A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	2016年2月18日	C
D	上午 9 時 32 分恢復聆訊	D
E	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	E
F	王鳴峰資深大律師、陳樂信大律師及羅頌明大律師,由律政 司延聘,代表水務署署長	F
G	李柱銘資深大律師及吳思諾大律師,由何謝韋、李偉業律師	G
Н	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	Н
I	何沛謙資深大律師及殷志明大律師,由羅夏信律師事務所延 聘,代表香港房屋委員會	I
J	林定韻大律師,由孖士打律師行延聘,代表中國建築工程(香	J
K	港)有限公司	K
L	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	L
M	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	M
N		N
0		0
P	PROF JOHN FAWELL (on former affirmation)	P
Q	Cross-examination by DR WONG (continued)	Q
R	(All questions and answers in English)	R
S	DR WONG: Good morning, Prof Fawell.	S
T	The topic that I would like to explore with you next	T
U	is your suggestion to add three more chemicals for	U
V	- 1 -	V

A	倉水今	鉛超標調查委員會 201	6年2月18日	A
	及小日	如心惊啊已安克目 201	0 4 2 / 1 10 []	
В				В
C		testing in the water sampling.		C
D	Α.	Yes.		D
E	Q.	Let me make it clear first, the stance of the	e WSD is	E
F		that they are very welcome to considering any ac	lditional	T
г		chemical to be tested. So it's not that we a	re	F
G		resistant to any suggestions. They are sugge	estions	G
Н		only. Just so there is no misunderstanding of	on that.	Н
I		We would just like to understand the ration	nale, the	I
J		basis for inclusion of the three additional m	netals.	J
K		First, you suggest the inclusion of zinc.		K
L	А.	Yes.		L
	Q.	If we look at your paragraph 69 in your repor	ct.	
M	Α.	Yes.		M
N	Q.	There you say that zinc is unlikely to be prese	nt unless	N
0		galvanised pipes are present.		o
P	Α.	That's correct. Usually zinc comes from galv	vanised	P
Q		pipe. I know that galvanised pipe was used in	the past	Q
R				R
C		in Hong Kong.		
S	Q.	In Hong Kong. So in terms of risk assessment	t, since	S
T		Hong Kong has not used galvanised pipe for qu	ite some	T
U		time, in terms of assessing risk for inclusion	on of	U
V	Transcr	- 2 - ript by DTI Corporation Asia, Limited		V

 \mathbf{S}

 \mathbf{T}

Q. One of the parameters that he finds is about the level of copper --

 \mathbf{S}

T

 \mathbf{U}

 \mathbf{v}

U

v

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	A. Yes.	C
D	Q. You know the figures; right? It's at page 173.13	D
E	onwards. If you want to have a look, V1/173.13.	E
F	There is nickel, copper, lead, et cetera; right?	F
	A. Yes.	Г
G	Q. As far as lead is concerned, I don't think we have any	G
H	disagreement here that lead is health-based; right?	Н
I	That level is health-based; right?	I
J	A. Yes.	J
K	CHAIRMAN: The level is?	K
L	DR WONG: Health-based, the guideline value for copper is	L
	health-based; right.	
M	Prof Lee has done a rather detailed analysis by way	M
N	of his sampling protocol.	N
0	A. Right.	0
P	Q. And the level of copper found is less than	P
Q	A. It's very low.	Q
R	Q. It's very low; right?	R
S	A. Yes, it's very low. But in the future you would be	C
	looking at other circumstances, and it may not be the	S
T	same. I'm not thinking just about these housing	Т
U	estates, but in the future there will be new	U
v	- 4 - Transcript by DTI Corporation Asia, Limited	V

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

В

D

 \mathbf{C}

F

 \mathbf{E}

G H

I

J

K

L

M

N O

P

Q

R

S

T

U

v

Transcript by DTI Corporation Asia, Limited

developments, new buildings. There will be private buildings, and so on. There are circumstances -- it's almost invariably when the building is new that levels

of copper can, particularly if they have been standing for any length of time, actually get up close to or above the guideline value.

When that happens, it can cause some difficulties.

Now, an example would be that I was dealing -- I have dealt with it in various parts of the world, but in a part of England where they have been installing new copper pipes into schools -- of course nobody is in the school over the weekend, so the pipes -- the water is standing in the pipes. It's quite aggressive water, so it could dissolve the copper. And on a Monday morning, when the taps were turned on at the drinking fountains, at break-time for the children, there were actually very high levels of copper, enough to make them feel uncomfortable and not very well. But that flushed through very quickly.

