

問：Now, in relation to the estates that you said you referred to the 2012 guidelines for, you agree firstly that lead content was not one of the eight parameters set out in the guidelines in that circular; is that right?

答：正確。

問：Could you please explain, in that case, how the Authority considered that a set of parameters that did not include one which tested for lead would be of any help or relevance in verifying whether the solders which had been used in the Authority's developments contained lead? In other words, Ms Fung, in relation to the certification of non-lead solders for the Housing Authority's developments, what, as far as the Authority is concerned, is the relevance of 2012 circular?

答：我只可以用第二個方法去答，就係一向以來，我哋都有呢個所謂 risk awareness，就係關於有水中含鉛，而令我哋諗到可能係啲焊料含鉛嗰個風險，咁一向以來，我哋真係如果要 test 嘅話，我哋就相信跟足水務署嘅要求，做一啲適當嘅測試，即係一啲 test，咁當然喺唔同時間可能就有唔同嘅要求，咁就應該係可以令到我哋嘅食水係合乎一啲係衛生嘅要求嘅。

問：Thank you very much. Now, in relation to an area which we touched upon earlier, the selection process of contractors, there's also a nominated subcontractor arrangement that the Authority sometimes enters into; is that correct?

答：呢個係正確嘅，一般喺屋宇裝備嗰啲部分，我哋就會有一啲 nominated subcontracts.

問：Is it correct that there is a nominated subcontractor arrangement for plumbing subcontractors for fire services construction, but not for inside service?

答：我哋係有一個消防水泵嘅指定分包商，但係食水安裝嗰部分，一般嚟講，行內好多都係屬於係 domestic subcontracting，就通常包括係咩嘢嘅，就係即係汲水、排水都係同埋一個分判嘅合約嘅，就唔係淨係汲水，即係唔係淨係 water supply，而仲有就係就 drainage 都包埋一齊。

問：And in general terms, how does the Housing Authority decide when to use a nominated subcontractor arrangement and when not to?

答：一般嚟講，如果係一啲係主要嘅屋宇裝備嘅工程，咁就由一啲--即係有啲特別嘅法例規管，咁我哋就會將佢係擺落去一啲係指定嘅分包商，咁就一般嚟講，就係所以我哋講到就譬如消防水泵就係其中一個例子嚟喇，另外就可能有譬如升降機、電力裝置等等。

問：Is there a documented set of criteria that the Authority refers to for cases where a nominated subcontractor is considered appropriate? Is there a set of criteria that's been set down?

答：係，喺我哋房委會嘅名冊上面都有一啲係 list of contractors，就當呢啲係指定分判商嗰啲名冊嘅，例如係消防水泵有一個系列，電力裝置有一個系列，就升降機又有另外一個系列。

問：Ms Fung, in your earlier evidence, you referred to periodic supervisions of ongoing construction that was carried out by staff of the Housing Authority. Could I ask how the frequency of those periodic supervisions was determined? How frequent were these supervisions and what considerations went into deciding the frequency?

答：一般嚟講，我哋都係以一個即係風險為本嘅一個方法就去釐定或者係去決定我哋嗰個 inspection 嘅 percentages 係幾多嘅，咁就每一--我哋有一個標準，而每一個合約嗰個我哋指嘅同事，個 chief，即係個 project manager 都可以有咁嘅權力或者有咁嘅機會去因應佢嗰個 project specific 嘅 need 去再將佢再改動嘅。

問：So, if I understand your evidence correctly, it all falls within the discretion of the managing parties or the Authority; there's no fixed protocols or

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parameters as far as frequency is concerned?

答：我哋有一啲--係，我哋有一啲基本--基準嘅 frequency 或者係 inspection 嘅 percentages，有一啲係 100 per cent，咁有啲可能 10 per cent，有啲就係一個工場裏面，就 check 幾個--幾次咁樣，咁係有一個基準，但係呢個基準同埋喺呢個框架底下，就係個別嘅項目，佢可以有自己嘅微調或者有自己嘅調校，因應佢哋嗰個合約嘅特質而定。

問：Are there any guidelines that one can refer to at least for a general indication as to the level of frequency or regularity that inspections would be made, general inspections, for a given project or a given type of system within a project?

答：呢啲係有嘅，有一啲基本指引，係有嘅。

問：So, in relation to plumbing systems, as far as you aware or as far as you recall, what guidance was given in relation to the frequency of inspections of plumbing works in particular?

答：呢一個頭先其實係今日睇過某一啲 exhibits 都有見過嗰一...

問：Per cent...

答：...都見過嗰個 page 嘅，percentages of inspection，睇到係譬如 PLU1、PLU2 嘅呢啲，有邊一啲係 100 per cent，有邊啲係 10 per cent，有啲就係--咁樣嘅分界嘅。

問：Perhaps you can assist by explaining how, if at all, this concept of percentages of inspection differs from frequency or the period of a particular inspection. You have referred to -- and we remember your evidence as to different percentages -- 10 per cent, 100 per cent. But is that the same thing as the frequency of inspection or supervision?

答：其實 frequency 或者 percentage 都係即係同嗰個即係所謂視察嘅頻密係有關係嘅，咁所以就唔--所以我哋--喺我哋嚟講，要訂定嗰個所謂 frequency，定個 percentage 就已經足夠㗎喇。

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問：And would you be able to give an answer as to how the frequency of the Authority's inspection of, say, plumbing construction would compare to that of an authorised person in a private project development and the frequency in which plumbing construction would be inspected in that private context? Is there any difference?

答：咁我哋就一般我哋嘅 practice 同業界大概係相約，但係我哋冇做過一個 direct 嘅 comparison，跟 private sector 嗰度。

問：Thank you.

答：我哋所即係訂定嘅 percentage 就係同我哋現在我哋睇嗰個風險同埋嗰個人手同埋喺地盤嗰個運作，係以嗰個做一個--即係一個比例去訂定嘅。

問：Thank you. Now, Ms Fung, as a matter of your experience in the Authority's construction work, would you agree that it's generally preferable, in terms of time or practicality, to ensure that there's compliance with building specifications during the time of actual construction, rather than when construction is completed?

主席：再講多一次，唔該。

陳先生：Yes. I would like to know from this witness whether she would agree that...

問：If you are going to focus your efforts and resources in assuring contractual compliance, the best time to do it is when the plumbing system or whatever it is you are looking at is in the actual process of being built and not just afterwards?

答：喺嗰個 in-process 嗰個 inspection 同埋喺佢嗰個最後完成嗰件

工程嘅 inspection, 我哋睇佢係同等重要嘅, 唔會話一個就可以取代另外一個, 咁同埋特別係如果 performance base 或者 output base 嘅一啲 product 嘅話, 咁最後個製成品係好緊要, 同埋個 performance, 有啲譬如係水喉等等, 你即使做完每一個接駁位, 最後佢要成個 installation 都要係完整, 先可以測試嘅, 嗰啲更加係最後個 testing and commissioning 係尤其重要, 呢一類就同一般即係 M&E 嗰啲好相似, 就完之後, 最後個測試, 如果佢唔 pass 嘅話, 你就要去 check 番究竟邊個環節佢會出錯, 咁就再去 rectify 嘅, 咁當然個代價就會大過佢一早就 do it right first time, 但係係兩套嗰個 checking 都係相輔相成, 而唔可以話用一套係取代另外一套。

問: Perhaps we can hone in a little bit on the question of leaded solders and their use and the checking of that. We have heard evidence about the different packaging that solders come in. Do you recall that? You have "FRY", you have other materials that the solders themselves come packed in. Do you agree that one simple way of checking, or verifying the content of the solder is by on-site visual inspection at the time when these materials are brought in, when they are still in their packaging or when they are being unpacked?

答: 現在嚟講, 即係唔可以講番以前, 因為以前我哋就真係呢個有一個 risk awareness, 就有 check 嘅, 咁現在嚟講, 我哋唔淨只係目測或者睇佢嗰個來貨單, 而係佢應該仲有個 quarantine 嘅 system, 即係物料到地盤, 就有個檢測, check 下佢, 因為你--我信佢個樣係啱, 你唔知佢嗰個物料本身係唔係真係 complying 嘅, 就要再用一個 testing, 就係將嗰批次嘅貨品再 check 一 check 佢係咪真係無鉛, 然後先可以係 release for use 嘅, 咁嗰個就唔淨只係 on-site delivery check 咁簡單, 嗰個我哋而家擺落去嗰個更高規格, 一個叫 quarantine checking, 咁驗明佢係正貨, 係合晒規格, 然後先可以 release for use by workers, 跟住 workers 拎去邊度用, 仲要有個 traceability, 即係邊個工友拎咗嗰啲物料喺邊一個地方去工作都要 traceable, 日後就可以即係追查番, 如果有問題嘅, 就知道邊一個環節或者邊一個人係會用咗一啲係違規嘅物料。

問: I understand what you say about these additional or

other checking measures. But in relation to the simple method of going on site, looking at the packaging of the solders, will you agree with me that that is a very simple, effective way of conducting a spot verification of what materials are being used?

答：不如咁樣講，如果對一隻物料，原來佢係有高風險，擔心佢出錯嘅，就咁靠目測嘅，如果係怕佢個物料嘅成分係唔合規格嘅，就算目測，對完佢個樣，亦都會擔心嘅話，的確要用一啲儀器或者用一啲更加科學嘅方法去測試，先至可以確保佢隻物料係達標嘅。

問：All right. I hear what you say. Now, can I ask in relation to one particular paragraph of your witness statement, paragraph 78. It's page 37541 and I think internally page 39. Paragraph 78 of your witness statement. You say there there's no cost information, to your knowledge, in relation to the bills of quantities, but you refer to investigations where the Authority discovered that there is no significant cost savings in the use of soldering materials containing lead. Do you have that in front of you?

答：Yes.

問：Could you please elaborate a bit on what particular tests or investigative steps were actually taken for you to make this statement, in relation to the saving of time? What investigations were actually made by the Authority in relation to this?

答：呢一個 investigation 就係即係有呢件事之後我哋去進行一啲調查所得嘅，例如頭先今日都大家提過每戶或者每一伙就有慳咗幾多錢嗰一個 document，同埋就睇市面再 check 一個價錢，因為之前喺我哋合約裏面嘅 bills of quantities，就有呢一個 cost information，因為 soldering 就唔係一個獨立嘅一個 price item，佢只係係嗰啲銅喉裏面 built-in rates，就已經包埋嗰啲 soldering 嘅，咁所以我哋當時--我哋以前係睇唔到，亦都唔知道佢落價係落幾多，所以亦都有去追查究竟呢個合約或者一座樓佢需要用幾多數量嘅物料嘅，即係呢一句嘅意思就係咁。

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問：Ms Fung, it may be my fault, but I'm not quite sure I got an answer to my question as to the investigative steps that were taken.

答：呢一個 investigation, 就係話我哋分析就係佢嗰個--即係嗰個價格, 即係物料嘅價格, 同埋仲有就係嗰個用--即係含鉛焊料同埋用無鉛, 用個 lead-free 嘅焊料, 需要嗰個時間, 即係我哋睇兩樣, 因為我哋之前係冇呢個 awareness, 更加冇呢個 risk awareness, 咁我哋事後--因為有人話畀我哋聽, 就係話即--個價格就分別唔大嘅, 甚至有啲人話分別好細嘅啫, ...

問：Now...

答：...不過就可以慳到時間, ...

問：Yes.

答：...咁我哋就只可以就--我唔可以就咁靠聽業界講, 我哋都喺地盤都做過一啲測試, 就係睇下佢做嘅時間係咪慳到呢? 發現係慳唔到時間嘅, 咁但係價格方面亦都係相差亦都係唔大嘅, 呢一段就係咁嘅意思嘅。

問：Ms Fung, am I right in thinking that for a typical multi-storey building, such as one which the Authority would have, there could be up to 96,000 or 100,000 joints that would need to be soldered for that development, about 100,000 or 90,000 joints? Is that an accurate estimate, or if not, what would you suggest?

答：呢一個就視乎個設計而定, 不過一般嚟講, 係會有--每一座樓, 睇下佢有幾多個單位, 咁隨時可以係過萬個 joint 嘅, 睇下佢有幾多個單位, 每座樓, 同埋就係佢個設計係點樣樣。

問：Would you accept or agree with me that if there is even a very small time saving between types of solders for a particular joint, for a single joint, that could become a very significant saving if multiplied across this sort of scale, among the 100,000, 90,000, 80,000, joints in a building?

答：呢一個我哋就話即係如果大家知道有個後果係咁嚴重嘅，就唔應該睇佢有冇慳到或者慳唔慳到錢或者時間，即使--佢慳嘅時間或者錢相對其實就唔多嘅，即係如果由我哋後來佢嗰個調查就睇到佢慳嘅錢同埋慳嘅時間亦都唔會係多嘅，但係佢如果用一啲唔合規格嘅物料，如果一經畀我哋發現，要佢全部嘅喉管拆晒再去做嘅，嗰個代價係會更大嘅，咁佢如果--即係如果知道後面有一啲關卡察覺到如果佢用嘅料係唔啱規格，佢要換晒佢嘅，個代價係會好大，即係如果我哋係最尾要check 佢有冇鉛--有冇水中含鉛或者係焊料含鉛，而佢知道有呢個風險嘅話，亦都--佢都唔會咁--即係所謂咁愚蠢就要去犯呢個風險或者冒呢個險嘅，但係因為個--如果佢知道有個 consequence，如果係有呢--有一啲--即係後面有一啲係 checking 嘅 mechanism，等我哋可以察覺得到呢個問題嘅話，佢係一定走唔甩嘅，咁佢呢個--佢 aware 呢個 consequence，佢就唔會係因小失大嘅。

陳先生：Mr Chairman, I propose to move to a new area of questioning. In fact, Mr Wong may continue tomorrow when I am not here. I understand that Mr McCoy and Mr Pennicott may have an application to make, so I wonder if this would be a useful point at which to pause my questioning or the Department's question and to continue tomorrow morning. I will allow Mr McCoy to make an application.

MR PENNICOTT: Mr Chairman, if I can make the application. I make it primarily on behalf of China State but I understand it is supported by the other three main contractors. It relates to the date of service of the witness statements by the four main contractors. As currently directed, we are to serve by close of business on Monday afternoon. The application is for an extension of time for 48 hours until the end of Wednesday of next week. The reality of the situation is that we've had resources tied up in the hearing. I have mentioned this to Mr Shieh. I'm not quite sure what position he takes. But we would invite you to make a direction that we have a 48-hour extension of time. I can't see how any prejudice can be caused to anybody. We are not going to get to the contractors'

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witnesses for a long time yet, on the present rate of progress.

主席：Yes?

MR MCCOY：Paul Y General Contractors Ltd entirely supports the application.

主席：Yes?

林國輝先生：On behalf of Shui On, we also support.

石先生：我就見唔到有任何嘅即係影響嘅對我哋，因為即係我哋係唔係禮拜一同禮拜二都唔會有，就直情，咁所以就我亦都見唔到話會拖慢咗個進展，所以我係唔會反對嘅。

李先生：主席，就住我代表有利及同埋伍克明，都係希望同樣嘅申請。

主席：星期三？

李先生：星期三，係。

主席：即係幾多點呀？

李先生：Close 就係四點半。

主席：四點半？咁就星期三，四點半之前 file witness statements。

馮女士，今日我哋都聽咗好多你嘅證供，都差唔多，麻煩你聽日再返嚟，啲律師都仲有啲問題想問你嘅。

答：好，得。

主席：我哋聽朝早 10 點再繼續。

答：多謝主席。

主席：我哋休庭，唔該。

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食水含鉛超標調查委員會

2015 年 11 月 5 日

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2015 年 11 月 5 日
下午 4 時 23 分聆訊押後

C Thursday, 5 November 2015 C

(10.03 am)

D (Transcript of simultaneous interpretation except where
E otherwise specified) E

CHAIRMAN: Mr Shieh.

F MR SHIEH: Chairman. There are a couple of things I would
G like to report to the Commission. On Monday morning we
H have two witnesses coming here, Mr Siu Kin Wong and
I Mr Mok Hoi Kwong. They are the responsible persons of
Wing Hing and Hang Lee.

J On Monday and Tuesday, we have an arrangement for
K a meeting with the expert witnesses. One of them is
L a foreign expert. For Monday and Tuesday, we will set
aside time to meet with the expert witnesses.

M So I would like to report to all of you that on
N Monday morning we will proceed as usual, and we will
O await the two witnesses. If they turn up, then we will
P take down their contact information. They will not be
Q testifying, they will just be turning up. If they don't
turn up, then the Commission will consider what to do
next.