It was a case of managing the situation for a few months, and then it settled down and there wasn't

- 5 -

v

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	a problem.	C
D	So it's just being aware that these things can	D
E	happen, because when you have potentially a new	E
F	building, and if people start to report that they are	F
	not feeling very well, which sometimes happens, for	
G	a range of reasons, you have information that will tell	G
Н	you it's likely to be the water, it's not likely to be	Н
I		I
J	the water, and so on.	J
K	Q. Okay. Thank you.	K
L	Lastly, about antimony.	L
_	A. Yes.	L
M	Q. If I may invite you to go to C2/1412. That's the WHO	M
N	document which you are very familiar with.	N
О	A. Yes. The WHO Guidelines. Okay. I pretty well know	0
P	that one.	P
Q	Q. "Antimony is used in solders as a replacement for	Q
R	lead"	R
S	A. That was a proposal at one time. That has not happened.	S
-	Q. If that has not happened, your thinking about the risks	5
T	of antimony to exist in the Hong Kong drinking water	T
U	system	U
V	- 6 - Transcript by DTI Corporation Asia, Limited	v

sort of levels, if any, of antimony are here.

Q. That's a very good and cautious judgment.

The last topic I would like to explore with you is

- 7 -

 \mathbf{T}

U

 \mathbf{V}

T

U

- 8 -

 \mathbf{V}

- 9 -

 \mathbf{v}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{v}

В

C
D
F

 \mathbf{G}

H

I J

K

L

M

N

 \mathbf{o}

P

Q

R

S

T

v

U

Transcript by DTI Corporation Asia, Limited

It only goes so far, because of course once you get into the house or into a property, they have limited powers in that respect. They can insist that anything that's used up to the point that it enters the property is a particular material, approved material, and they can advise within the property, and they do advise, because one of the things they don't want is water quality problems occurring because of the materials that are used, incorrect materials, and they can say to the consumer, "Sorry, it's your problem, you used the wrong material. It's between either you and your plumber or you, yourself, to fix it", and they will not be held responsible.

So if somebody did repairs in their house and used leaded solder, the water supplier would not be responsible for that. So if they found lead in a sample of water, and the fittings inspectors have been around and said, "They have been using leaded solder", the water company can say, "This has nothing to do with the water supply or with the normal piping; we don't have any responsibility for this. We don't have to put in treatment or anything; this is a problem for the

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		particular householder."	C
D		So it's a little bit more complex than in Hong Kong,	D
E			E
F		but in the UK we don't have the same sort of big public	F
		housing set-ups that you do in Hong Kong.	
G	Q.	Sure.	G
Н	Α.	And obviously we don't have these very high-rise	Н
I		buildings.	I
J	Q.	Sure, sure, sure. This system would rely, would you	J
K		agree, to a very large extent, on a trust on the	K
L		approved plumbers to certify that? Because they have to	L
		self-certify themselves and the water company	
M	Α.	Well, they self-certify on chlorination the pressure	M
N		test and the chlorination. But the plumber has been	N
0		certified beforehand.	O
P	Q.	Yes.	P
Q	А.	So a certified plumber would do the various tests and	Q
R		then send the paperwork to the water supplier. And yes,	R
S		they would rely on that certified plumber doing the	S
		right thing.	~
T		If the plumber is found not to have done the right	T
U		thing, then he has two problems. One is his	U
V	_	- 11 -	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		talks about roles and responsibilities of	various	С
D		parties. I don't know whether, in so doi:	ng, you are	D
E		making a conscious distinction or whether	in fact the	E
F		terms are quite interchangeable?		10
F	Α.	They are largely interchangeable.		F
G	Q.	Right.		G
Н	Α.	When I visited, in talking to people from	the Housing	H
I		Department, they were using the terms "Ho	using	I
J		Department" and "Housing Authority" reaso	nably	J
K		interchangeably.		K
L				L
M	Q.	Sorry. I just want to make sure there's	nothing,	3.5
M		difference in terms?		M
N	Α.	Yes. It wasn't very clear, the different	iation, and	N
0		I wonder whether in many respects there i	s a need for	O
P		that differentiation, just how important	it is.	P
Q	Q.	Probably not. I just want to make sure t	hat	Q
R		I understand the situation.		R
S		The one aspect that I want to try and	ask you to	S
		elaborate a little bit upon is the part wh	ere you talk	~
T		about the concept of water safety plans.		T
U		May I direct your attention to paragrap	ohs 35 and 36	U
V	Transcr	- 13 - ript by DTI Corporation Asia, Limited		V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	of your report, please.	C
D	A. Yes.	D
E	Q. Towards the middle of paragraph 35, you were referring	E
F	to:	10
	"The concept of water safety plans was introduced in	F
G	order to encourage a proactive preventive approach to	G
Н	managing risks to drinking water from the catchment to	Н
I	the point at which consumers receive their drinking	I
J	water"	J
K	And you use the term "source to tap approach".	K
L	A. Absolutely.	L
	Q. There is a helpful reference to one of the papers	L
M	I will take you to that in a moment but if I may,	M
N	just for the time being, go to your next paragraph. In	N
0		O
P	paragraph 36 you say water safety plans require several	P
Q	things. I pick up the key words here as being, one,	Q
R	system assessment	R
S	A. Mm-hmm.	C
Ö	Q from catchment to tap; two, identification of	S
T	hazards.	T
U	A. Yes.	U
V	- 14 - Transcript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	Three, assessment of risk; and following, in line 5	C
D		onwards, then recommendations of supporting activities	D
E		such as ensuring materials in contact with drinking	E
F		water do not cause degradation of the quality of the	F
G		supply. So supporting activities there.	
ď	Α.	Right.	G
Н	Q.	Do I understand that these are sorts of concepts or	Н
I		terms actually used in that paper, which I go back to	I
J		your paragraph 35 at the end in fact, those are the	J
K		sorts of thinking incorporated in that paper?	K
L	Α.	Yes.	-
L	Q.	Basically, your summary your paragraph 36 is	L
M		a summary of the things in that paper, isn't it?	M
N	Α.	Yes.	N
0	Q.	May I take you to the paper then?	O
P	Α.	Right.	P
Q	Q.	It's in bundle A3, and chapter 4 page 1687, please.	Q
R		I don't think counsel for the Commission has	R
S			S
		actually taken you to this paper when you went through	
Т		the report in some detail. So if you would bear with	T
U		me	U
V	Transce	- 15 -	V

A	食水含:	鉛超標調查委員會 2016年2月18日	A
В			В
C	Α.	Yes, that's right.	C
D	Q.	let me try and take you through this paper.	D
E	Α.	Yes.	E
F	Q.	Now, page 1687, that's the chapter 4, on water safety	
r		plans.	F
G	А.	It is.	G
Н	Q.	That's your "source to tap" approach?	Н
I	Α.	Yes.	I
J	Q.	If I may ask you to look at page 1687, just the head	J
K		under that chapter. Basically, the first paragraph	K
L		says well, if I understand correctly, these water	L
		safety plans are basically risk managements?	
M	Α.	Yes.	M
N	Q.	Basically, it's to identify risk, identify hazards,	N
0		identify how to control these risks, control these	0
P		hazards, and then have a management plan for	P
Q	Α.	Absolutely. You identify what the hazards are. You	Q
R		assess the risks that those hazards will cause problems.	R
S		Then you have plans and steps in place that will either	S
		mitigate or manage the risks.	~
T	Q.	Right. There seems to be, as a layman reading this	T
U		paper, to be a very helpful figure at the next page,	U
V	Transcri	- 16 -	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C				C
D		1689.		D
E	А.	Yes. Mmm		E
F	Q.	This sort of flowchart really, for me, it	summarises	F
		what this chapter is about.		
G	Α.	Yes. It was intended to do that. You hav	e to be	G
Н		careful not to be too rigid about this.		H
I	Q.	No.		I
J	Α.	We have had some difficulties with it. Yo	u've got to	J
K		remember that this is written by experts,	and experts	K
L		are not always the best communicators.		L
M	Q.	You must be the exception, if I may say so	•	M
N		But by and large, what I get from this	figure,	
		following the direction of the arrows, what	you have is,	N
0		for example, you first assemble the team -	-	O
P	Α.	Yes.		P
Q	Q.	to prepare these water safety plans.		Q
R		Skipping the documentation part, becau	se it comes	R
S		back right at the end and it comes back in a	circle, but	S
T		skipping that for the time being, then this		T
U		third box, they are supposed to do a hazard		U
		identify risks, basically the risk assessmen	t approach;	
V	_	- 17 -		\mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		characterisation of these risks.	C
D		I suppose then "characterisation" meaning, "Is the	D
E		risk high or low or what?"	E
F	Α.	Absolutely.	F
G	Q.	"Can we ignore this for the time being, due to resource	G
Н		considerations", all that?	Н
I	Α.	Yes, prioritisation and so on.	I
J	Q.	Prioritisation and all that.	J
K		Then, moving down to the fifth box, another bold	K
L		highlight is "control measures". Having identified	L
M		risk, then you identify what are the control points and	M
		how can we	
N	Α.	Absolutely.	N
0	Q.	effectively address the risk.	0
P	Α.	Absolutely.	P
Q	Q.	In those two boxes I will take you to the relevant	Q
R		parts in a moment, because on the right-hand side you	R
S		see a reference to section 4.1 and 4.2, those two	S
Т		references.	Т
		But if I may just move down that chart for the time	1
U		being, there you have a box for monitoring, you have	U
v	T	- 18 -	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	a box for verification. I suppose that's your control,	C
D	verification, to see if the control measures are	D
E	A. Yes. The verification is making sure that your control	E
F	measures are working.	ъ
	Q. That's right.	F
G	Then lower down that box you come to "supporting	G
Н	programmes".	Н
I	A. Yes.	I
J		J
K	Q. If I may just read out also the words in brackets:	K
L	"(eg, training, hygiene practices, standard	L
3.5	operating procedures, upgrade and improvement, research	
M	and development, et cetera)."	M
N	There is more elaboration on that in section 4.4.	N
0	I will take you to that in a moment.	O
P	A. Yes.	P
Q	Q. Then "Prepare management procedures", and then	Q
R	"Documentation", and then coming back to the	R
S	documentation in the first place.	S
	Now, I will ask you about supporting programme in	5
T	a moment, but perhaps I leave that for the time being,	Т
U	because first I may want to go to 4.1, first.	U
V	- 19 - Transcript by DTI Corporation Asia, Limited	V