R The hearing is not going to be long, so on Monday
S morning the legal team or some of the legal teams will
T deal with the witnesses who might or might not appear,
U and then the hearing will be adjourned until Wednesday.
V

We set aside the rest of the Monday and Tuesday for the legal teams to meet with the expert witnesses, and that's how we are going to proceed.

CHAIRMAN: Any further comments from other counsel? If not, then on Monday and Tuesday we will not be hearing any evidence. On Monday morning, like Mr Paul Shieh SC said a moment ago, we will deal with the two expert witnesses, their attendance. We can issue summonses to the two witnesses.

If the senior counsel would like to attend the Monday session, you are more than welcome, but if you want to spend your time in some other ways, you may choose to do whatever you want to do. This is the arrangement going forward.

All right, let's carry on. I invite Ms Ada Fung in, please.

You can come down this way; it doesn't really matter.

Yes, please carry on.

MS ADA FUNG YIN SUEN (on former oath)

Cross-examination by MR SHIEH (continued)

MR SHIEH: Madam Fung, yesterday we were looking at China State's submission to the Commission regarding their procurement.

Are you busy now?

C A. Do we have to submit the reply that we made yesterday? C

Q. I will come back to the information after this part.

D B5.7, please turn to that, page 11834. D

E Yesterday, China State made the point that when E
materials were delivered to the site, they were F
inspected. According to China State, the Housing F
Department doesn't require any checking of the soldering G
materials, so the soldering materials delivered to the H
site were not checked. H

I Over the page, at 11835, it refers to the I
prefabricated or precast units; can you see that? J

A. Yes. J

K Q. For some of the precast units, some of the plumbing K
materials were made in the mainland of China, and the L
China State engineers would check all the information L
for approval by the Housing Authority, and then M
Ho Biu Kee send the information to Yau Lee Wah Company N
for application to Chinese customs department. So there N
are a lot of submissions to be made. Then Ho Biu Kee O
gave the information that it purchased materials from O
the company called Prosperity, which is the same P
supplier as stated in the document. P

R Then, page 11836, it goes on to say what China State R
has done in the way of supervision and monitoring. S

T C.1.2, as you can see there, the stock keeper was T

U

U

V

V

responsible for checking the delivered materials against the purchase orders. The checking records are kept by the Housing Authority, and China State doesn't have these records.

Further up the page, for soldering materials, it refers to B.1.4. Since there is no need to check the soldering materials, they don't have that many records.

It goes on to talk about the internal work undertaken by China State, but I would like to say that, in terms of the lead in water incident, there is a conclusion. Let me refer you to page 11821. Paragraph 2.4 there:

"The record showed that prior for the formal submission to [the Housing Authority] for approval, [they] had checked ... the documents submitted by the ... subcontractor ... [and the material] was in full compliance with the contract specification requirements."

But:

"... after the 'lead' issue was advised by [the Housing Authority], [they] carried out a visual inspection of the soldering joints of the pipes ... [and they] did not spot any abnormal features on the soldering joints.

[China State] have requested the plumbing

subcontractor to submit a report of the incident.

However, up to the moment of writing this report ... [it has not been submitted]."

It goes on to say that there is no practice in the industry to check the soldering materials. In the subsequent paragraphs, it also emphasises the point that there is no such check of soldering materials in the trade.

As indicated in paragraph 2.2 on 11821, when they sought submission for approval of the brand Fry, it is of a lead-free grade. So, from the document, it talks about Fry being lead-free. I have asked the subcontractor to give an explanation, but the report has not been submitted.

Paragraph 2.9, there is a conclusion there. The conclusion of China State is that one of the possible reasons is that the plumbing subcontractor or its workers, when carrying out the copper pipe installation, carried out the installation behind China State's back and used the non-compliant soldering materials.

However, there is no evidence to show which one of them used the non-compliant soldering material. They say they are using every effort to provide relief to the residents.

It is the position of China State that at least they

submitted some samples, backed up by documentation, to say that the Fry product is lead-free, but when it comes to the actual installation, since there are no samples of the delivered materials, and as it turned out it contained lead, their conclusion was that someone used non-compliant materials in the installation.

Let's have a look at the other contractors regarding the possible causes, and then I can take up with you as to what has been done to prevent this from happening.

Now we have dealt with China State, let's move on to Yau Lee, 7.4. Let's take a look at the Lower Ngau Tau Kok Estate, Phase 1. 17859.

Here, you can see that the report is dated 21 August 2015, "Contractual relationship", under that paragraph, Yau Lee is the main contractor. There is a company called Ming Hop, which is a plumbing subcontractor. Yau Lee and Ming Hop are wholly owned subsidiaries of Yau Lee Holdings Ltd, so they are sister companies themselves.

The licensed plumber was Mr Ng Hak Ming. Mr Ng Hak Ming has been an employee of Ming Hop for 31 years. The division of work is like this: Yau Lee is the main contractor; Ming Hop is dealing with plumbing; and Mr Ng Hak Ming, as a licensed plumber, "carried out the on-site supervision and also the handling of all the

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C water licensing issues and the related statutory
requirements with the Water Authority". C

D Let's pause here for a minute. Yesterday, I put it D
E to you about the licensed plumber, but you need the E
F licensed plumber to undertake the work, and nobody can F
G deal with this other than the licensed plumber. Do you G
remember that? H

H A. Yes, I do. H

I Q. It seems that Yau Lee is saying that this licensed I
J plumber is responsible for supervision or handling the J
statutory requirements. K

K In your understanding, in the industry, the licensed K
L plumbers do not roll up their sleeves and handle the L
actual work. They are doing the supervision; is that L
right? M

M A. As far as I understand, they supervise the workers under M
N them to undertake the work. As far as I can remember, N
O in the 1990s, there were circulars that mentioned that O
P this would be allowed. So, in the industry, this is P
a commonplace situation. Q

Q Q. This may not be within your remit, Madam Fung, but I am Q
R pleased that you told us something about what happened R
S in the industry. The laws say that other than the S
T licensed plumber, nobody can do it, but the licensed T
U plumber can just play the supervising role. Is there U
V V

any misunderstanding of the law?

A. Well, this is the general understanding of the trade.

Q. There may be a potential problem -- this is what it says -- the licensed plumber has to sit for an examination, they have to study for the licence; if they just supervise, we don't know who the people he is employing to do the job are.

A. They also manage the workers, they have to make sure that the standard is up to the standard.

Q. Well, I don't know whether the licensed plumber would oversee the work at every joint. We may explore that with other witnesses later. Let's carry on.

Page 17859, "To procure contractually acceptable material". Can you see that, six lines down, "To procure contractually acceptable material"? It says Ming Hop has to procure contractually acceptable materials and that it:

"... normally submits and obtains all the material approvals from the [HA] through Yau Lee before execution of any of the ... works. The physical installation work however is usually undertaken by a separate sub-subcontractor ..."

And this one is Wing Hing. Wing Hing is run and managed by a person named Mok Hoi Kwong. Do you see that?

"Mr Mok has had a long-term relationship with
Ming Hop ..."

So the contractual relationship is: Yau Lee
contracts out to Ming Hop, and then Ming Hop contracts
out to Wing Hing, and Wing Hing is managed by
Mok Hoi Kwong.

Then it goes on to talk about the Ming Hop's role
and the role of the licensed plumber. It says that
Mok Hoi Kwong was very much trusted in the trade, that
he was a very responsible trade contractor. He had
undertaken a lot of other projects and there was no
problem. That is why Ming Hop trusted Wing Hing.

It says:

"Although Ming Hop would submit materials for
approval to the HA through [Ming Hop], not all materials
were in fact purchased by Ming Hop."

Ming Hop and Mr Mok belonged to the same group, but
then the materials were purchased by the final
sub-subcontractor, and that is something normally seen.

Do you agree with that, according to your
understanding of the trade?

A. From what I understand, if it is a subcontract,
including materials and workmanship, then actually we
will also allow them to have sub-subcontracting.

Q. So, if the work and the responsibility have both been

sub-subcontracted, it is okay for the sub-subcontractor to do the procurement, but then the overall responsibility belongs to the main contractor?

A. Yes, contractually the HA only has a relationship with the main contractor. But, as you know, there is a layer of subcontracting in the trade, and the actual procurement may be done by a second level subcontractor. Well, I don't know whether it is normally seen, but this is permitted.

Q. Normally speaking, we would only want them to subcontract to the third level?

A. Well, yes, with a multiple layer of subcontracting, you don't know which one will eventually undertake the work. There is a general practice that we would hope that it would only go to the third level of contracting.

Q. "Given the relationship of trust built up over the years, we understand that Ming Hop would require Wing Hing to purchase the solder material ... Solder material is generally consumed very quickly ..."

You would weld it and then it would take a different shape and form and it will actually be used, and it's not there anymore. So what it means is that it is not a very major item and it is used up very easily.

"In order to avoid work progress being hindered especially due to the instability of supply, many

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C subcontractors, including Ming Hop, considered it more C
D efficient to let installation workers, in this case D
E Wing Hing, carry out the procurement directly." E

F I think this is about convenience. If there is F
G a layer in between and if it is for the one in the G
H middle layer to buy the materials, then it will be H
I a waste of time, and then it will be left to the final I
J installation workers. And that is what you mean, that J
K it is permitted for the third layer of subcontractor to K
L buy the materials. L

M It is said that this is: M

N "... a standard practice between Ming Hop and N
O Wing Hing for Wing Hing to purchase the solder material, O
P and this was also reflected in the written agreement P
Q between them for this Project." Q

R Then in the next paragraph it says: R

S "Ming Hop was, until recently, completely unaware of S
T any concerns regarding the use of allegedly substandard T
U solder material. Prior to recent events there have been U
V no concerns regarding the quality of materials used in V
pipe jointing."

R It says here: R

S "It is a known fact that there has been no S
T requirement for testing of heavy materials, including T
U lead, as part of the requirements for obtaining U
V

C a Certificate Regarding Water Supply Connectors
(WWO 1005) ..."

D That's the form that we mentioned yesterday, and
E this is in line with what you said yesterday. You said,
F regardless of what the forms say, according to what
G requirements, the industry is of the view that, "The
H Water Authority would only ask me to test the eight
I parameters", and then the certificate would be issued
and that the tests would not include heavy metals. This
is what Yau Lee is saying.

J The next paragraph:

K "Since lead content in water supply is not subject
L to inspection or test, the building or plumbing
industry, Ming Hop, and we ourselves therefore, have not
carried out any specific testing."

M It goes on to say:

N "It is commonly known within the industry that the
O quality of the water supply system would be considered
P to be satisfactory once the Water Authority approved and
certified its inspection results in accordance with
Q WWO 46 Part V ..."

R We looked at it yesterday, didn't we? WWO 46 says
S before works start, I would have to inform the Water
T Authority, and after works are completed, we should
inform the WA to come and do inspection.

So the industry has said it will rely on form WWO 46 for the Authority to approve and certify the inspection results. It is said that this is what the trade regards to be the practice.

A. This is correct. WWO 46 part V also indicates that the WSD sends staff to do inspection. That is what is in part V of the form. We can take a look.

Q. Well, yes, we will go to the WSD later, but since you mention it, let's go to the form: WWO 46, part V. It should be at page 37626 in your bundle, B15.1. It should be page 37615.

Sorry, I am using the old pagination. I had thought I would put the question to the Water Authority, but since you mention it, let us also look at it.

A. Yes, this is what is mentioned by Yau Lee.

Q. You can see, in part IV, after the works are completed, you would have to sign the form and tell the WA that it is ready for inspection.

Then part V says -- we have looked at those works that you mention in part IV and it has been mentioned on a certain day and according to the WWO, there are no problems identified and that is why the plumbing work mentioned in part IV is approved.

Now, who should take up the bigger responsibility? We can explore that later, but this is what part V says.

Let us go back to B7.4/17860. We have just looked at WWO 46 part V. Let's carry on. It says:

"In the past decades, no adverse report has ever been made ..."

That is, using WWO 46 part V for approval. In using that part V, no adverse report has been made by any party on this particular issue, in the past decades.

It goes on to say that solder is not an expensive component, so it was beyond the reasonable expectation of Ming Hop's management that a subcontractor with whom it had developed a long-term partnership would utilise substandard material in their projects. It is saying this very carefully. It is not making any accusation. It is actually saying that, "If someone does use non-compliant solder behind my back, I would not have expected it because it is not an expensive component."

It goes on to say that:

" In practice, since the written agreement between Ming Hop and Wing Hing provided that Wing Hing was to provide the labour, tools and jointing materials, Ming Hop did not ask Wing Hing to submit invoices for the purchase of jointing materials including the solder material. According to Ming Hop it has relied on the experience of Mr Mok ... who is fully aware of HKHA's specifications for plumbing works ..."

C It says that if any materials had been approved by
D HA, it would have been based on material submissions
E made by Mr Mok.

C

D

E Again, it's very careful in its wording. It says:

E

F "If it turns out to be the case that the materials
G actually used were different to the samples supplied and
H approved, then ... [it would seem that] Mr Mok ... took
I advantage of Ming Hop's long-term support and trust."

F

G

H

I So it is similar to what China State said.

J Maybe the materials approved were of one type and
K the materials actually used might not be the materials
L approved. But then the main contractor -- and here even
M the plumbing contractor, Ming Hop, said it was not in
N the know. This is what they said.

I

J

K

L

M Let us turn the page: 17861. Mr Ng Hak Ming, you
N remember, is the licensed plumber employed by Ming Hop:

M

O "... Mr Ng Hak Ming and his supervisors made
P periodic inspections of the soldering work. But during
Q these inspections, no substandard material was ever
R reported or detected."

N

O

P

Q How he inspected and tested the materials, we will
R try to put the questions to him, but it is said here:

Q

S "Neither had any complaint on solder material been
T made to the Yau Lee site management team. No
U substandard solder material had been spotted on site

R

S

T

U

V

during construction."

It says Yau Lee is an experienced contractor, and:

"The majority of experienced main contractors like Yau Lee have relied a great deal on the licensed plumbers [to do] ... plumbing installation works, and have followed the common practice of letting the subcontractor or sub-subcontractor purchase the solder materials. It is only after such an unfortunate incident we learn that such trade practice [that is the multiple layer of subcontracting] has the potential to cause a serious issue with the quality of water supply."

This is what Yau Lee says, and it goes on to propose improvement remedial measures.

What you can see is that China State and Yau Lee say that their understanding is that, in their exchange with the HA, which is the first level where they seek approval, at least what we see is that China State has documentation to show that it has submitted a Fry sample.

From this document on Yau Lee, I cannot see the mention of a submission. It may be there or it may not be there. But then both of them say that the problem has happened with the next layer.

Let us look at the other main contractors: Shui On. B4.5. Please look at page 6617, Shui On's report. The

first paragraph. I am just taking an estate randomly.
This is on Kwai Luen estate, Phase 2. In fact there are
reports on all the estates.

It says the plumbing work subcontract has been
sublet to Ho Biu Kee, and the licensed plumber was
Mr Lam Tak Sum, and the pipes that were approved
belonged to the following two brands. It says soldering
materials have been approved, and they belong to the two
following brands.

Then it goes on: the plumbing works were tested by
the WSD, and it also mentioned part V of form WWO 46.
Then number (vii), it says:

"The acceptance testing requirements ..."

And so on and so forth, issuance of water
certificate, et cetera. The water certificate actually
points to part V. In the trade, they may have
a different understanding of a water certificate.

I asked you and you said it was actually form 1005.

A. Well, actually, we need both.

Q. As long as certification of HA has to be issued?

A. Well, part V is necessary, and also before the issue of
occupation permit, 1005 is also important or 1005 is
also required.

Q. So, generally speaking, it says here that the WSD has
given them approval, and it does not include the testing

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C of content of lead in water. C

D Then 6617, or 6618, these are the testing results. D

E I don't think we have to go into the details. E

F Then look at 6620, "Response from subcontractor- F

G Ho Biu Kee". Shui On had issued a letter to Ho Biu Kee G

H to explain why, in Kwai Shing Circuit were different H

I from the approved samples. Ho Biu Kee replied; the I

J major points are: J

K "... Up to this moment of writing, [Ho Biu Kee] did K

L not know why and how the soldering materials used ... L

M were different from the approved sample." M

N Then it says: N

O "[Ho Biu Kee] fully understood the contractual O

P requirements ... [and] P

Q [Ho Biu Kee] did not know the availability of Q

R lead-contained soldering materials in [the] market ... R

S Materials were ordered ... but the purchase orders S

T ... were disposed." T

U In other words they were no longer available. U

V "Licensed Plumber would inspect the completed V

works ..."

So, in other words, they would check the completed

fittings and connections before reporting completion to

the Water Supplies Department. I believe they are

referring to form 46. That form was signed by the

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C plumber. C

D It says: D

E "Site representatives of HBK would check the materials and workmanship of plumbing works in KSC and reported to head office of HBK." E

F HBK also said the incident at Kwai Shing Circuit is an isolated incident and before the incident they did not know that non-compliant solder was being used. F

G Now let's look at page 6621. 6621 is on Shui On's quality assurance procedures in KSC. G

H Now, in the middle of the page, it says: H

I "Although 96 types of materials used in the project were required to be inspected as per the 'List of materials requiring ...", and so on, and it says: I

J "... the soldering materials for jointing copper pipes was not included in the list ...". J

K Although 96 materials would be inspected, soldering materials were not among the list. It says: K

L "For in-process quality control on workmanship ...", and so on. L

M This is about another stage, about the quality control in another stage. Again, the soldering joints between copper pipes were not inspected. M

N So, simply speaking, when you look at the right side, there are no fixed procedures for checking the N

O

P

Q

R

S

T

U

V

soldering materials.

Now let's look at page 6623. Shui On gave the cause of the incident, and six possibilities were raised. It says:

"Based on the limited test results and available information, it is not easy to conclude why the contamination is found in the soldering materials in pipe joints of copper pipe in KSC."

So it's difficult to pinpoint the cause.

Six factors were mentioned:

"(i) Lead content in air contaminating the metal surface of piping including the soldering materials.

(ii) Non-compliance soldering materials mistakenly ordered and used by workers.

(iii) Non-compliance soldering materials mistakenly delivered to site and used by workers.

(iv) Workers using soldering materials from other sources due to delay of delivery of the approved materials in order to cope with the tight site progress."

In the final stage, they might have to do some pressure test, and there might have been leakages of the copper pipes, so the workers might have used soldering materials from other sources. That's the fifth possibility.

And the final possibility is:

"Other causes that are not known yet."

And Ho Biu Kee said that up until now they don't know the cause, and SOBC said they are not to be blamed for the incident, and they said they would do better next time or in the future.

Now page 6624. Here, they explained why soldering material was not inspected in Kwai Shing Circuit, and they feel that the soldering material was generally not of high quality in the industry. They said the relevant government control bodies did not test for lead content in water, and the lead content in water was not checked before issuance of water certificate and occupation permit. That's the normal practice in the trade. So that's their view.

And they said the contractors are not to blame, and more possibilities were raised. Some might be inadvertent mistakes. So that's what Shui On said.

Now let's look at Paul Y. B6.4. Before we look at this document, let's look at 7.4, the part on Yau Lee, page 17873. This is a letter of Yau Lee.

Let's go down. It says, "Line of Command and Subcontracting" -- do you see those words?

You were copied on this letter. When you look at page 17877, you were carbon copied; do you see that?

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C So, under the title, "Line of Command and Subcontracting", it says: C

D "There was no specific item of inspection for solder D

E materials or soldering works in our quality plan." E

F So, in our quality plan, we did not inspect for F

G quality materials. It says: G

H "As regards the division of works in supervising the H

I plumbing works on site ... our Block Foremen were I

J responsible for frontline supervision of plumbing J

K installation ... Our BS co-ordinator was responsible for K

L plumbing design drawing co-ordination and our AQCC was L

M responsible for material submission and documentation M

N checking." N

O It says: O

P "But since the usual practice was for the P

Q workers ..." Q

R So the normal practice is that the packaged R

S materials would arrive at the site piece by piece, S

T before they are being taken to the construction site. T

U So, by the time that they arrive at the site, Yau Lee's U

V site supervision staff could not inspect the materials V

that arrived, to see whether they have been preapproved.

Do you see that part?

Are you aware of such practice? Some materials have been chopped up before they arrived at the site -- are

you aware of this situation?

A. Before the incident, we did not know about it, and after the incident we heard about it. We have not seen anything in person.

Q. If this indeed happened, do you agree that it was a flaw? Despite the pre-inspections, the materials could have arrived on site without any supervision, and no one would check whether it's of the Fry brand, so they can use whatever materials they want?

A. Generally speaking, contractors must procure the right materials, and the origin of the materials must satisfy the contractual requirements.

As for the execution on site by the contractors, they must have the right division of work. They must have staff to inspect the materials, to make sure they follow the contractual requirements.

So our contractors would normally assign multiple staff and supervisors to take care of the materials, the supply of materials, the inspection and delivery checking and so on. So that's our normal understanding.

Q. Now, let's go back back to the case of Yau Lee. We have to go through this paper, which was an additional submission by Yau Lee. So the general practice on site is that all the labels would be peeled off; that's what Yau Lee said?

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C	A. Generally speaking, this should not have been done.	C
D	Normally, when materials are delivered to the site,	D
E	whether HA officers are present, the contractor should	E
F	still ensure that the arriving materials follow or are	F
G	compliant with the contractual requirements.	G
H	Q. We looked at a form by the HA earlier and some certain	H
I	items must be inspected in the presence of HA's	I
J	representative. I understand that chemical tests could	J
K	not be done on site, and only visual inspections could	K
L	be done. Do you need to refer to the form again?	L
M	A. No, I remember what it says.	M
N	Q. So different items require different methods of	N
O	checking? In some cases, you cannot do chemical tests	O
P	and you must rely on visual inspection, and you can only	P
Q	check for certain certificates like ISO certificates or	Q
R	test certificates and so on; is that correct?	R
S	A. Generally speaking, we would inspect the documents.	S
T	Q. Or the packaging?	T
U	A. We would check the models of the materials.	U
V	Q. Well, models and materials; right? So you would look at	V
	the labelling; right?	
	A. Yes.	
	Q. Well, I know it didn't happen, but if there is	
	a mechanism to inspect soldering material, you might not	
	be able to send anyone on site, but you must at least	

ask them to keep the labelling, for example the Fry labelling for the Fry brand?

A. Retrospectively, it's difficult to say, because there might be different causes for the presence of lead in soldering material. But in terms of procurement and monitoring and usage, we must have more stringent control, in order to avoid these problems, and we will do tests on the soldering material, and we also have to test for lead in water. So we have to follow all the steps along the chain, to make sure that there aren't any issues. Even if the upstream part is all right, you cannot ensure that the downstream is compliant as well, and at the end of the day the soldering material might contain lead and the water might also contain lead.

Q. I understand. There are different versions to the story and you don't know where the problem came from. So, in the final stage, if the workers have no materials left and they must use materials from other source, then all your prior inspections would be in vain?

A. There are a lot of causes and scenarios, a lot of stages where problems might arise.

Q. I understand, but if we have a simple mechanism in place, even if the HA inspector does not need to test for lead on site, at least if we have a mechanism in place to require labels to be produced, that would serve

the purpose of monitoring; right?

A. Yes.

Q. And for 17874, on the procurement process, we have talked about it already, and for 17876, at the bottom -- I looked into this part with Prof Anthony Cheung -- at the bottom of page 17876. So they have estimated cost difference between lead-free solder and leaded solder or substandard solder.

So a study was conducted to estimate the cost difference between both types, and for 18777, at the top, time-wise, the time required for carrying out lead-free soldering works are comparable to that for carrying out soldering works with substandard solder.

Let's not look at such technical issues first.

A. We actually experimented on site and the time required are similar.

Q. And in terms of cost, for lead-free solder, it is HK\$76 more expensive per flat than leaded solder, and for the whole building, the cost difference is only about \$322,000. Neither Yau Lee nor Ming Hop would use substandard solder because of the small savings. So, as I said, \$300,000-odd might be a big or small sum, depending on the angle we are looking at.

A. I answered this question already.

Q. But by common sense what's your view?

A. If the trade understands the risks, they would not do it. Well, in our opinion, if trade practitioners, including frontline workers, subcontractors and related people, knew that leaded soldering material would affect water quality, and if they knew that the salts produced from the soldering process might affect health, the workers might have been unwilling to use the leaded soldering material.

So if trade practitioners had better awareness of the issue, then the trade would not use any non-compliant materials.

Q. So, just to be fair, if \$300,000-odd can be saved, then it's a substantial amount for the entire estate, but up until now, we are not sure whether substandard soldering material was used intentionally. Some workers may have done it for convenience.

A. When you look at page 6621 -- the page with six reasons, right? Page 6623, a list of possible factors were listed. And these factors could service at different points in time, which led to leaded soldering material being used. Some were intention and some were inconvenient, so we cannot just look at the documents before us and confirm what the real reason was.

Q. So hopefully the answering witnesses can help. For Paul Y, let's go back to Paul Y. B6.4, page 150707.

C Well, different companies have different formats in
D their submissions. Paul Y included a lot of tables, but
E let's not look at those. Let's look at 15090,
paragraph 5.

F Let's have a look at the bottom part of 15089:

G "In accordance with Paragraph 11, part II,
H Schedule 2 of the Waterworks Regulations, WSD would only
issue acceptance letters", and so on:

I "Therefore, there was no WSD pre-approval letters
for the copper pipe and fittings ..."

J Basically, it says that there are no documents to
approve the soldering materials.

K Paragraph 3, WWO 46 Note 7 -- I think I put this to
L you yesterday -- there are certain things that had to be
M included into the annex when the form was submitted,
N regarding materials. It says that the pipes will have
O to be submitted, but for components, there are only
P certain components that would have to be reported. So
soldering materials were not reported to the Water
Supplies Department.

Q And:

R "On-site inspection revealed that Paul Y had
S supplied and installed all the approved models as per
the sample submissions ..."

T Paragraph 5:
U
V

"Paul Y's plumbing subcontractor [Golden Day, I think it is, Golden Day, the subcontractor] confirmed during an interview ..."

That 400 rolls of lead-free solder wire, Fry grade, was purchased from Prosperity, which were delivered to the site, and these 400 rolls should be enough. And Golden Day submitted the delivery notes to Paul Y.

Why did we see this happen? Paul Y said they couldn't conjecture but probably because of the following reasons:

"Some plumbers might have used solder wire of other quality for jointing copper pipes.

2. There might be '99c' solder wire of inferior quality in the market which could not be easily identified by the plumbers."

So this is the view of Paul Y. It doesn't say who committed it, it just said that some wire of inferior quality was used. And it goes on to talk about the remedial measures.

Let me refer you to some of the further information from Paul Y: 15098, "Causes and Circumstances". Can you see that?

A. Yes.

Q. The likely causes are like this. 4.1, "Multi-tier Subcontracting of Subcontracting of Plumbing

Installation Works":

"The Independent Licensed Plumber ..."

These are in capital letters. It referred to 15096,
Paul Y says (iii), on page 15096, Paul Y had
an independent highly experienced licensed plumber, the
"Independent Licensed Plumber"; can you see that?

15097. Paul Y consulted:

"... an independent and highly experienced licensed
plumber ... who has been involved in a [lot] of projects
[under] ... the Housing Authority. On 24 August 2015,
Paul Y invited the ... licensed plumber (who possesses
a clean record ...) ..."

He was involved in the recent saga.

So there was a workshop, to share with the staff
members of Paul Y, regarding this particular incident.

15098 shows you the results of discussion. The
first one is about subcontracting. The licensed plumber
said that the subcontracting mechanism may have caused
this problem.

"At present, more than 80 per cent of the plumbing
subcontractors have further subcontracted their works to
3-tier sub-subcontractors ... The likely result of this
arrangement is that the works may appear to have
been ..."

The quality would have been guaranteed.

C 4.2, "Insufficient Time". Long story short, for C
D plumbing, this part of work is left to the very end of D
E the project, and they will have to get on with the work E
F very quickly, and they have 39 storeys within 1.5 months F
G and they have eight plumbers, and they have to do the G
H work so quickly, and that may have caused a problem. H

I That's roughly what it says. I

J 4.3, "Substandard Solder Materials at Copper Pipe Joints". It says that the licensed plumber would not J
K allow workers to use unauthorised solders because of the K
L serious consequences. In terms of time and also L
M financial losses, the consequences can be serious. Can M
N you see that? N

O If problems occur, you have to strip out the O
P fittings and re-assemble the fittings. It would mean P
Q a lot more time. Some semi-skilled plumbers may Q
R purchase some solder, low melting point solders from R
S nearby hardware stores and just pick up these solders S
T from the hardware stores to resolve the problem of T
U leakage. U

V According to a licensed plumber, it would be V
difficult to differentiate inferior quality solders used
on site by visual inspection. He suggests upgrading the
use of lead-free solders for small diameter copper pipe
jointing to 2 per cent silver solders. If the

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C 2 per cent silver solders are used, then this will C
D eradicate this problem, because people will not just buy D
E any solders off the street. E

F 4.4, "Overreliance on Licensed Plumbers": licensed F
G plumbers are the only people who can sign the documents. G

H 4.5, "Procurement of Water Pipes and Fittings": in H
I the trade, as we said earlier on, if procurement is I
J passed on to the subcontractors or the J
K sub-subcontractors, to ensure that the materials can be K
L traceable, then the main contractors should take over L
M the procurement. This is the view of the licensed M
N plumber. N

O 4.6: the welders might have misunderstanding of the O
P solder material. When you buy solder material and speak P
Q to hardware stores, it is commonly referred to as Q
R (Chinese spoken), and this may be construed as not R
S containing any lead -- literally, it means "water tin S
T solders" -- and it is possible that a plumber might T
U misconceive these as lead-free solder materials for the U
V copper pipes: V

"Therefore, when the lead-free solder wires ...
[like] 'Fry' Grade 99c, are used up on site, plumbers
probably may have purchased some top-up solder supply,
ie those 'water tin solders' from local hardware
stores ..."

And they may contain lead.

You don't have to comment on which one is more effective, but of all these different views, it comes down to the very point that the problems may arise from different parts.

A. Indeed, there may be many parts that cause the problems.

Q. Now, for the last part, maybe the workers are buying top-up solders that are suspect, and a lot of work would have been in vain. But if the problems arise from the very beginning, if they purchased a substandard solder in the first place, then certain established procedures would be useful for them to make the submission, and the labelling can be checked and that problem could have been prevented?

A. After the incident, we have introduced measures. When the materials are delivered to site, there is a quarantine to make sure that the materials are lead-free before they would be released to the workers. When the workers are using materials for certain units, they should be traceable. That will make sure that the workers will not use any substandard materials. We need to have site supervision on different parts, and we have to make sure that there are different people monitoring different parts of the work.

Q. Let me put this to you. The plumbing materials, after

2000, there was a change. In your statement, you said that, round about the year 2000, copper pipes weren't used previously, it was the lined galvanised iron pipes that were used?

A. Yes, they were used in the 1990s.

Q. Yes, uPVC lined galvanised iron pipes, I think it started in 1995, didn't it? Before 1995, it was unlined. After 1995, was uPVC lined GI pipes, because without the lining, if you just use the galvanised iron, then there may be corrosion; is that right?

A. Yes, in 1995, there were guidelines and there were circular letters issued by the Water Supplies Department. The unlined galvanised iron pipes were prohibited.

Q. The reason is there may be a chemical reaction, there may be corrosion?

A. Yes, it may go rusty.

Q. Let me turn -- I would like to find out or ascertain the timing -- to paragraph 23 of your statement. Here you said copper pipes have been used in the construction industry for many years and people are very familiar with it.

Then you went on to say that in 2002 -- hang on a second. Have you found it?

A. Yes.

Q. In 2002, in the building contracts, the Housing Authority would specify that uPVC lined galvanised iron pipes would be switched to copper pipes. In 1995, a circular was issued by the WSD, and then the HA would prohibit the use of unlined GI pipes. Instead, they should use uPVC lined galvanised iron pipes.

So from 1995 to 2002, round about that time, in the contracts, they specified the use of uPVC lined GI pipes. After 2002, the contracts require the use of copper pipes?

A. The year 2002 wasn't a watershed. The projects completed in 2002, some of them were still using uPVC lined pipes. There was a transition then.

Q. We keep talking about 2005 being the watershed.

A. In 2005, there were two types of materials that could co-exist.

Q. In 2002, in the HA contracts, you require the use of copper pipes. Starting from 2002, they started using the copper pipes. Maybe by 2005 the first batch of public housing units using copper pipes began to come onstream, and then in 2006-2007, most of them used copper pipes, before the construction began in 2002-2003, and so on. So there was a transition period there.