- 20 -

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		delivered.	C
D	Q.	Yes.	D
E	Α.	So they will have knowledge of the system as it is	E
F		operated.	F
	Q.	Right. Now, then it brings me to the composition. Then	r
G		you have an element of consumer there.	G
Н	А.	I think I know where you are going.	Н
I	Q.	Not necessarily.	I
J	А.	I hope you are going down this way because I have some	J
K		quite strong views on it.	K
L	Q.	You do?	L
	Α.	Yes.	L
M	Q.	Perhaps you'd mind sharing with us?	M
N	А.	I commented in the report that I was concerned about	N
0		it wasn't clear how many external stakeholders from WSD	О
P		had been involved in developing the water safety plans.	P
Q		I would regard the Housing Department as one of the	Q
R		key stakeholders for the part or for knowledge of the	R
C		systems within buildings, and although it's very	g
S		difficult for a water supplier to produce a water safety	S
T			Т
U		plan for covering every single building, it's very	\mathbf{U}
v	Transcr	- 22 - ript by DTI Corporation Asia, Limited	V

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{v}

В

C D

E

G

 \mathbf{F}

Ι

J

H

K

L

M

N

P

 \mathbf{o}

Q

R

S

T U

V

important that there is an input, with knowledge about the types of buildings, what's in the buildings, how they are operated, how they are managed, et cetera.

Q. Yes.

A. And from what I've seen of Hong Kong -- in the UK, we would have a number of groups, but particularly the environmental health officers, who are local authority people, and they've got responsibility for the health side of the buildings. In Hong Kong, it appears to me that the Housing Department are actually very well placed to provide a focus for that particular part of the process, and it is important to be aware of what will happen within the buildings.

That doesn't mean that WSD suddenly get a massive increase in what they've got to do, but they need to understand that part and work with those stakeholders who are responsible for the buildings.

Q. Yes. Essentially, the experts would of course then contribute to their expertise, to devise -- first of all, to identifying hazards, telling us characteristics of particular risk, high/low, something that you need to

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		pay a lot of attention to or something that you can	C
D		basically put aside for the time being.	D
E	Α.	Yes.	E
F			F
	Q.	And then introduce control measures. But then I agree	
G		with you to the extent that of course then you need the	G
Н		users' perspective, which of course injects a degree of	Н
I		practicality to the whole exercise. You don't want just	I
J		very high-level experts	J
K	Α.	No, no. It has to be much more detailed than that	K
L	Q.	On the ground?	L
	Α.	otherwise it	L
M	Q.	Something that can be	M
N	Α.	Yes, because otherwise it's not going to achieve	N
0		anything.	o
P	Q.	That's where the users' contribution would be most	P
Q		useful?	Q
R	А.	It would indeed.	R
C	Q.	Yes.	G.
S	Α.	And we've operated like that in a number of countries.	S
T	Q.	Yes.	T
U	Α.	Including ones where we don't have piped water supply	U
v	Transcr	- 24 - ipt by DTI Corporation Asia, Limited	v

- 25 -

 \mathbf{v}

A	食水含:	鉛超標調查委員會	2016年2月18日	A
В				В
C		understanding that Legionella in buildings	is much more	C
D		of an important issue than we had thought	before.	D
E	Q.	The long and short of it, the point that I	want to see	E
F		if you can help us, in this paragraph, abo	out the	F
		composition of this multidisciplinary team	they are	
G		of course people who are there to contrib	ute their	G
Н		expertise?		Н
I	Α.	Yes, they're not there just because of th	eir status.	I
J	Q.	Not just because of their status, but act	ually their	J
K		knowledge and expertise?		K
L	Α.	Yes.		L
M	Q.	And actually they are the best-placed peo	ple to make	М
				M
N		that contribution?		N
0	Α.	Yes.		O
P	Q.	And there is of course the users' perspective	re, to ensure	P
Q		that when something is devised or even dis	cussed, that	Q
R		is something that works on the ground and n	ot something	R
S		up in the air		S
т	Α.	Absolutely.		
T	Q.	or theoretical, and so on?		Т
U	Α.	Yes.		U
V	Transcri	- 26 - apt by DTI Corporation Asia, Limited		V

- 27 -

 \mathbf{v}

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	a later stage. But I notice you use words like	C
D	"department". But anyway, this is perhaps where HD and	D
E	HA may have a difference.	E
F	A. Yes.	F
	Q. But I understand what you say.	
G	May I move on then to the second paragraph.	G
Н	Basically, there it talks in terms of hazards	Н
I	A. Yes.	I
J	Q as you see in the first sentence, "range and	J
K	magnitude of hazards that may be present and the ability	K
T	of existing processes and infrastructure to manage	_
L	actual or potential risks". Then the last part of that	L
M	paragraph:	M
N	" the first step in developing a WSP is the	N
0	collection and evaluation of all available relevant	O
P	information and consideration of what risks may arise	P
Q	during delivery of water to the consumer."	Q
R	A. Yes.	R
S	Q. So again very much a focus on risk and identification of	S
T	hazards.	T
U	A. Yes.	U

- 28 -

 \mathbf{v}

 \mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C			C
D	Q.	Over the page, in the box, at the top again, the same	D
E		point, isn't it?	E
F	А.	It's exactly the same, yes.	F
	Q.	Risk management, hazard identification, identification	
G		of hazardous events and risk. Again, basically the same	G
Н		point?	Н
I	А.	Yes.	I
J	Q.	Then the first sentence after the box:	J
K		"Assessment of the drinking water system supports	K
L		subsequent steps in the WSP in which effective	L
M		strategies for control of hazards are planned and	M
		<pre>implemented."</pre>	
N		Now, of course this now goes into a little bit about	N
0		control after the identification of risk.	О
P	Α.	Yes.	P
Q	Q.	Right. But of course in this section, 4.1, if I again	Q
R		come back to some key points there, basically it's	R
S		identification of hazards, identification of risk,	S
T		assessment of that risk, and characterisation?	T
U	Α.	Identify the hazards and assess the risks.	U
	Q.	Assess the risks.	
V	Transcri	- 29 - ipt by DTI Corporation Asia, Limited	V

- 30 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		becomes a lot more complex, and it actually is quite	C
D		beneficial to have where you've got somewhere like	D
E		Hong Kong, where you've got buildings that are so large,	E
F		to have an idea of how those buildings operate, how the	F
C		distribution system operates, et cetera.	a
G	Q.	Your last point would be that somehow this body of	G
Н		representatives would be best positioned to actually	Н
I		assess that?	I
J	Α.	It would	J
K			K
L	Q.	To look into it?	L
2	Α.	There would be somebody who would have expertise who	L
M		would bring that to the table.	M
N	Q.	Right. May I move on to 4.2 now. This is about control	N
0		of the risk and hazards.	0
P		At page 1707.	P
Q	Α.	When you go through this, you realise just how long	Q
R		these documents are.	R
S	Q.	Indeed, it doesn't make it easier for anybody,	S
		administrators, to actually go through this document.	5
T	Α.	I will take that message back to the WHO.	Т
U	Q.	But the flowchart is very helpful though.	U
V	Transcr	- 31 - ript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		understand that.	C
D		But here, for example, I take it that the emphasis	D
E		put on the drinking water supplier is that this is the	E
F		authority or the department that should take the lead?	F
	Α.	They should take the lead.	
G	Q.	Yes.	G
Н	Α.	But it's recognised that the sorts of barriers and	Н
I		operational controls within buildings are not usually	I
J		under the control of the supplier. So a lot of this	J
K		relates to the way that the treatment works are	K
L		operated, the way the distribution system is operated.	L
	Q.	Yes.	
M	Α.	So you've got to be careful not to overinterpret this	M
N		all the way through to the tap.	N
0	Q.	Yes.	0
P	Α.	But the principles are still there.	P
Q	Q.	Yes.	Q
R		I then look at 4.2.1 and 4.2.2: laying down control	R
S			S
T		measures, to address the nature of hazards and magnitude	_
T		of the associated risk; 4.2.1, still, in the second	Т
U		paragraph:	U
V	Transcr	- 33 -	v

- 34 -

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
С				C
D		shuts the gate all the time. It can be as	simple as	D
E		that. Or it can be at complex as looking	at, as	E
F		I mentioned yesterday, continuous monitori	ng of	F
		turbidity on filters in a treatment works.		
G	Q.	I presume all these operational issues, for	or example,	G
Н		like shutting a gate, the fence to a well	this sort	Н
I		of thing would have been discussed in that	rather	I
J	t	high-level, multidisciplinary committee, to	to set up	J
K		address or to devise the water safety plan	1?	K
L	А.	Yes, but it's not so high-level, because	you have	L
M		practical people involved.		M
N	Q.	Right.		N
0	Α.	If you don't have practical input, then inva	ariably it's	o
P		likely to become very rarefied and not very	y real. The	P
		key thing about water safety plans is they'	ve got to be	
Q		real and		Q
R	Q.	Practical?		R
S	А.	they've got to deliver practical benef:	its.	S
T		That's an interesting one for building	s, but you	Т
U		have to have people who understand the buil	dings, to be	U