For soldering technique, once copper pipes were

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C	used, soldering was also used?	C
	A. Yes.	
D	Q. Lined GI pipes, you use the mechanical compression	D
E	technique?	E
	A. Yes.	
F	Q. Having got the timing out of the way, I would like to	F
G	put this to you. You heard of this ACQWS -- let me find	G
H	the acronym in full name -- Advisory Committee on the	H
I	Quality of Water Supply. Have you heard of that?	I
	A. I heard this title but I haven't got direct contact with	
J	it.	J
	Q. Please refer to A2, page 888. In the year 2000, this	
K	press release was issued, announcing that on 1 April	K
L	2000, an Advisory Committee on the Quality of Water	L
M	Supplies was set up. This ACQWS, the purpose is to	M
N	advise on matters relating to the quality of water	N
	supplies.	
O	As you are aware, in public administration in	O
P	Hong Kong, there are a lot of such Advisory Committees,	P
Q	with government officials sitting as ex officio members,	Q
R	with also members from the trade. Can you recall such	R
S	a press release, now that you are looking at it?	S
	A. Yes, I have heard about it.	
T	Q. There is a membership list near the end. Usually, the	T
U	term of appointment is for two years. We need not be	U
V		V

bothered with the actual membership, but if you just take a glance you will see the director, a lot of professors; you can see the Director of Water Supplies, and also the medical association, MTR or KCRC; and in the middle part you can see the plumbing and sanitaryware trade.

Then go to page 890: Conservancy Association, green groups, District Councils. Then page 890, near the end, even the Housing Department, can you see that:

"Assistant Director, Housing Department"?

A. Yes, I can see that.

Q. There were representatives of the WSD, the Housing Department, and also the plumbing trade. The Advisory Committee is still in existence. The chairman now is Mr Chan Hon Fai.

Why do I want to put a question to you on this press release? Because I would like you to look at bundle F, page 32. F1, page 32. Tab number 8.

This is paper number 7. It is called, "Quality of Water in Buildings". Can you see it? Please look at the preamble:

"This paper sets out possible strategies for enhancing the entire water supply system such that Hong Kong citizens can have confidence in drinking high quality water directly from their taps."

C This is very interesting. The topic is about people C
D being able to drink directly from the tap. If you have D
E lived overseas, you will know that that is possible, but E
F in Hong Kong we have been taught from very young that we F
G should not drink from taps. This is the task for that G
H committee.

G Please look at paragraph 9 on page 32. G

H CHAIRMAN: Which year is this? H

I MR SHIEH: This is year 2001. There was a meeting I

J considering this paper. I will let the Chairman and the J
K Commission see that in fact there were minutes showing K
L that the paper was discussed. L

K Please look at paper number 7, paragraph 9. Maybe K
L in paragraph 8 first. L

M It says: M

N "The problem of water quality in buildings is not N
O unique to Hong Kong. A literature research of O
P publications and through the internet ... [will show P
Q that] in the [UK], [the US], Canada and Singapore [there Q
R is this situation]." R

S Usually, the Secretariat of such committees would do S
T the research. Suffice it to say that the person who put T
U together this paper searched for experience in overseas U
V countries on the internet. V

T Let us look at paragraph 9: T

C "In the UK and USA, the most common problem is the
D presence of lead in water since during their development
E stage, lead pipes and lead-soldered copper pipes were
F widely used. The problem has to be addressed by dosing
G inhibiting chemical additives during the water supply
H treatment process to suppress ionisation of lead and by
I re-plumbing. These countries also have discoloration
J complaints attributed to various causes including
K rusting of internal plumbing, since the use of unlined
L GI pipes is still permitted. On the other hand, Canada
M and Singapore, like Hong Kong, have banned the use of
N unlined GI pipes ..."

C

D

E

F

G

H

I

J

K Why is this paragraph interesting? Well, the first
L part is right on what we are talking about, and that is
M lead in water, and why there was this problem in the UK
N and US. It is because they used copper wires and they
used solder that included lead. Can you see that?

K

L

M

N

O A. Yes, I do.

O

P Q. But it doesn't say how this relates to Hong Kong. Then
Q it goes on to address a second issue. It says there is
R another problem in these countries, and that is there is
S rusting in the pipes.

P

Q

R But this does not apply to Hong Kong because in
S Hong Kong we have already banned the use of unlined
T GI pipes.

R

S

T

T

U

U

V

V

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C	Now, thinking back, why is it that -- in the first	C
D	line it says, "lead-soldered copper pipes were widely	D
E	used", it says that is causing the problem of the	E
F	presence of lead in water. Now, why is it that it is	F
G	not elaborated in paragraph 9? I understand that you	G
H	were not at the meeting, but thinking back, think about	H
I	the timing, it was in 2001, and in Hong Kong we were	I
J	still using lined GI pipes. We were not using copper	J
K	pipes at that time.	K
L	A. No, not in Hong Kong, but only for HA projects. But in	L
M	the market, that material was not common at all. The	M
N	market was using copper pipes.	N
O	Q. Okay, I understand. Sorry, I was wrong. For HA	O
P	projects, you did not use copper pipes?	P
Q	A. No.	Q
R	Q. So would it be because of that, when you look at	R
S	paragraph 9 here, it says maybe lead-soldered copper	S
T	pipes were widely used. That is what paragraph 9 says.	T
U	Now, at that time, in the eyes of the HA, that would	U
V	not be a problem because that was not the type of pipes	V
	used in HA buildings?	
	A. No, I wouldn't say that, because we would always do	
	research about the market. So even if we were not using	
	lined GI pipes, we would not neglect the fact that other	
	materials might be a problem, and in the process of	

drawing up specifications we would avail ourselves to
such for reference.

One more thing. In the mid-1990s, before we decided
to use lined GI pipes, we did pilots to decide whether
we should use copper pipes or uPVC lined GI pipes, which
was more appropriate, and in the early 1990s we did
a pilot about that.

Q. So in other words, if an HD or HA representative should
read this line, he or she would say, "It has nothing to
do with us because we don't use copper pipes"? You have
to raise your tentacles to see whether anything would be
about the materials and you would of course want to note
these points?

A. Yes, we do.

Q. Now, this paper actually tells you that lead soldered
copper pipes were used, so that in the UK and USA they
had this experience of having lead in water, and those
people at the meeting should know this as a potential
problem.

A. Well, but then, in the context of this paper, these few
words were not particularly conspicuous.

Q. I understand.

A. Even within paragraph 9, this might not be the main
point.

Q. I understand. Now please look at paragraph 19:

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C "To ensure that the internal plumbing systems are in C

D a good and clean condition, it may be considered D

E desirable to follow a practice similar to that in E

F Singapore by requiring consumers or their agents to F

G employ Licensed Plumbers or registered plumbing G

H contractors to arrange for periodical checking and H

I submit inspection reports to WSD. The Licensed Plumbers I

J or registered plumbing contractors will carry out J

K remedial action whenever defects are found and a water K

L analyst will confirm by water sampling and testing L

M whether the quality of water supply within the internal M

N plumbing systems is up to the required standard." N

O There is the suggestion we may follow Singapore to O

P require the consumers or their agents to employ licensed P

Q plumbers themselves to do periodic checking and to Q

R submit reports. R

S Let me ask you to turn to page 40, paper number 8. S

T The preamble of paper number 8 tells us when paper T

U number 7 was discussed, and you can see here, on U

V 15 January 2001, members discussed paper number 7. This V

is a paper that has come later. There are minutes, but

I won't go into the minutes first. This happened over

a decade ago and you were not at the meeting, so let us

look at the papers themselves. The minutes would record

the discussion and we might not know the main points.

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C Let us look at the papers themselves. Paper C

D number 8. I would like you to look at paragraph 6. At D

E the top of page 41, "Maintenance Requirements and E

F Practices in Asian Cities". It says: F

G "Questionnaires were sent to Shenzhen, Taipei, G

H Singapore, Kuala Lumpur and Tokyo requesting for H

I information on their maintenance requirements on I

J plumbing systems." J

K Paragraph 6 says: K

L "The Singaporean practice recommends building owners L

M to arrange, at least once a year, for [the M

N following] ...". N

O Number (ii) is interesting: to file a report. O

P In Singapore, it doesn't require the test for lead, P

Q but E.coli and other things, including iron. It says, Q

R in Singapore, all Housing Development Board housing has R

S to do this, also for all government buildings, and then S

T for private estates this is voluntary. Then it says T

U that Singapore was contemplating legislative amendments U

V to make these requirements compulsory. This is V

paper number 8.

From what you can recall, because the HD was

represented on this committee, can you recall whether

someone talked to you about this suggestion and what

happened to it as a kind of direction for development?

Maybe this was not your personal knowledge. Maybe you have to do some homework when you go back.

A. Well, it would be very hard for me to do this homework, but it seems this paper is about maintenance. I don't know whether our representative at the committee also belonged to the management or maintenance branch. It seems this paper is on maintenance and the responsibility on the owners, and this is about information about the occupation phase of buildings.

Q. Now I can show you the minutes. A2, page 858.

MR YIN: Chairman, I would not want to interrupt counsel, but I would like to point out that Ms Fung is here as a representative of the HA. Of course we know that the Housing Department is the executive arm of the Housing Authority, but, as Mr Anthony Cheung has said, not all HD functions are executed on behalf of the HA. I would just like to clarify this point, because I can detect a line of questioning which is about HD functions and responsibilities, but some of those might not be executed on behalf of the HA.

MR SHIEH: Well, I understand that the HD would get instructions from the HA, but if I ask questions of Ms Fung and if she is here as representative of the HA and she therefore may not be able to take the questions, she can say so. I think Mr Yin is trying to lay down

a marker here. If Ms Fung can dig up the information, if she thinks this is not a problem, this is not a problem.

We will very soon have a morning break and this will be very brief, but please look at the minutes, page 358.

A. I can see that.

Q. You can see the people present, and you will see a Mr Wong there. He is the assistant director, Mr Wong Bay.

A. He was responsible for estate management maintenance.

Q. Okay, so maintenance. His portfolio would not include the construction contracts or management of contracts?

A. Well, even if he did not have that area of work, but the estate management and new projects people would regularly sit together and talk about common concerns, including quality. So there is this internal mechanism. If there is important information, we will be exchanging it.

Q. Well, exactly. I would like to ask you, when you have these Advisory Committees, many people would be represented, they would be getting wind -- let's say they would get information from these committees -- would there be an exchange mechanism within the HA?

A. Yes, you can put it that way. This is the first time I have looked at these papers, but I can see that the

thrust of this committee is on property management and maintenance, more than procurement of materials and construction. I mean, judging from the papers I have been shown, and also the people represented at this committee, I believe that is the thrust of this committee.

Q. I understand you. Let us go to page 860, paragraph 6. This is on discussion of paper 7; can you see that?

A. Yes.

Q. "The chairman introduced that the purpose of this paper was to present the possible strategies ..."

So the chairman gave the introduction of the paper.

Then let's go to the next page. 6.2:

"After the presentation ... members generally agreed that there was a need to properly maintain the plumbing systems in buildings."

I would say that this is stating the obvious.

6.3: the chairman asked questions, and that is whether WSD would form an inspection team to check the conditions of water pipes. The WSD responded.

Then in 6.3.2, a member -- I was saying to you that these meeting records would include statements and comments by members. In 6.3.2, a member commented something. Then in 6.3.3, another member supplemented something. In 6.3.4, another member added something.

Let us not look at the details. Usually, minutes are keeping members' names confidential, but then their comments would be recorded faithfully. Since their names are not there, they would have said what they had wanted to say.

My question is, by 2002-2003 -- the timing is relevant, because these meetings were held in 2001. In 2002, starting in that year, the HA considered using different piping materials. You were switching to copper. And during this meeting, the issue of water quality was discussed, although it was not a focus of the discussions?

A. According to the paper, it was not an issue that was emphasised. The legal framework stipulated maintenance, and they also addressed the existing conditions of the buildings. So, since it was a minor point, I have reason to believe that the members did not pick up on that point.

Q. I understand. What you are saying is that 15 years on, we have these lead in water incidents, but what you are saying is that they might not be thinking about it at that time, the attending members?

A. If they had thought about it, they would have discussed it further.

Q. No one mentioned this point?

A. It should have been discussed at that time, but at that time nobody paid attention or discussed it. We did some research ourselves and we have read some meeting minutes.

Q. Indeed, no one dwelled on that point. On paper 27, the focus was on whether tap water was fit for drinking. In 2001 and 2002, they were considered switching to copper pipes, and for copper pipes soldering is necessary.

And whether for the HA or HD, there were internal discussions. Was this issue ever recorded? Did anyone put two and two together and say, "Since we are switching to copper pipes, we are going to consult the trade; we should do better"? Although this is not directly relevant, but someone might have mentioned it?

A. We cannot tell from the minutes. We cannot speculate on whether that happened.

Q. I understand. So you might have to do some research?

A. But I have reason to believe that the answer is no. If someone did raise this problem, then it would have been traceable, but we have asked the relevant colleagues on what they considered as they drew up the guidelines. Of course, they learned from property management companies, they learned from the trade, and they also looked at the international context, when they drafted the specifications. So my colleagues told me that they

did consult international copper associations and they consulted widely before coming up with the specifications.

But whether that point in the paper was specifically studied, I haven't asked them this question yet, but I have reason to believe that that point was not elaborated on. In the paper, that point was not emphasised. If so, it would have been addressed in other papers on lead in water or lead in solder.

But according to this set of minutes, there was no sign to indicate that the relevant people at that time did mention this issue. In the ACQWS meeting, it was not mentioned; Mr Wong Bay did not mention that point.

Q. So that's your gut reaction, but for accuracy's sake, can you dig out more information, for example internal minutes, to trace this point? You said the different teams might communicate with each other, so can you provide documents or memos from that time? If the answer is no, please say so.

A. If I am to dig out the archives from more than ten years ago, if Mr Wong Bay was in charge of property management, then it might be difficult for me to dig out those papers. So I cannot make any guarantees.

Even for internal co-ordination meetings, we might have to dig up the archives, since we are talking about

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C more than ten years ago. We will try our best, but it's C
likely that we would not be able to dig them up.

D MR SHIEH: This is not a major point, so we cannot set D
E an imminent deadline. E

F CHAIRMAN: Yes, it's not necessary. For the certifications, F
G in the year 2000 edition, there are some words -- there G
H have been changes. In the 2000 edition, B2/729 -- well, H
I let me go through those pages before we take a break, I
J and in the 2004 edition, B2/646. J

K For BS 1254-1, it was first mentioned in the 2004 K
L edition, and for the year 2000 edition, the L
M specification did not mention the words, "Do not use M
N soldering material containing lead". In the 2004 N
O edition, we saw 1254-1 (1998) for the first time on O
P banning leaded solder. P

Q Let's take a 20-minute break first. Q

R (11.48 am) R

S (A short adjournment) S

T (12.09 pm) T

U MR SHIEH: Madam Fung, a moment ago the chairman asked you U
V to have a look at the specifications for two different V
years. The year 2000 -- B2/779 for the year 2000, "Lead
based materials"; can you see that?

A. Yes.

Q. "Do not use jointing materials based on red lead."

Now, in the year 2000, in public housing, you still used lined galvanised iron pipes and not copper pipes?

A. Correct.

Q. At that time, the contract specification says, "Do not use jointing materials based on red lead." What does it mean? You used galvanised iron, so that doesn't involve any soldering materials. The jointing materials, what does it mean?

A. Generally speaking, it says in the general spec -- over the page, there is a reference to galvanised pipes, GI pipes, jointing copper pipes, jointing plastic pipes, joints between dissimilar metals.

So this covers a comprehensive range of specifications.

Q. So you are saying, other than specifications, we have drawings and bills of quantities, and I take it together they refer to the kind of materials used. As a layman, in the year 2000, it refers to, "Do not use jointing materials based on red lead." In 2004, it refers to the British Standard 1254-1; that's lead-free solder. So, between the two, what are the rationale behind them?

A. Let me say something about the development of the specifications. We have materials, workmanship and testing. After 1997, when the WTO GPA, all of them should be non-discriminatory, there cannot be any brand

names, and we reviewed all the specifications, and all the specs that have to do with brand names would have to be revised. That was a major change.

Then, for individual trades, we had a review. In 2002, we said they would have to switch to copper pipes, to replace the lined GI pipes. We had a review and there were colleagues who co-ordinated the review, and there was the building services engineers section.

In the light of the latest British Standard, we reviewed the situation, and we came up with the 2002 version.

The specs would be updated every four years, there can be certain specs that can be reviewed in the interim period, but we have a four-year cycle for the different versions.

So, between 2000 and 2004, it reflected the updated situation involving the switch to copper pipes. In the 2004 version, everything to do with brand names was removed.

CHAIRMAN: Let's have a look at the 2004 edition: page 646, please.

A. 646.

CHAIRMAN: This is very specific. Lead-free solder has to be used.

So it comes back to the point made by Mr Paul Shieh

that if there was no discussion in the Housing Authority, we would not have had such specifications, and these specifications specifically refer to lead-free materials.

A. Lead-free materials -- I have read some information from my colleagues -- when the specification was drafted, we had regard to the industry practices and the international and general practices. BS 1254-1, there is a table there. It refers to lead-free solder.

CHAIRMAN: There is a note saying soldering are not permitted for installation for water for human consumption.