- 35 -

V

 \mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		able to devise sensible ways of doing this.	C
D	Q.	At the moment, I'm still sort of discussing this in	D
E		a rather abstract manner, because obviously this paper	E
F		can only talk about, you know, things that are more	F
		abstract, because it's meant to be read by not just	
G			G
Н		Hong Kong people or Hong Kong circumstances	Н
I	Α.	This is the whole world.	I
J	Q.	Yes, a much broader audience here. So at the moment I'm	J
K		still sort of exploring with you the philosophy behind	K
L		this.	L
		Perhaps in a moment maybe we can get down to	
M		something more specific.	M
N		But if I may turn now to the supporting programme.	N
0	Α.	Yes.	0
P	Q.	You see further down that flowchart	P
Q	Α.	Yes.	Q
R	Q.	you have a section of developing supporting	R
		programmes.	
S		First of all, I note, in your report just now,	S
T		when I was reading to you paragraph 36, you did use the	T
U		words "supporting activity".	U
v	Transcr	- 36 -	v

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Α.	Supporting programme.	C
D	Q.	In paragraph 52, at page 111 of your report	D
E		paragraph 52, that's the head.	E
F	Α.	Yes.	F
	Q.	The second line, going on to the third line, you see you	Г
G		have also used the term:	G
Н		"Supporting programmes would include systems for	Н
I		ensuring that only appropriate materials are used both	I
J		in terms of approval and ensuring that only approved	J
K			K
L		materials and chemicals that meet the appropriate	L
M		quality criteria are used."	
M		So you also use the term "supporting activity", or	M
N		"programme", it doesn't really matter; it seems it's	N
0		referring to the same thing?	O
P	Α.	Yes. It's pretty well interchangeable.	P
Q	Q.	But you put the control of materials as a supporting	Q
R		programme?	R
S	Α.	Yes.	S
	Q.	If I may ask you to look at a supporting programme.	S
T		Page 1721. 4.4.5 do you see that?	T
U	Α.	Yes.	U
v	Transcri	- 37 - ipt by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C	Q.	Now:		C
D		"Many actions are important in ensurin	g drinking	D
E		water safety but do not directly affect dra	inking water	E
F		quality and are therefore not control meas	ures. These	F
r		are referred to as 'supporting programmes'	and should	Г
G		also be documented in a WSP.		G
Н		Supporting programmes could involve	. "	Н
I		And it is the second bullet point that p	erhaps is of	I
J		relevance to us, the second and fourth:		J
K		" developing verification protocols for	or the use of	K
L		chemicals and materials in the drinking-wa	ter supply -	L
14		for instance, to ensure the use of supplied	ers that	
M		participate in quality assurance programme	es".	M
N				N
0		Then the fourth point:		o
P		" training and educational programme	s for	P
Q		personnel involved in activities that coul	ld influence	Q
R		drinking water safety"		R
S	А.	Yes.		C
5	Q.	You put the control of the materials as a	supporting	S
T		programme rather than a control measure.	Is there any	T
U		reason for that?		U
v	Transcr	- 38 -		v

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Α.	Well, it's one of these things that can fall into either	C
D		category.	D
E	Q.	But you chose support programme in two places in your	E
F		report?	F
G	Α.	It can go in two places, but it's not actually part of	G
J		the supply process.	ď
Н	Q.	Okay.	Н
I	Α.	So it's slightly to one side, and although in many	I
J		respects it's a control measure, there is a programme	J
K		involved with it. So it's not just a straightforward,	K
L		"We've put a treatment step in here and we chlorinate."	L
		It's not like that. You have a whole series of steps	
M		and you have a programme that's involved in actually	M
N		approving the materials, listing the approved materials,	N
0		and so on. The control measure is making sure that the	0
P		appropriate chemicals and materials are used.	P
Q	Q.	Yes. Sorry, I interrupted you there.	Q
R			R
	Α.	Yes, yes.	
S	Q.	But let me see if I understand you correctly, or try and	S
T		see if this really is the philosophy.	T
U		Of course, if we talk about training and educational	U
V	T	- 39 -	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		programmes, these are support programmes I mean, by	C
D		the very nature, training, for example if you strengthen	D
E		the training of the plumbers, this is an important	E
F		aspect of the support programme?	17
Г	Α.	Yes.	F
G	Q.	You make them knowledgeable about the importance of the	G
Н		correct use of materials, that's an important part, but	Н
I		it is a support programme?	I
J	А.	Yes.	J
K	Q.	Whether or not you elevate certain things to a control	K
L		measure say, for example, if in the first stage, your	L
		high-level sorry, I keep using the word	
M		"high-level" your multidisciplinary committee	M
N		identifies a risk, and this is a material risk, there	N
O	i	S	O
P		a hazard in it, then you may want to say, "Certain parts	P
Q		of the monitoring programme should be a control	Q
		measure", but otherwise, for example, like the normal	Ų
R	b	daily ensuring of correct materials are used may well	R
S			S
T		a support programme. So you have to identify the risk first.	T
U	7\	Right. You said "monitoring" what do you mean by	U
V		- 40 - ript by DTI Corporation Asia, Limited	v

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C				C
D		"monitoring"? Because "monitoring", it can	fall into	D
E		we use "monitoring" very loosely, and the d	efinition of	E
		"monitoring" really relates to what you a	re trying to	Ľ
F		achieve. So there can be investigative mon	itoring, but	F
G		I'm suggesting some investigative monitoring	ng for metals	G
Н		in here, where they will be examined, we	will look to	Н
I		see whether they are present, and so on.	So we gain	I
J		information from there.		J
K	Q.	Yes.		K
L	Α.	There's operational monitoring, such as w	e've talked	
L		about making sure the gate is shut and so	on. Then	L
M		there can be verification monitoring.		M
N		Now, are you talking about verification	on	N
0	Q.	I'm talking about perhaps the process.		0
P	Α.	Right.		P
Q	Q.	You start with, say for example, material	monitoring.	Q
R	Α.	Right.		R
	Q.	You have introduced different parameters	you have	
S		suggested additional parameters		S
T	Α.	Yes.		T
U	Q.	as means of the monitoring, then opera	tional and	U
V		- 41 -		V

A	食水含鉛超標調查委員	會	2016年2月18日	A
В				В
C	verifica	tion.		C
D	A. Yes.			D
E	Q. But even	the first layer, first	item of monitoring, that	E
F	of cours	e is dependent on the	risk assessment in the	F
G				G
	first pl	ace?		
Н	A. Yes, and	l clearly a risk asses	sment had taken place,	Н
I	because	Hong Kong has recognis	sed that lead was	I
J	a proble	m, and lead solder and	d high lead copper alloy	J
K	fittings	are not permitted for	use. So you have that in	K
L	place.	So there's a risk asse	essment, and the risk	L
	assessme	nt says that this is	likely to be a problem.	
M	You t	then have taken steps	you have a control	M
N	measure	in place. That contro	ol measure is that you	N
0	don't us	e these.		0
P	The I	Housing Department hav	ve that control measure	P
Q	stated i	n their contracts.		Q
R	Q. Yes. Th	at's right.		R
S	A. Where th	e problem has come ha	s been the operational	S
	monitori	ng that that's actuall	y working. I understand	
T	that can	be quite complicated,	, but that's where it's	T
U	broken d	own.		U
V	Transcript by DTI Corp	- 42 -		v

- 43 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{v}

- 44 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{v}

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C	Α.	Yes, yes, absolutely.		C
D	CHA	AIRMAN: Well, it's not mutually exclusive.		D
E	Α.	No, no, it's not.		E
F	MR	HO: But I think what you say you do sa	y that	F
	_	of course people putting up these high-ri	se buildings	
\mathbf{G}				G
Н		you know, their concern or their main conc	ern was that	Н
I		these buildings don't fall down. You say	that, in	I
		a way		
J	Α.	I did. We had a conversation about that wh	en I visited	J
K		the buildings.		K
L	Q.	In conjunction with your comment that peopl	e might then	L
M		have taken their eyes off the ball, then wo	uld you say,	M
N		"In that case, these are people who are pa	rimarily	N
0		concerned with functionality of a construct	ion process,	0
		but there must be somebody who should look a	fter another	
P		aspect, like water quality"?		P
Q		doposo, line maser quality.		Q
R	Α.	Absolutely. There needs to be somebody who	o is aware of	R
S		water quality.		S
T	Q.	Yes.		T
U	Α.	The way that it's been set up, it would appe	ar that that	U
V	Transar	- 45 -		V

industry to not just look at the functionality of your building process but also pay some attention to water quality and an assurance there, WSD must have a role?