A. So we had regard to the BS standard, and focused on this particular section. So, when we drafted the specifications, we had to be careful with the issues; we have to make sure that it is in line with the general practice.

MR SHIEH: Can I put it this way: if we need to look at the British Standard, we can just look at 1254, but your colleagues highlighted some of the key things in the British Standard and make it more specific -- in fact, this has been included, but they want to make specific by highlighting all these key points. Even if you didn't refer to this, the British Standard would have been generally incorporated?

A. Yes, indeed. We can just say, "Refer to the British Standard", and it would cover everything.

Q. And this is highlighted for specific attention?

A. Yes.

Q. But your library was updated in 2004. There was a general updating, in fact, in 2004: when you approved the contracts, you started using this version; is that right?

A. My colleagues are telling me that they used the 2002 --

CHAIRMAN: What year?

A. 2002 would have been the specification that requires the use of copper pipes. So, in 2002, we started using this -- the contract was based on this particular version, the 2004 version.

CHAIRMAN: So the 2002 version was slightly adjusted?

A. Yes, the 2002 incorporated all the changes in 2001 and 2002. We incorporated everything there. Between the two editions, we may have some updating from time to time, and issue them for use.

CHAIRMAN: Yes, I understand. So what you are saying is that there is a sub-item 3, that lead-free solder has to be used, there was no particular reason; it's just that when you drafted the specification, your colleagues felt it would be a good idea to include that. It wasn't the case that the Housing Authority or the Housing

Department realised that there was such a problem and therefore you included it; is that right?

A. Yes, your understanding is correct.

MR SHIEH: I would like to follow up on one issue. For any changes -- 2002, you modified the specs, and then the contracts would specify copper pipes, and you have to make sure that they follow the British Standard and lead-free solder would be used -- for any changes like this, I'm sure that there would be a bit of formulation period and you wouldn't just wake up and adopt this standard. Now, you changed in 2002 and switched from GI pipes to copper piping, and then you had the contract specification for the type of solder to be used. I'm sure that there would be a period of formulation in this regard. Was there such a period of discussion?

A. Yes.

Q. You might have had meetings and technical discussions. Would you have records of such meetings and discussions?

A. Well, there should be such discussions. Generally speaking, if we change any specifications, first of all there would be a review done by the departmental staff and then they would contact the industry before the change would be effected.

Q. Also, it is not that we want to take you to task for writing in this specification. Requiring people to use

lead-free solder is correct. But the point is not about writing in this specification, but rather considering the switch to copper pipes and also the use of lead-free solder. I'm talking about the entire process of consideration.

Did you also consider this point: now that there is this specification, should you also change the inspection procedures of the sites and also what should be included in PLU1 and PLU2; there should be comprehensive consideration, right?

A. Yes, you are correct. That is why, because of this specification in 2004, we call 2004 a watershed, and we would ask for checks, and everything has been included in that form. That is why we can say we have looked at the entire process from beginning to end. Apart from having a new specification, we had also thought about site operations and whether there should be complementary site inspections.

Of course, there is a time-lag. As I said, we have the 2004 version, and then we included all the copper pipes. Even if started to use them in 2002, in the interim, we issued the DCMP instruction, including the new specifications. Also, there should be also changes to site inspection, and we would also then change those inspection requirements. Then, for individual items,

C the instructions to inspect them would also be changed. C

D So the next step would be for site inspection and D
E they have to pass assessments. Our staff are very much E
F aware that whenever there is a change to the F
G specifications, there should be the entire sequence of G
H change of different things. H

I CHAIRMAN: Please wait. I would like to interrupt. Let's I
J look at the 2004 specifications. From what I can see, J
K actually PLU1 -- can we roll back a little to the K
L beginning, when we had PLU and also the items. L

M What I would like to say is, we are talking about M
N water supply, the water supply system and materials, N
O PLU1. Basically, everything that is related to water O
P supply will be under PLU1. In other words, from copper P
Q pipes to valves, to anything -- actually, you do not Q
R check any of those, none of those. Under PLU1 -- look R
S at PLU1 -- and everything under PLU1, anything that has S
T to do with water supply is not checked. But if you go T
U to PLU2, even the toilet paper rack is checked. U

V A. Chairman, it is not about checking or not checking. V

Q CHAIRMAN: No. Yesterday we heard whether you would inspect Q
R these things on site. R

S A. Maybe I would like to clarify. It is not a matter of S
T checking and not checking. But yesterday we mention T
U mentioned a form. The focus of that form -- U
V

MR SHIEH: 37641.

A. There is on-site delivery verification. If there is this wording in the specification, then those would be picked out and mentioned in form 6210. The purpose of this form is not that the main contractor doesn't have to do the checking, but rather, in this list, the contractor has to do the checking in front of our site staff.

So it is not that there is no checking. This cannot be construed to mean that we do not check.

CHAIRMAN: In other words, all the things in PLU1 will not be checked in front of an HD staff; is that right?

A. Chairman, I also have to clarify this point.

I mentioned that there are thousands of materials, and this list only includes about 30 materials. Many materials need not be checked by the main contractor in front of our staff, but it doesn't mean that the main contractor doesn't have to check them.

CHAIRMAN: Okay, I understand, but that's a separate thing. The main contractor, whether he checks or not, let us put that aside. You are the HA or the HD. You are the owner, you are the major owner. You spend so much money on building public housing, and you of course want to concern yourself with whether money is well spent.

I find this rather strange, therefore. PLU2, it

seems to me, is about toilets, the sanitary fitments,
and also sewage arrangements. All those are in PLU2.

And probably HD staff would do the acceptance tests.

But then, under PLU1, whatever that has to do with
water supply will not be checked in front of HD staff.

I have been dealing with criminal cases, and because
of that, I would say starting from 2004 you started to
put these under PLU1, and then by 2012, about eight
years later, you still have PLU1. And it seems you
don't need to check those materials in front of HD
staff, and that has gone on for over ten years. So
people could have cheated on you.

A. Actually, if the on-site delivery verification
requirement has to be included, in fact that is not only
limited to PLU2. We should also include PLU1.

CHAIRMAN: Well, but this is after the event. You know what
I mean? From 2004 to 2012, they are all in PLU1. In
other words -- well, I really can't understand -- you
consumed such a large quantity of copper pipes, and yet
when they are delivered to the site, there is no HD
staff who will be checking on those pipes. You should
know some valves, some taps, they were not the kind
approved. We know that from the reports.

A. Well, no, I don't think they have been exchanged for
inferior quality. It is when they filled out WWO 46, it

was not the stage for our staff to approve the materials yet. When it is the stage for our staff to approve materials, then they must be in compliance with the WSD standards.

CHAIRMAN: We know about Viceroy taps, but they were replaced or exchanged for another one?

A. No, it is not about exchanging them, but then they submitted a sample to us, and after the sample was approved, usually the licensed plumber would revise WWO 46 and its annex with the WSD.

This is the common practice in Hong Kong. When they first fill out the form, it would be shortly after the works start, but it would not be for all the samples to have been approved. Say if the sample that is approved is "XYZ" but the form indicates "ABC"; however, "XYZ" must also be in compliance with WSD standards and they must have got the approval of the WSD or BS trade mark. Only then will our staff approve the procurement.

CHAIRMAN: Well, in any case, you are telling me that as long as there is compliance with the British Standard, then whether they install A, B or C, that doesn't matter; is that what you are saying?

A. No, that's not what I mean. What I mean is, it is not that they have exchanged materials for inferior type materials. The thing is, the materials they use on site

should be in accordance with the sample that is approved. Also, when approval is made, the staff would have checked their testing results documents, and also WSD approval, yes, before the materials are to be used.

CHAIRMAN: Well, this is about the submission of sample and the documentation, but when actually in the construction sites, nobody checks the materials; right?

I do not doubt that you have an established procedure to do it on paper, but it's very simple. You go to a construction site, and then from the first item to the last item -- and if this is about the water supply system, yet no one checks any of those. And then, at the very end, when you take over the building and you also only do a performance test, you only want to know whether the water is flowing. Basically, no one looks at the components and whether they are using the components as approved. Well, it doesn't seem to be very satisfactory.

A. No, Chairman, that might not be the case. We do not need to have staff and the contractor to witness the examination and checking of material. But day-to-day, they would do 10 per cent check, they would look at the type and the brands, whether they are in line with the approved materials. Our staff can do that. It is not that there is no checking.

CHAIRMAN: Then I would like to ask you another thing.

Would you agree that British Standards have no direct relationship with the quality of drinking water?

A. I cannot really answer this question. I can only say, since the water regulations require us to comply with British Standards, we comply with the BS, but as to the quality of drinking water, our understanding will be that, when water samples are checked, the important parameters should be listed, and if there is compliance with all the parameters then we should have quality drinking water. And basically the quality would comply with hygiene standards.

CHAIRMAN: Well, this is your understanding. I wouldn't argue with you. But it's very simple. We are always talking about British Standards 1254-1 (1998). This is actually about copper and copper alloy, and plumbing fittings with capillary brazing and capillary brazing to copper tubes.

Now, this is 1254-1 (1998) British Standard. It's about the materials to be used for copper pipes. And what is the thickness of the wall and also the maximum temperature for welding, the maximum pressure? All that is very technical. It has nothing to do with the quality of drinking water. How can you say, by fulfilling the British Standards, the water must be

C problem-free? C

D Actually, conceptually, these are two different D
E things, right? You just want to repeat your answer? Do E
you get what I mean?

F A. I understand you. F

G CHAIRMAN: Because the standard is about jointing of copper G
H pipes, and the copper pipes have to be like this and H
I like that, the thinnest like this, the thickest like I
this, the pressure that it can stand, the heat that it

J can stand. It has nothing to do with water whatsoever. J
K A. I can only say that there is a performance and system K
L integrity for plumbing installations, and there are L
and so we write them in.

M CHAIRMAN: Okay. Another thing. My understanding is -- you M
N have many chief architects and two chief building N
O services engineers. My understanding is -- I had O
P a glance of their witness statements -- about this CBSE, P
Q the involvement of this CBSE is only within the pumping Q
station or the pumping room; is that right? Am I right?

R A. Let us separate it into two parts. One in the central R
S system, and the specifications. Chairman, you looked at S
T our two projects, and the CA and the CBSEs, and their T
U actual work. But what I want to say is, how do we U
V

C develop and manage the specifications? Actually, there C
D is a central system. For fresh water supply system, D
E there are two parts: one water pump and associated work E
F inside pump room. The other part is pumping F
G installations outside pump room. And in the project, G
H this is how the division of labour is. Within the pump H
I room, it is the CBSE, and outside, the CA. But when we I
J write the specifications about the water pump and J
K associated pump work inside pump room, we call it FWP. K
L As for the other part, it's PLU1, and sanitary L
I appliances, PLU2. I

J About our division of labour, the chief architect is J
K responsible for PLU2, but water supply within PLU1 and K
L FWP are the responsibilities of the CBSE. L

M CHAIRMAN: Okay. In other words, you can ask the chief M
N building services engineer, who is responsible for N
writing PLU1, to tell us why he did it this way?

O A. Well, yes. Okay. That colleague is also a witness. O

P CHAIRMAN: Okay. That's all for my questions. P

Q MR SHIEH: I would like to clarify something with you. If Q
R something is written under PLU1 or under PLU2 -- now, R
S what is the relevance of this? Whether it is necessary S
T to check materials in front of HD staff at T
U a construction site, that depends on form 6210. That is U
V page 37641. That is, upon delivery, whether the V

A *Annex: Realtime English Transcription based on floor / Simultaneous Interpretation* A

B Commission of Inquiry into Excess Lead Found in Drinking Water Day 04 B

C materials have to be checked and examined in front of HD C
staff. This is in form 6210.

D During the work stage, there are spot checks. We D
E can call it spot checks or random checks. Some tests E
F would be 100 per cent, some 10, some would be done F
randomly; it depends on the document B1/86.

G A. So this has nothing to do with the plumbing materials. G
H It says all construction materials should be covered. H
I It's not relevant to the form.

I Q. Now let's look at B1/86 which we looked at yesterday I
J already. We have a number of items, starting from J
K number 79. This is a list of items requiring various K
degrees of checking.

L So we have 100 per cent, 10 per cent check or random L
M check. We have seen this paper yesterday already. This M
N stipulates during the works phase, when the HD staff N
O make inspections, how they should deal with different O
materials and the degrees of checking; they would follow
the percentages in this table?

P A. Correct. P

Q Q. Now let's look at page 86. Page 86 mentioned the Q
R plumbing arrangements. As we said yesterday, this table R
S doesn't stipulate the checking of lead in soldering S
material. For PLU1.02, on "Plumbing - Above Ground
T Water Supply Pipes", pipe testing is listed at T
U
V

A	<i>Annex: Realtime English Transcription based on floor / Simultaneous Interpretation</i>	A
B	Commission of Inquiry into Excess Lead Found in Drinking Water	B
	Day 04	
C	100 per cent, and also cleaning of water tank. "Pipe Testing" is listed under the column of 100 per cent.	C
D	What does it actually mean?	D
E	A. Pipe testing refers to pressure tests. It's a functional test.	E
F	Q. But the test can only be done after the works is	F
G	completed; right?	G
H	A. The test can be done zone by zone. If it can be done zone by zone, then that's what we can do. We don't have	H
I	to wait for the completion of the whole works, but we	I
J	have to wait until the system is finished before we can	J
K	conduct the test.	K
L	Q. For 10 per cent checks, you can test the items item by	L
M	item; right?	M
N	A. No. Let's say if we have ten flats, we would check one	N
O	flat, but it doesn't mean we would take away a component	O
P	for testing.	P
Q	Q. What does it mean by "Pipe Joint"?	Q
R	A. Well, obviously, pipe joints refer to joints of pipes,	R
S	the joints between different pipes.	S
T	Q. It has nothing to do with soldering; right?	T
U	A. We do visual inspection for this item. This is not	U
V	a chemical test.	V
	Q. For the items above, on 6210, those are not chemical	
	tests; you rely on visual inspections, right?	

A. Yes. Now, for the specs we mentioned, we update or review them from time to time. For PLU1 and FWP, for these two specifications, they were reviewed. We commissioned a consultant to do a review in 2010, and it was completed by 2013, and in the latest, 2014, edition, it has been updated.

Q. So, for PLU1, as a category, it basically includes water pipes, and PLU2 includes sanitaryware?

A. Yes, correct.

Q. As you said yesterday, the contractual requirements belong to PLU1, and the provision of a sample is not mandatory but most contractors would do so?

A. As a general practice, they would do so. This is a norm which has been in place all along. For bigger parts or important components, they would submit samples for our approval.

Q. So this is for peace of mind; correct? So the norm is that they would seek approval beforehand?

A. Strictly speaking, they have to -- they would seek approval before they order the materials.

Q. Even though the materials under PLU1 do not have to be preapproved but as a norm they would do so?

A. This is almost a standard practice.

Q. For PLU2, the materials require pre-approval according to the contract?

A *Annex: Realtime English Transcription based on floor / Simultaneous Interpretation* A

B Commission of Inquiry into Excess Lead Found in Drinking Water Day 04 B

C A. Yes. C

D Q. So the definition of PLU1 is water supplies? D

E A. Yes. E

F Q. In English you said, "What's the reason for including F them in PLU1 or PLU2?" I understand it's standard F

G practice despite the lack of contractual obligations. G

H For PLU1, pre-approval is usually sought. So, for PLU2, H why is pre-approval required whereas there is no such H

I requirement for PLU1? Why must the PLU2 materials be I preapproved whereas PLU1 mustn't? I

J A. PLU2 refers to sanitary appliances. They are big J components. They are big sanitary fittings or J

K appliances. So we cannot specify the brand names. We K must write down the performance-based specifications. K

L But for other cases, usually -- only brand names are L given. So we only give performance-based specifications L

M instead of brands, so we don't want to discriminate M against anyone. M

N O So we will see whether the brands, or the specific N O

P models comply to the performance specs. So samples must P be submitted for approval from us. P

Q Q. You said it's not discriminatory in nature and you won't Q discriminate against any brand; so, in principle, this Q

R principle should apply to PLU1 as well? R

S A. A long time ago, we had something called a list of S

T

U

V

approved materials. Then certain brand names could be used. Eventually, it became the PLU2 specifications.

Q. Yes, I understand that point. But my question was why do you think the PLU2 materials must be preapproved, where the PLU1 materials aren't? In the specifications now, you cannot mention brands, so you would see whether the materials comply before you grant approval.

But this principle should also apply to PLU1. If you are not discriminatory, then it should apply to PLU1. So the only point is that PLU2 refers to big, big appliances.

A. I don't think we can say that. PLU2 are sanitary components like wash basins. These are bigger components, such as toilets, wash basins, whereas PLU1 are generic materials like copper pipes. In the past, we usually didn't give brand names; we didn't specify the models. Commonly used or internationally available pipes are stipulated. We would follow international standards such as the British Standard.

Q. So there's little difference between different brands; right?

CHAIRMAN: I don't really agree with that. Different manufacturers would have different qualities of copper pipes.

A. For copper pipes, all along copper pipes are made of

pure copper.

CHAIRMAN: So, in other words, the cheapest pipes will do?

A. Cost is not the consideration; the main consideration is the standard, whether the materials comply with the specified standards.

CHAIRMAN: I might not be correct but I just want to put something to you. For the potable water system, it is already regulated by the Waterworks Regulations, so all the water supply to toilets is covered by PLU1; is that the case?

A. Generally, yes. All the WWO clauses apply to PLU1.

CHAIRMAN: So, in other words, there's no need for testing because it's governed by the WWO?

A. We would adopt a risk-based approach. If we detect any risk, even if it's been covered by WWO, we can conduct checks, but without any signs or warnings, we might not be aware of risks.

CHAIRMAN: It's time for lunch. We will take an early lunch and resume at 2.30. Let's resume at 2.30. Thank you.

(12.52 pm)

(The luncheon adjournment)

(2.31 pm)

MR SHIEH: Madam Fung, let me briefly clarify with you the PLU1 definition and also PLU2, and the difference between the two.

PLU1 is about the Water Supplies Department facilities. PLU2 is about the sanitary appliances.

PLU2, what sort of things would be included? What about the washing sink. PLU1 is about the plumbing facilities, the water supply system.

PLU1 and 2, one of the elements being proposed, PLU2, under the contract, there has to be prior HA approval. PLU1, it is not mandatory, but many people would seek approval.

You have tried to explain the difference between the two. First of all, PLU2, mainly we are dealing with larger items; PLU1, the pipes are of smaller size.

Whether they are of a large or small size, they have to measure up to the specs under the contract, whether we are talking about the performance, the chemical compounds, and so on. Why is it that there is a need for prior approval for one but not the other?

A. It is not a question of the size. PLU1 is the plumbing system; PLU2 is about the sanitary appliances. PLU1, it is not mandatory for all the materials to be preapproved, but the general practice is that for all the materials, the contractor would give us the approval scheduled, and they would let us approve the materials. We may not make it mandatory. There is a general expectation and this is a general practice.

Q. I understand. In general, people would do that. But what I am trying to find out is the thinking behind it. Why is it that for certain items there is a need for approval but not others? Why is it that under the contract there are some things where there is a need for pre-approval -- let's say the bathtub and the sink, why is it that there is a need for pre-approval but not so much the pipes?

A. In general, the practice is that even if we do not specify it, the contractor would let us approve the materials, and let's not deal with PLU1 and 2. For other clauses, it may not be mandatory, but in general, as a general practice, this is how it works.

Second, PLU2, it is rather unique. We cannot specify the brand names and the materials may have to do with the appearance and the design. There is a pre-approval process for these appliances.

So it is not a question of us ignoring the smaller items. There is no question of that. This is for clarification. It is an important process for us to approve the materials. We may not make it mandatory but there is a need to do so.

PLU2 is special because of the omission of the brand.

Q. Previously, there would be a specification and you would

A	<i>Annex: Realtime English Transcription based on floor / Simultaneous Interpretation</i>	A
B	Commission of Inquiry into Excess Lead Found in Drinking Water	B
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C	specify a certain brand of appliances or bathtub. Now,	C
D	you cannot say this, you can only make it neutral. But	D
E	as a developer, you would like the bathtub to be of	E
F	a particular brand, if you can't really say the brand,	F
G	that's why you have to have the pre-approval. But for	G
H	pipes, you don't have to make it so special; there is no	H
I	need for pre-approval, is that right?	I
J	A. No. The materials have to measure up to the standard.	J
K	The approval of the materials is to make sure that the	K
L	materials will measure up to the contractual	L
M	requirement. PLU2 is rather unique, because in terms of	M
N	design, we like to have a design which is compatible.	N
O	We don't really want to have the appliances or the	O
P	products really of different design.	P
Q	Q. Like the bathtub and the toilet may be of a certain	Q
R	colour tone, colour scheme?	R
S	A. Yes, we like to make things compatible, and maybe the	S
T	specification is good enough. Let's say they have a red	T
U	and green and so on, this may not be good enough.	U
V	Q. Now, these are things on top and you may not make it	V
	rigid in the specification?	
	A. They have to, to measure up to the contractual	
	requirements. But in terms of design, to make them	
	compatible, we need to have a pre-approval process, to	
	make sure that the project team would have the	

opportunity to look at the whole thing.

Q. You would not say, for the bathrooms, "You need a particular colour", but in the pre-approval process, rather than looking at the specifications, you also look at the aesthetic element?

A. Yes, indeed, but the materials that we specify, the contractors would have to make sure that they measure up to the requirements before they can place the order. This is a general condition.

Q. Understood. Also, a moment ago, I put a question to you regarding 2002. You started the contractual requirements for copper pipes to be used for PRH units, and copper pipes had to be used?

A. Under the contract specification, we had two things in existence. One is uPVC GI pipes, the other one is copper pipes. The contractor can choose which one to use. With this choice, all contractors opted for copper pipes. Maybe they still use copper pipes in the private sector.

Q. Right. I put this before and you don't have to answer me now. Maybe this is a request for documents. Mr Yin might look at this.

Now, in the Housing Authority, I would like to find out about any policy changes, from lined GI pipe, moving on to copper piping. In this process of change -- let's

not talk about the transition period for the time being -- but there is a policy change involved.

A moment ago, you said that this policy change, rather than considering how the clause should be drafted, you also had to consider the actual measures, like the list might have to be changed, there may be certain addition. This is an incremental change. You change the clause, then with the change there may be knock-on effects.

Now, what we would like to -- I know it might take a little bit longer time; you don't have to produce this tomorrow, we don't really want to set a deadline -- but because of this policy change, has the Housing Authority conducted any study -- this must be studies prior to the policy being changed, the pros and cons of using copper pipes and the safety consideration; any memo to say that the clause should have certain things added to it -- have you considered the implementation measures prior to the policy being changed? I'm sure there would be some documents available for the change from GI pipe migrating to copper pipe. Do you have any documents, any papers, internally, in preparation for the change?

Now, from 2000 to 2001, you may start the deliberation, and then 2004-2005 -- I don't need the whole box, boxes of documents.

Now, regarding the migration from GI pipes to copper pipes, I need some documents -- are you with me?

A. Chairman, I understand the SC's request, but I think we do need a bit of time to put together these records. We do need a bit of time.

Q. Understood.

A. But as a general practice, when we change the measures, we would have regard to the feedback from users, from the maintenance and repair people. We also look at the implementation, the construction. This is the usual practice.

But if you want me to get hold of the documentation, I do need time, because we are talking about something that happened about a decade or so ago.

Q. Please try your best.

Chairman, maybe before Christmas?

Try your best, Ms Fung. You know what I am driving at. I would like to find out about the paper trail, the deliberation with the change to copper pipes, and would there be any consideration of the solder, and also things did you consider -- maybe there was nothing, then you tell us there was nothing.

A. I can get hold of more information, but, as far as I can recollect, we made the change because with uPVC-lined GI pipes, it wasn't popular in the trade. We were a big

user, but in the market out there, nobody was using this kind of pipes. As we looked at the trend, we had to change the practice to align ourselves with the general practice.

If people have moved in, then it would be difficult, because people out there were using copper pipes.

Copper pipes were so commonly used and we were the odd man out: we used GI pipes. And we just moved on with the trend. That was the process that drove the change.

As to whether there were any papers, any deliberation, I think I need time to put together information.

Q. Yes, I understand that. The example you gave was the driving force, why there were such changes. Now, what we are interested in is, in the process of considering the changes, did you consider the hazard, the safety element? Maybe in the paper that you dug up there was nothing because -- there was something that was tried and tested; maybe the answer was nothing. Fair enough. But please have a look and see whether there would be any information. Maybe someone would say that we should consider the safety element. As you said, maybe the trade considered nothing wrong with the system.

A. Let me say this. I did try to find the information, I tried to trace the specifics regarding soldering, and

we couldn't find any physical record in this regard.

All we got was the BS 1254, the table, and we have this in the footnote. This is in relation to soldering.

That is what I have, and we asked the colleagues. I did try to dig up the record. If you want me to find out more records, I will try, but initially -- we didn't find any record in this regard -- we were not aware of this risk.

Q. Please try your best.

A. Yes, we will. But we have already tried to locate the records.

Q. It's not really about why the clause had to be changed. We are more interested in the knock-on effects and whether it would affect the form.

The records are not here, but what about the thought process, that's something we want to know.

A. According to our initial understanding and our records, strictly speaking the answer was no, because we were not aware of the risks at that time.

Q. So please try to locate the records. So this is about the principle, initial principle.

A. We tried to do it but we have not found anything yet.

Q. I would like to move on to a new topic, for the Task Force, the Task Force by the Housing Authority, the report: A1, page 690. Paragraph 3.3.2, page 691.

A situation was mentioned. We are not talking about solder. This is by the Water Supplies Department. This is not about solder but rather something else. The title is for "Non-compliance with BS", non-compliance with the British Standard, in other words.

Some valves are mentioned and taps. When dismantled, they were found to not be the brands and models submitted to the Water Authority in the form WWO 46. Although they were on the approved list of brands and models, they were not the brands stated on the form.

Elemental analysis of these valves and taps showed that the lead content:

"... did not comply with the BS requirement in respect of the lead contents of 4-6 per cent for the copper alloy for valves and 0.5-2.5 per cent for the copper alloy for taps."

In other words, there's excessive lead. And the report says that, despite non-compliance with BS requirement in terms of the types and models, according to isotropic analysis, the lead contained in these fittings are not the same as the lead in water. So the lead in water incidents were not relevant to the presence of lead in these valves and taps.

My question is, for the approved materials on WWO

form 46, you understand that a list of fittings would be included on form 46. Did the Housing Department's officers have a role to play on this front?

A. I would like to talk about the work flow. When the form WWO 46 was filed, it was when the works just started, and the building services engineers have not approved it at that point, but the form was filed.

Q. Hold on a second. You said the form was submitted before the works began?

A. No, I meant the form was filled out by the licensed plumber and it was submitted to our staff, including the engineers, and our staff would get the form and sign on it. It was when the project first started. And the approval process had just started at that time. So, when they signed the form, the approval process for the samples had just started.

So, generally speaking, the WSD and licensed plumber have a usual practice, in that if there are updates to the list, the licensed plumber can clarify that with the WSD. And before completion, an updated list must be compiled.

Q. So they could revise WWO form 46; right?

A. They can update the annex, and the licensed plumber and WSD can update the list.

Q. So, in other words, some documents have to be updated?

For example, if I stated brand X and I changed to brand Y, I had to make the change on the form; right?

A. That's the work for the licensed plumber. For our staff, when they approve the materials, they have to make sure that the materials comply with the WSD requirements. And the materials must satisfy the requirements under the form WWO 46 categories.

So those criteria must be checked before approval is given for the materials. If the approved materials are different from those listed in form WWO 46 annex, the licensed plumber should update the list.

Q. Right. As far as I recall, the HD would vet the list of materials. So the Housing Department would approve the types of taps used, and -- for WWO 46, the annex must be approved by the WSD. So, at the end of the day, if the taps approved by HD -- well, it should be the same as the taps approved by the WSD; right? In theory, they should be the same?

A. Yes, correct.

Q. What about the order? When the works started, WWO 46 was filed before the plumbing works began, so the brands and models would be stipulated. So the most important thing for the beginning stage is an intention to commence work.

A. "Materials intended to be used".

Q. "Intended to be used".

So, in terms of time order, this is what happened at the beginning. And the Housing Department would later approve the type of pipes to be used?

A. Yes, basically, some pipes might be approved, but others might not, or the form might not have submitted altogether. So form 46 was submitted at an early stage and not everything would be approved at that point.

Q. By the time they confirmed the brands to be used, they would seek approval from the Housing Department and they would send samples?

A. The Housing Department would follow the criteria of the WSD in approving the application. So we would make sure that all WSD requirements are met.

Q. Let's say if brand "XYZ" were approved, that means that the Housing Department feels that they will comply with the WSD requirements. But the approved materials or fittings might no longer be the same as those on form WWO 46. So, at the end, the WSD would ask them to update the annex, according to the latest brands to be used?

A. Correct.

Q. Now paragraph 3.3.2, for the Task Force. It says some valves and taps dismantled were found to be not the brands submitted to the WA in the form WWO 46.

So why do you feel that happened? Was it a case of neglect or did someone forget to update the WSD?

A. That's the case. The applicant did not update the annex to WSD.

Q. I would like to ask the chief architect or the chief building services engineer involved.

A. They should have records and they would have a clearer picture what happened at that time.

Q. Later, for the two valves and taps used, they were on the directory of acceptable pipes and fittings.

There was still excessive lead. I know you don't represent WSD, but why do you think that happened? The application was for brands A, B and C, but yet there was excessive lead. Why do you think that happened?

A. We are looking at two different issues. First, the materials in the annex of form WWO 46 are different from the materials actually used. The second question or the second issue is, although the WSD has pre-approval, the lead content in alloys is excessive, and the two issues are not correlated to each other, and some materials are the same as those within form WWO 46, but there was still excessive lead. So the two had no direct relation.

Q. So, in the example just now, so the licensed plumber probably went to the WSD, asking to have the annex

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C updated, which is on your list, so that the document C
reflects the actual taps used.

D The second issue still remained, for the three taps D
approved by WSD, there was excessive lead. So what is
E your take on this? E

F A. This is not related to the first issue, actually. We F
G can try to dig up the approval documents by the WSD at G
H that time. H

I With regards to quality control for the I
J manufacturing process, certain -- there might have been J
K deviations in some batches. So this is a layman's angle K
L on this issue. L

M Q. So some brands might have deteriorated, they might be M
N counterfeit products, or there might be neglect when N
O filling out the form in the first place? O

P A. There can be many reasons, but talking about our control P
Q and surveillance, even if we test the valves, when we Q
R conduct the performance test, we would not test or R
S analyse the alloy. In the industry, they have this S
T process. Unless there are specific reasons or doubt, as T
U to certain materials containing alloy that is not U
V compliant with BS, then they would produce the materials V
according to the specification.

Q. Please materials were found to be in excess of the
standard. But at day one they were approved by the

C Housing Department, because they were on the Water
D Supplies Department's list. When the HD approved these
E test the chemical?

A. Correct.

F Q. I put this to you yesterday. Some gave the Fry solder
G to the HD for testing and it was approved, and maybe the
H Housing Department trusted the brand Fry, it claimed to
I be lead-free, and you didn't conduct any chemical test,
did you?

J A. Fry has two types of material, one is lead-free, one is
not.

K Q. I understand, but here we are talking about the
L lead-free one.

M A. Fry has two products, one lead-free, one not lead-free.
N These two types come in rolls. The only difference is
the colour of the label.

O Q. So when you buy Fry, it doesn't have to be lead-free?

A. Yes.

P Q. So basically you trust that if they use a Fry lead-free
Q product, you would have trust in it?

R A. This solder material is so popular, so commonplace in
S the trade, everyone in the industry would know this
brand.

T Q. I understand. If they say it is Fry lead-free, then

U

V

people would have confidence. If they buy something out of the hardware store, would you test it?

A. Now we would, but at that time, nobody knew that there was such a risk. At that time, our colleagues didn't have such an awareness to check this particular item.

Q. At that time, if someone did not use this famous Fry brand name --

A. Well, we don't even know if they used Fry lead product.

Q. Well, if they buy it from the street or from the hardware store, they present this roll and they claim that it is lead-free, you would accept it at that time, wouldn't you?

A. With hindsight, our colleagues would not check whether the roll contains lead or not. We didn't even know there was an X-ray fluorescence check or test that could be conducted. Without the awareness and without the necessary arrangement, our colleagues wouldn't conduct these kinds of tests.

Q. Finally, let me say something about the prefabricated parts. Would you please have a look at B3.1/1169.

This is the interim findings of the Housing Authority. There aren't many findings. Let's have a look at the interim findings. Paragraph 27.

"(a) The 'excess-lead-in-water' incidents are unlikely attributed to the use of prefabricated kitchens

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C or bathrooms." C

D So it's got nothing to do with this. D

E "With the exception of Kai Ching Estate, in all cases prefabricated kitchens and bathrooms do NOT have plumbing pre-installed ..."

F So the plumbing is installed on site. F

G "Pre-installed plumbing in prefabricated kitchens and bathrooms was only used as a pilot in Kai Ching Estate. And even in ... Kai Ching Estate, out of the seven flats from which water samples were found to contain excess lead content, only one involved a prefabricated component (a kitchen) with water pipes pre-installed ..."

H

I

J

K

L Whether it has to do with the prefabricated units, we can find out from the experts, but let me put a question to you. For prefabricated units, they were manufactured outside of Hong Kong; is that right?

M

N

O A. The manufacturing was done in the mainland. O

P Q. So the pipes were connected in the mainland; is that right? P

Q A. Piping connection, in the prefabricated units, yes. But there are many connections that are not inside the units but they are outside. Q

R

S Q. Once the whole thing came to Hong Kong, they would make a connection, but, within the prefabricated units, the

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C	connection was done in the mainland?	C
D	A. Correct.	D
E	Q. So the one who does it is not a licensed plumber?	E
F	A. A licensed plumber, we allow them to have the supervisory role and supervised people could be allowed to work together with them.	F
G	Q. Under section 15, the licensed plumber, does he have to	G
H	do it himself, under the law, it is stipulated	H
I	a licensed plumber will have to undertake the work,	I
J	then, whether we are talking about local workers or	J
K	mainland workers, it is not allowed, even if there is	K
L	a supervisory role. You are saying that the licensed	L
M	plumber, Lam Tak Sum or Ng Hak Ming, you would expect	M
N	them to play the supervisory role, do you?	N
O	A. Well, they can travel to the place of manufacturing. In	O
P	the process of manufacturing, there is such	P
Q	an expectation.	Q
R	Q. Do you really think that they would turn up at the site	R
S	to supervise the manufacturing?	S
T	A. Well, you have to ask the main contractor as to how they	T
U	manage the production line.	U
V	Q. Prefabricated units, is it in the main contract?	V
	A. Well, this is the responsibility of the main contractor.	
	Whether the manufacturing takes place in Hong Kong or	
	whether the manufacturing takes place outside Hong Kong,	

it is the main contractor that is responsible.

Q. I get the feeling that as long as they can sign on the dotted line, it would be okay. Whether a licensed plumber has turned up, it doesn't matter, as long as you sign on it?

A. Well, I cannot say this on behalf of the licensed plumber, but as long as they put their signature there, they should have the supervision role and responsibility.

Q. Let's have a look at what Lam Tak Sum had to say. Bundle Q, page 17.

That's a record of an interview. He said in paragraph 3: Mr Lam confirmed that the form WWO 46, Mr Lam is responsible for Kai Ching Estate, he said that WWO 46, what materials were submitted by him, but as far as he recollects, he couldn't remember whether the taps and plumbing was installed in accordance with WWO 46.

Mr Lam claimed that for Kwai Ching and Kwai Luen Estates, with regard to the change of the fittings, he did ask the chief building services engineers.

A. It should be "building services engineer", not "chief".

Q. It was said that it had to be submitted to the WSD. The engineer told him that there was no need to resubmit WWO 46, part I and part II. It would be okay for him to communicate with the Housing Department. So Mr Lam did

not submit the form. So the Housing Department told him that he didn't have to amend the annex to WWO 46.

That's what he said. Can you see that?

A. This is the first time I have seen that.

Q. Well, that's what Mr Lam said. The Housing Department told him not to have to change it. How do you respond to that?

A. I think this sentence is really mind-boggling, because normally my colleagues would not normally tell Mr Lam to refrain from doing certain things.

MR YIN: Chairman, my instruction is that what this paragraph says is the "resident BSE". This may not be the Housing Department. The contractor has his own professional with his particular title.

MR SHIEH: We can find out about it, because there are two people with the title "building services engineer". Housing has CBSE.

CHAIRMAN: When it says the Housing Department, I think in the context it was the Housing Department's engineer who told you.

A. Let me say this. Under the contract, the main contractor has to have a building services engineer to co-ordinate the building services work. Second, generally speaking, in the construction site we don't normally have a resident BS engineer. So we don't have

C this particular personnel. So we don't really have
a resident building services engineer for this project.

D MR SHIEH: But you have a CBSE? D

E A. Yes, under the chief, there is a senior, there is
F a project BS engineer. We don't have the luxury of
a resident BS engineer. F

G Q. If this is the case, then we will put this to China
H Construction, because this is a project under China
Construction. The details were forgotten, and so on. H

I Finally, I would like to raise two more than points. I
J First, the internal structure, and also the manual. You
K talked about the form, 37641, and I asked you whether
L there was any structure that you can show me. 37641 is
the form, form 6210. L

M Have you found anything that shows the responsible
department within the HD for updating the manual? M

N A. Let me talk a little bit more about the story. Some
O inspection forms -- well, there are certain inspection
P procedures, according to the specifications. As
Q I mentioned this morning, for plumbing installation, the
R specs contain two parts. The first part is the pumping
S station and the equipment inside, and second is the
T installation of the equipment outside. And for the
U specifications inside the pumping room, we have
V something known as SWP, and for the specs inside the V

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C pumping room, they are going by PLU1 and 2. And the **C**

D CBSE, or chief building services engineer, would take **D**

E care of SWP and PLU1 and the relevant specifications, **E**

F and the chief architect (development) would take care of **F**

G the specs under PLU2. So that's the division of work. **G**

H They both work under the same Deputy Director. **H**

I We have a joint technical group, building services, **I**

J and we have another working group, another joints **J**

K material group. For PLU1 and LWP, if there are any **K**

L updates, the chief building services engineer would be **L**

M responsible for that. And on the other hand, PLU2 would **M**

N be taken up by the other chief building services **N**

O engineer. **O**

P The staff responsible for property management would **P**

Q conduct a joint review and they would provide feedback **Q**

R on performance and the latest updates and availability **R**

S of materials. Then they would collect views from the **S**

T trade before updating the manual. **T**

U And under the specifications, the materials must **U**

V undergo approval. We have a construction materials **V**

W management board in our department, and their advice **W**

X would be sought before confirming the manual. And in **X**

Y the year 2010, we commissioned a consultant to review **Y**

Z the specifications for building services installations, **Z**

AA and that included the fire services and LWP pumps and **AA**

the plumbing under PLU1. I hope our specifications are up to date and that's why we conducted a review.

We commissioned a consultant who specialises in building services, and we wanted to cope with standards on the international scene, including those in the trade and professional practices. So we wanted to keep ourselves up to date with the latest technologies. So it was completed by 2013 and the latest specs were published in 2014.

So, for the form 6210, page 37641, the form was created based on the 2004 specifications. After the review in 2004, we inserted a clause to include expressly on-site delivery verification. Since this is a contractual requirement, the site inspection must include on-site delivery verification.

So a lot of times our site inspection would be updated based on the latest developments of the trade. So that's what happened in 2005. If we receive any warnings or alerts that prompts us to update the form, then the manual would be updated as well, or if during site practice some materials could lead to certain incidents, then they would be included as well in the requirements.

So we rely on feedback from frontline workers or users, and we also listen to the trade in order to keep

C ourselves up to date. C

D So, for the form itself, I said that the D
E specifications would be updated by two chief grade E
F officers. This is the site inspection manual. We F
G conduct an annual review for this manual. G

H Of course, we wouldn't update every page, but we do H
I have an annual review and, based on the feedback, we I
J would update the manual and some tests have to be J
K updated as well. K

L The review authority is the chief architect, and, L
M based on organisational changes, there would be M
N different colleagues involved: between 2000 and 2012, N
O chief architect 1, and for 2004 it's chief architect 4, O
P and in 2013 it's chief architect 5. So different staff P
Q would be responsible. And the issuance authority would Q
R be an assistant director. So that's the way that we R
S work. S

T As for changes to the entire document, they are T
U based on different views and the latest trade U
V developments. We conduct an annual review and we have V
slight changes every year, on different areas of work.

Q. You mentioned the reviewing authority, CA1 to 5. This
R is attached to the post, right, so whoever is attached R
S to CA4 would be responsible, since the actual people S
T would be switched around? T

C A. We have always had a division of work. No single person
would take up the work. C

D Q. I understand that. Now, you might have answered my next
question already. For paints, let us just look at some
examples. Why did you include paints? D

E A. When the material was included, there was a requirement
that such was required on the form. E

F Q. Now let's look at FIN 7. Page 900. F

G Let's start from the beginning. This is for
H Kai Ching Estate. This is part of the contract book for
I Kai Ching Estate. The contract was very thick, so we
J will just look at some parts: "Proprietary suspended
K ceilings", and paint was mentioned. K

L There are a lot of requirements. For example, in
M line 5, it says "Submission Requirements": if a sample
N is provided for HD approval, then the following
requirements must be met. N

O There are a number of quality requirements.
O Page 896, et cetera. For quality and performance
P requirements, page 896, we have "Preliminary examination
Q of paint", and so on. Q

R So, when the HD approves the paints, these criteria
R would be followed. So this is part of the project, part
S of the contract. So, in other words, everything is
S stipulated. S

A. So these are submission requirements, so certificates must be produced to prove that the materials are compliant.

Q. So, as long as they can provide the right documents that they have done those tests, it's enough; right?

A. Usually, we would look at document tests. We would look at their certificates.

Q. For page 897, "On-site delivery verification": according to the contract, when the materials arrive at the site, the following methods would be adopted?

A. Correct.

Q. So, under the verification items, we have a number of items. We have proprietary brand names, manufacturer's name; visual inspections would be done, and they would tick off certain items, and the method is visual check.

So the contract says very clearly that the paints must be checked. So, on the form we just looked at, the relevant FIN 7 clauses have been mentioned. So, according to the contract, the paints must be checked and you should refer to the contract for the methods.

A. Yes, you can look at it that way. But the on-site delivery check means that all these items must be checked.

Q. So you inform the contract manager and blah, blah, blah. But it's mandatory, right, according to the record form?

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C A. Yes. C

D Q. So basically the on-site verification, it is stipulated D
on the contract, relies on visual checks or document
E checks? E

F A. Correct. F

G MR SHIEH: Thank you. I have no other questions. G

H MR CHAN: My Chairman, may I openly apply to ask questions H
of Ms Fung? H

I CHAIRMAN: Any questions from other counsel, apart from the I
WSD? I

J Would any counsel -- Mr McCoy? Do any counsel wish J
to ask questions? We have four. J

K Let's take a ten-minute break. We will re-convene K
L after ten minutes. L

M (3.29 pm) M
(A short adjournment) M

N (3.40 pm) N

O Cross-examination by MR CHAN O
(All questions from Mr Chan were in English) O

P MR CHAN: Ms Fung, I know it's been a long couple of days. P
Q Perhaps I can speed things up by first asking you this. Q
R Did you hear the oral testimony of Prof Cheung on Monday R
and Tuesday, or if not, did you have some opportunity to
S read the transcript of his evidence? S

T A. I listened to that but I didn't see the transcript. T

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I heard Chairman Cheung's testimony.

Q. And is there anything, in terms of the evidence that you heard, that you would disagree with or wish to bring up?

CHAIRMAN: This is a very broad question.

MR CHAN: You were asked some questions yesterday about the Housing Authority's lack of awareness as to certain lead-related risks and about the authority's risk awareness approach in general. Do you remember that?

A. Yes, I do.

Q. I would like to ask you a few more questions in this area, and let's see if we can perhaps add a bit more light and context to the matter.

Let me start with the Housing Authority's approach specifically to the risk of non-compliance with the specifications which the Authority has included in its building contracts and documents, since this really goes to the heart of matters.

Am I right that, as a matter of practical reality, a given building contract that the Housing Authority may have may involve dozens or indeed hundreds of specific requirements on design, technical or managerial matters?

A. (In English) Can you please repeat the last part of your question?

Q. Yes. Is it right that for the average or standard contract that the Authority will have in terms of its

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C construction projects, the number of specifications that C

D you will find in the contract would number in the dozens D

E if not the hundreds? E

F A. (In English) The specification I think is over 9,000. F

G Q. Oh, in the thousands? G

H A. (In English) I think I've got it in -- H

I Q. Over 2,000? 9,000 or 2,000? Anyway, it's in the I

J thousands. J

K A. (In English) If I can refer to the paragraph. It's K

L 9,000-something. L

M Q. So in the thousands? I don't need a precise figure from M

N you, but it's a high number. N

O Isn't the reality -- O

P A. (In English) Over 9,000 and about 280 referring to the P

Q plumbing. I think it's a total of over Q

R 9,000 specifications and about 280 are relating to R

S plumbing installation. S

T Q. Yes. Now, the reality is that, in theory, any one of T

U these stipulations could be breached by the contractor? U

V CHAIRMAN: You can choose to answer in Chinese or English. V

MR CHAN: I'm sorry, yes, we should have raised that.

Whatever language you are most comfortable in,

Ms Fung, in answering in, please feel free to use that,

although probably logistically it's helpful if you are

consistent in the language that you use for your

answers.

A. (In English) Sorry, please repeat your last question.

Q. Yes, of course. So, of the 9,000-odd stipulations in total, of which I think you have told us there are nearly 300 relating to plumbing, from a risk perspective, in theory anyway, any one of these specifications might be breached or not followed by a contractor who's required under the contract to follow the specifications; is that right?

A. In general, in our risk management, it's got nothing to do with the number of specifications. We have this risk-based approach. It doesn't matter what the specifications are. We would find ways to deal with them. Generally speaking, if certain materials are prone to problems, if they are of high risk, then we do have measures to deal with them. For materials that are of a lower risk, then we would deal with them in accordance with the normal practice.

Q. So, in other words, it's necessary, given the limited resources of the Authority, to base, really, its priorities on some risk management system or some risk management assessment; is that correct?

A. That is correct. Generally speaking, our contract would place the construction responsibility on the contractors. For our part, as Housing Authority, as the

landlord, we would have our staff or the resident staff helping us to random-check the materials.

Q. In relation to the lead incident that we are now inquiring as to, would you agree with this, that the real question in relation to awareness is not whether the Authority or others in the industry should have generally known that lead can be harmful to health, or indeed that lead may end up in water through a number of different possible ways. I suggest to you that the real question as to risk is much more specific, namely: what was the risk that contractors within Hong Kong who were required by contract to use non-leaded solders would not do so?

CHAIRMAN: I don't really understand your question.

MR CHAN: I will break it down. I will break it into two parts.

Do you agree that the real risk that the Housing Authority had to guard against in this case, in relation to the use of non-leaded solders, was the possibility of contractors not complying with the specific contractual specifications? In other words, having specifically specified in your contracts that non-leaded solders were not to be used, there would be a risk of non-compliance?

CHAIRMAN: Your question is too long. We cannot follow it.

MR CHAN: I was thinking of doing it this way, Mr Chairman:

if I put the proposition, I simply want to see whether the witness agrees with it.

CHAIRMAN: Your proposition is too long; can you make it simple?

MR CHAN: Okay.

Ms Fung, isn't the great risk, in relation to the contracts that the Housing Authority has, not that you have not included a specific clause as to non-leaded solder, but that they would simply not be followed in practice?

CHAIRMAN: Excuse me, this is way too long. Please simplify it further.

MR CHAN: Yes.

Why don't I approach it this way, Ms Fung: isn't it right that in relation to the construction industry in Hong Kong, which is very large and very active, before this lead incident, the Housing Authority had no knowledge of any incident in Hong Kong where a contractor had used a leaded solder when it was told to use a non-leaded one?

A. We were not aware of such incident or issue. As for the risk, we were not aware of the risk of non-lead-free solder.

Q. I will ask you a few questions in a moment as to the process by which you select contractors for Housing

C Authority projects. But could I first ask you whether
D it's safe to assume that in the construction or before
E the construction of these 11 affected estates, there was
F a careful vetting process in relation to each of the
G contractors that were selected?

H A. This is correct. We have a list of HA contractors and
I they must satisfy certain basic requirements before
J being listed, including technical requirements, past or
K track record in Hong Kong, financial records and so on.
L So there are certain requirements.

M And the Buildings Department also has a list of
N contractors and certain ISO requirements must be met.
O For example, ISO 9000 for environmental management and
P ISO 1400 and HASAS for us, and that's ISO 18000, and we
Q also have ISO 52000, 5001.

R So, generally speaking, our contractors must be
S competent and they must have at least three years'
T experience in Hong Kong.

U Q. I pause for a moment because I have been requested to
V pause to allow the transcribers to hear the translation
first before I continue.

Ms Fung, do you recall questions put to you
yesterday involving an incident of lead contamination in
Scotland, and also similar matters in Wales and the
United States? If you don't recall, that's perfectly

fine.

A. I had never read about those incidents before yesterday.

Q. In relation to foreign, overseas experience, may I ask you this. As far as the Housing Authority is concerned, does it actively consider or take into account guidelines given by the World Health Organization, the WHO?

A. Simply speaking, no. The reason is we believe that if the WHO has the relevant requirements, they would have been reflected in the laws already, and the testing requirements, et cetera, would have been reflected in the regulations already.

Q. Now, in relation to the WHO -- and do tell me if this is not within your knowledge -- are you aware that part of the fundamental mandate of the organisation is to direct and co-ordinate international health measures and matters of international health awareness? Is this something familiar to you? If not, I will move on.

A. (In English) No.

Q. That's fine.

A. (In Cantonese) This is not within our scope of responsibilities. If we are to address all these requirements, we would look at the relevant ordinances in Hong Kong, and if there is any room for improvement, we can refine it further. But everything is based on

C the laws of Hong Kong. C

D Q. You were taken earlier today, I believe, to a further D
E new document to this inquiry. I believe it's in E
F bundle A2 at page 888. It's a report of an Advisory F
G Committee. Perhaps we can go to that document. It's G
H bundle A2, page 888. H

I To begin with, this is the press release in relation I
J to the setting up of the Advisory Committee. Do you J
K recall a series of questions being asked in relation to K
L the work of this committee? L

M A. (Nodded head). M

N Q. Could you ask you please then to go to the report of the N
O committee, which I believe is at bundle F1, page 32. O

P The first page of the report, just for context, starts P
Q at page 30 of the bundle, and I believe you were taken Q
R specifically to paragraph 9 and the first sentence of R
S that paragraph. That's page 32 of that bundle. S

T Paragraph 9, the first sentence, reads: T

U "In the UK and [the United States of America], the U
V most common problem is the presence of lead in water V
W since during their development stage, lead pipes and W
X lead-soldered copper pipes were widely used." X

Y Do you have that statement in front of you? Y

Z A. (In English) Yes. Z

AA Q. Can you please tell the Commission whether, in your AA

knowledge or experience as an architect, the use of lead pipes and indeed lead solders were, in certain countries, quite commonplace up until relatively recent times, the last few decades; is that correct?

A. As the Deputy Director of the HA, what this is saying is that there were problems in the UK and USA, but no one picked up these issues at this meeting or committee, and no one thought these issues had to be tackled in Hong Kong.

Q. In fact, if one is referring to the development stages of the United Kingdom and the USA, we would probably be looking quite a few years back.

My question is, if the context is one of maintenance, the maintenance of buildings and the safety of water quality there, that is an entirely correct statement, to point out that, in the past, leaded solders had been used; is that correct?

CHAIRMAN: I don't really understand what you meant. Leaded pipes have been used for centuries. For leaded solder, they weren't very common, if I'm correct. I think the meaning of this sentence was that during the construction stage, certain issues would surface. In the past 100 or 200 years, lead pipes were commonly used, and up until 1993 -- we saw the EPA report in the US and the report in Scotland in 2000 too -- we found

that in new houses, when copper pipe connections were made, lead solder was used. So that's my understanding.

So it has nothing to do with maintenance or other issues. So historically there were such problems. Lead pipes were used and eventually copper pipes were used and the copper pipes contained lead. So that's the simple understanding; that's the simple interpretation. Let's not make things too complicated.

MR CHAN: Yes, Mr Chairman. I understand that.

Do you have any comments in relation to what has been stated at the first part of paragraph 9, from the perspective of the Housing Authority?

A. It's the first time I read this sentence. I feel that, back then, nobody was aware that copper pipes or solder for copper pipes would contain lead. Otherwise, the Advisory Committee would have looked into this issue separately.

But in this paragraph, according to the report, this issue was never tackled or addressed. So I believe that the Advisory Committee did not pinpoint this issue as a risk area to be addressed. That's my interpretation on paragraph 9.

Q. Thank you for that clarification.

Now, Ms Fung, moving to a slightly different area. You were asked certain questions yesterday about

A *Annex: Realtime English Transcription based on floor / Simultaneous Interpretation* A

B Commission of Inquiry into Excess Lead Found in Drinking Water Day 04 B

C a document issued by the Water Authority in August 2012, C

D titled "Guidelines on Cleansing and disinfection of D

E Fresh Water Inside Service"; do you recall that? E

F A. (Nodded head). F

G Q. You may need to say "yes" rather than just nod. G

H Now, if I understand your evidence correctly, H

I yesterday, you seem to say that, in certifying that the I

J materials used in the 11 affected estates conformed with J

K the British Standards, you looked to the 2012 circular K

L and the eight testing parameters in that circular. Do L

M you recall that part of your evidence? M

N A. (In English) Yes. N

O Q. First, may I just clarify with you: am I right in this, O

P that of the 11 affected estates under inquiry, only P

Q three were completed after 2012, ie after the guidelines Q

R were issued? R

S A. (In English) I think I have to check that, as a matter S

T of fact. T

U Q. Perhaps I can assist with this. In relation to U

V Kwai Luen Estate, I believe that was around 2014; V

Kai Ching, 2013; and Wing Cheong, that's 2013 as well.

But certainly so far as we can see, the remainder of the

estates were completed prior to 2012.

A. (In English) That's correct.

Q. Thank you. Now, in relation to those estates and the

certification process there, what then was the Housing Authority -- what did it take into account, in the absence of the 2012 guidelines?

A. (In Cantonese) I think all the tests had to be done in accordance with the prevailing requirements.

Q. Now, in relation to the estates that you said you referred to the 2012 guidelines for, you agree firstly that lead content was not one of the eight parameters set out in the guidelines in that circular; is that right?

A. Correct.

Q. Could you please explain, in that case, how the Authority considered that a set of parameters that did not include one which tested for lead would be of any help or relevance in verifying whether the solders which had been used in the Authority's developments contained lead?

In other words, Ms Fung, in relation to the certification of non-lead solders for the Housing Authority's developments, what, as far as the Authority is concerned, is the relevance of 2012 circular?

A. I think I will answer this question like this. All along, we didn't have any risk awareness about lead in water. So much so that we could think of the problem of lead in solder, we would act in accordance with the WSD

A *Annex: Realtime English Transcription based on floor / Simultaneous Interpretation* A

B Commission of Inquiry into Excess Lead Found in Drinking Water Day 04 B

C requirements to conduct the tests. At different times, C

D there may be different requirements, and we have to make D

E sure that the drinking water would measure up to the E

F health or the hygiene standard. F

G Q. Thank you very much. Now, in relation to an area which G

H we touched upon earlier, the selection process of H

I contractors, there's also a nominated subcontractor I

J arrangement that the Authority sometimes enters into; is J

K that correct? K

L A. Yes, that is correct. Normally, it is for the building L

M services part that we have nominated contractors. M

N Q. Is it correct that there is a nominated subcontractor N

O arrangement for plumbing subcontractors for fire O

P services construction, but not for inside service? P

Q A. Yes, we have the fire installation, fire pump nominated Q

R subcontractor, but for the inside services, well, the R

S trade will use domestic subcontracting. It's not just S

T the water supply; the drainage will also be included in T

U it. U

V Q. And in general terms, how does the Housing Authority V

decide when to use a nominated subcontractor arrangement

and when not to?

A. Generally speaking, for major building services

installations, governed by specific legislation, we

would let the nominated subcontractors do it, like the

fire services pumps, for example, and the lifts, the E&M installations, and so on.

Q. Is there a documented set of criteria that the Authority refers to for cases where a nominated subcontractor is considered appropriate? Is there a set of criteria that's been set down?

A. In the Housing Authority's list, we do have a list of contractors. For the nominated contractors, like the fire services pumps, we do have a list, and E&M we do have a list, and for lifts we do have a list.

Q. Ms Fung, in your earlier evidence, you referred to periodic supervisions of ongoing construction that was carried out by staff of the Housing Authority. Could I ask how the frequency of those periodic supervisions was determined? How frequent were these supervisions and what considerations went into deciding the frequency?

A. Generally speaking, we work on the basis of risk-based approach with which to decide the inspection percentage. We do have some criteria. The chief professionals would have regard to the specific needs and make some changes.

Q. So, if I understand your evidence correctly, it all falls within the discretion of the managing parties or the Authority; there's no fixed protocols or parameters as far as frequency is concerned?

A. Yes, we have some basic frequency or some inspection percentage, some 100 per cent, some maybe 10 per cent. Maybe we would have a certain frequency. We do have the criteria. But for individual projects, there can be fine-tuning, depending on the character of a particular project.

Q. Are there any guidelines that one can refer to at least for a general indication as to the level of frequency or regularity that inspections would be made, general inspections, for a given project or a given type of system within a project?

A. Yes, we do. We do have fairly rigid guidelines.

Q. So, in relation to plumbing systems, as far as you aware or as far as you recall, what guidance was given in relation to the frequency of inspections of plumbing works in particular?

A. In some of the exhibits, we did see that particular page, about frequency of inspection. PLU1, PLU2, some of them are 100 per cent, some 10 per cent. We do have all this information.

Q. Perhaps you can assist by explaining how, if at all, this concept of percentages of inspection differs from frequency or the period of a particular inspection. You have referred to -- and we remember your evidence as to different percentages -- 10 per cent, 100 per cent. But

is that the same thing as the frequency of inspection or supervision?

A. Well, the frequency has to do with the frequency of official inspection. So, in determining the percentage, we would do that.

Q. And would you be able to give an answer as to how the frequency of the Authority's inspection of, say, plumbing construction would compare to that of an authorised person in a private project development and the frequency in which plumbing construction would be inspected in that private context? Is there any difference?

A. Our practice would be similar to that in the trade, but we haven't done any direct comparison with the private sector.

Q. Thank you.

A. Well, the percentage that we have would be on the basis of risk and the manpower, and also the actual operation of the site.

Q. Thank you.

Now, Ms Fung, as a matter of your experience in the Authority's construction work, would you agree that it's generally preferable, in terms of time or practicality, to ensure that there's compliance with building specifications during the time of actual construction,

rather than when construction is completed?

CHAIRMAN: Can you repeat that question?

MR CHAN: Yes. I would like to know from this witness

whether she would agree that if you are going to focus your efforts and resources in assuring contractual compliance, the best time to do it is when the plumbing system or whatever it is you are looking at is in the actual process of being built and not just afterwards?

A. We have the in-process inspection and also as-built inspection. We take them as just as important; one can't replace the other. In particular, when it comes to the performance-based or output-based products, the end product would be very important.

Now, for the performance of the plumbing, for instance, you may have completed the connection, but we have to make sure that the entire system is good enough and the as-built commissioning and testing would be very important. It would be similar to the E&M facilities. If they fail to pass, we will have to check what part has gone wrong and rectify the situation. And the price we pay would be higher.

But the two sets of checking would be just as important. They are complementary. We cannot have one overriding the other.

Q. Perhaps we can hone in a little bit on the question of

leaded solders and their use and the checking of that.

We have heard evidence about the different packaging

that solders come in. Do you recall that? You have

Fry, you have other materials that the solders

themselves come packed in.

Do you agree that one simple way of checking, or verifying the content of the solder is by on-site visual inspection at the time when these materials are brought in, when they are still in their packaging or when they are being unpacked?

A. Yes. I won't talk about in the past, because we didn't have this risk awareness; we didn't check on that.

Right now, also we conduct visual inspection. We do have a quarantine system as well: when the products turn up on the site, there would also be a checking, we have to make sure that the product itself is in compliance; so the products will be checked to verify that they are lead-free before they would be released for use.

So this is not just on-site delivery check. We have a quarantine checking as well, to make sure that the products are up to scratch before releasing them to the workers.

And we do have a traceability to monitor where the workers are when they are using the products, and that would enable us to have an audit trail; if there are

problems, we know who used the non-compliant materials.

Q. I understand what you say about these additional or other checking measures. But in relation to the simple method of going on site, looking at the packaging of the solders, will you agree with me that that is a very simple, effective way of conducting a spot verification of what materials are being used?

A. Let me put it this way. If there is a high-risk product, even visual inspection may not really be the answer to the problem; we have to have some devices, a more scientific way to make sure the products are measuring up to scratch.

Q. All right. I hear what you say.

Now, can I ask in relation to one particular paragraph of your witness statement, paragraph 78. It's page 37541 and I think internally page 39. Paragraph 78 of your witness statement.

You say there there's no cost information, to your knowledge, in relation to the bills of quantities, but you refer to investigations where the Authority discovered that there is no significant cost savings in the use of soldering materials containing lead. Do you have that in front of you?

A. (In English) Yes.

Q. Could you please elaborate a bit on what particular

tests or investigative steps were actually taken for you to make this statement, in relation to the saving of time? What investigations were actually made by the Authority in relation to this?

A. The investigation was done after the incident, and we had some findings.

As discussed earlier today, we came up with the cost saving for each flat, and we compared it with the market costs. In the bills of quantities, there is no cost information. The reason is that soldering is not a separate price item. The built-in rates for the copper pipes already include solder. So we didn't know the cost of the solder and we did not trace the quantities of solder required for the flat or building.

Q. Ms Fung, it may be my fault, but I'm not quite sure I got an answer to my question as to the investigative steps that were taken.

A. We looked at the costs of the materials in the investigation and we compared the time required for using unleaded solder and leaded solder. We had no awareness of such risks at that time. We were told later that the cost difference wasn't significant --

Q. Yes.

A. -- but then they could save some time. But we cannot just rely on what the trade says, so that's why we did

some tests on site, to see whether there were any savings in time required. And cost savings were also insignificant. So that's what I meant in paragraph 78.

Q. Ms Fung, am I right in thinking that for a typical multi-storey building, such as one which the Authority would have, there could be up to 96,000 or 100,000 joints that would need to be soldered for that development, about 100,000 or 90,000 joints? Is that an accurate estimate, or if not, what would you suggest?

A. It depends on the design. Generally speaking -- well, it depends on the number of units in a building. We can have more than 100,000 joints in some cases. It really depends on the number of storeys and flats, and it also depends on the design.

Q. Would you accept or agree with me that if there is even a very small time saving between types of solders for a particular joint, for a single joint, that could become a very significant saving if multiplied across this sort of scale, among the 100,000, 90,000, 80,000, joints in a building?

A. If the consequences or the negative consequences were apparent, then they would not decide to save the money, because we subsequently found that the cost and time savings weren't significant. If we discovered non-compliant materials were used, they have to replace

C all the pipes and plumbing, and the cost implications C
D would be even higher for them. The cost implications D
E would be great if they had to replace all the pipes. E

F If we had to test for lead in solder or water, if F
G the contractors were aware of that, they wouldn't be G
H stupid enough to commit to this risk. We have the H
I checking mechanism in place and they would be found out I
J sooner or later. So, as a result, they would not gamble J
K on that. K

I MR CHAN: Mr Chairman, I propose to move to a new area of I
J questioning. In fact, Mr Wong may continue tomorrow J
K when I am not here. K

L I understand that Mr McCoy and Mr Pennicott may have L
M an application to make, so I wonder if this would be M
N a useful point at which to pause my questioning or the N
O Department's question and to continue tomorrow morning. O

N I will allow Mr McCoy to make an application. N

O APPLICATION FOR EXTENSION OF TIME FOR SERVICE OF WITNESS O
P STATEMENTS P

P MR PENNICOTT: (In English) Mr Chairman, if I can make the P
Q application. I make it primarily on behalf of Q
R China State but I understand it is supported by the R
S other three main contractors. It relates to the date of S
T service of the witness statements by the four main T
U contractors. U
V

C As currently directed, we are to serve by close of
D business on Monday afternoon. The application is for
E an extension of time for 48 hours until the end of
F Wednesday of next week.

C

D

E

F The reality of the situation is that we've had
G resources tied up in the hearing. I have mentioned this
H to Mr Shieh. I'm not quite sure what position he takes.
I But we would invite you to make a direction that we have
J a 48-hour extension of time. I can't see how any
K prejudice can be caused to anybody. We are not going to
L get to the contractors' witnesses for a long time yet,
M on the present rate of progress.

F

G

H

I

J

K CHAIRMAN: (In English) Yes?

K

L MR McCOY: (In English) Paul Y General Contractors Ltd
M entirely supports the application.

L

M

N CHAIRMAN: (In English) Yes?

O MR LAM: On behalf of Shui On, we also support.

N

P MR SHIEH: I don't see any impact on us. (Chinese spoken).

O

Q MR LI: Chairman, I represent Paul Y. (Chinese spoken).

R CHAIRMAN: Wednesday, what time? 4.30 pm. So the deadline
S is 4.30 on Wednesday, and the witness statement must be
T filed before that time.

P

Q

R Ms Fung, we have heard a lot from you, so that's
S about it. Please come back tomorrow and there will be
T further questions from the counsel, so we will see you

R

S

T

U

V

C at 10 am tomorrow. The hearing is adjourned.

C

(4.23 pm)

D (The hearing adjourned until 10.00 am the following day)

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