 \mathbf{S}

Т

U

 \mathbf{v}

V

U

 \mathbf{S}

T

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C			C
D	Α.	They certainly do. They should be the experts on water	D
E		quality and they should be treated as the experts on	E
		water quality.	
F	Q.	In this, I say the process of construction, WSD cannot	F
G		say, "I don't have a role there"?	G
Н	Α.	No, they can't say that it's nothing to do with them,	Н
I		because they understand about water quality.	I
J	Q.	They are the person who should be looking at water	J
K		quality?	K
L	Α.	They have expertise, and they can advise.	L
	Q.	Yes.	
M	Α.	So they have an advisory role. And the system in	M
N		Hong Kong is a little vague when it comes to this area,	N
0		between the two sides.	O
P	Q.	I will take you to that in a moment. Yes. But you do	P
Q		agree that certainly they have a role?	Q
R	Α.	Yes.	R
S	Q.	In raising the alarm, because they are the ones who look	S
~		at water quality?	J
T	Α.	That's a difficult one, because as written down at the	Т
U		moment, they are responsible for water quality up to the	U
v	Transcr	- 47 - ipt by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		point that the water goes into the building. Their	C
D		expertise is such that they ought to be able to advise	D
E		that there may be issues within buildings.	E
F	Q.	Yes.	F
C			-
G	Α.	And to speak to the HD about that.	G
Н	Q.	Yes.	Н
I	Α.	Now, their position might well be that there is	I
J		a process in place, in terms of approved materials.	J
K	Q.	I am grateful for your last answer, because you say that	K
L		they have the expertise to advise.	L
L	Α.	Yes.	L
M	Q.	Now, whether or not they did and whether or not the	M
N		present water safety plans do take care of that, that's	N
0		a matter I will come to in a moment.	O
P	Α.	Okay.	P
Q	Q.	But I think your premise is that whether or not they are	Q
R		actually doing it, they do have the expertise to do it,	R
S		if they wanted to?	g
3	Α.	That is likely, in Hong Kong at the moment, to be the	S
T		source of expertise.	Т
U	Q.	Yes.	U
V	Transcr	- 48 - ript by DTI Corporation Asia, Limited	v

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C	Α.	Because they deal with water quality.		C
D	Q.	Indeed. They are the person in this do	evelopment	D
E		project, where most people would be more co	ncerned with	E
F		functionality, they are the ones to actual	lly raise	F
		an alarm bell. If there is an alarm bell	somewhere	
G		about water quality, that's where they sho	uld come in?	G
Н	Α.	Yes. They should be consulted about that	. Then the	Н
I		question is how does that consultation tax	ke place.	I
J				J
K		Yes. Then we come back to the water safe	ty plans and	K
L		on, and that philosophy.		L
M	Α.	Yes.		M
N	Q.	May I now take you to the water safety pl	ans that we	N
0		actually had before the incident, and now,	, it seems,	o
P		after the incident has come to light.		ъ
•	Α.	Right. Where are we?		P
Q	Q.	Before that perhaps, sorry, I want to tal	ce you to one	Q
R		matter first, before I come to water safety	plans. May	R
S		I ask you to go to your paragraph 63, beca	ause this is	S
T		one part that I may have to ask you to ela	aborate.	Т
U		Paragraph 63 first, you have been ta	ken to their	U

- 49 -

V

 \mathbf{V}

A	食水含	鉛超標調查委員會 20	16年2月18日 A
В			В
C		meetings, the first working group meetings o	n the $oldsymbol{c}$
D		Development and Implementation of Water Safet	y Plans of D
E		28 February 2005. Yesterday we looked at th	at. E
F	Α.	(Nodded head).	F
	Q.	This is where they say somebody has menti	
G		they do have indirect control of systems	G
Н	Α.	Yes.	Н
I	Q.	in private buildings, in private premises	I think I
J		your evidence yesterday is that due to the t	ime ${f J}$
K		constraints you could not actually ask further	and probe $oldsymbol{K}$
L		further what that actually meant.	L
	А.	Yes.	Z.
M	Q.	But in fact, this is 2005, this meeting, and	M in 2006 we
N			N
0		do actually have the water safety plans from	sorry, 0
P		I don't say "we" because they are not publish	ed the P
Q		Water Supplies Department did produce a wate	r safety Q
R		plan, and if I may ask you to look at their pl	an. This
S		is C20.1, page 15582.	S
5	Α.	Which tab is that, please?	3
T	Q.	169-1.	Т
U	Α.	Got it.	U
V	Transcr	- 50 - ipt by DTI Corporation Asia, Limited	v

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	It starts at page 15549.	C
D	Α.	Yes. I've got it. Thank you.	D
E	Q.	You see, on this cover page, the edition, this one is	E
F		2006, in March. You see that?	F
	Α.	Yes.	-
G	Q.	I don't immediately jump to the conclusion that this has	G
Н		something to do with somebody has uttered that they do	Н
I		have direct control of the premises. But it seems that	I
J		this somehow chronologically follows from that meeting;	J
K		you see that?	K
L	Α.	Yes.	L
	Q.	At 2.2, at page 15555, you see the preambles?	
M	Α.	I have it.	M
N	Q.	At 2.2, they say:	N
0		"The WHO considers the application of a preventive	O
P		WSP as an effective means to assure the quality of	P
Q		drinking water for the protection of public health.	Q
R			R
S		A [water safety plan] systematically assesses risks	S
		throughout a drinking water supply system from the	3
T		source through treatment to customers' taps and identify	T
U		the control measures and operational monitoring that can	U
V	Transcri	- 51 - ipt by DTI Corporation Asia, Limited	V

A	食水含鉛起	翌標調查委員會	2016年2月18日	A
В				В
C	m	nanage and minimise the risks to public he	ealth."	C
D		So, in that sentence, it does seem, at	least from	D
E	р	paper here, it encapsulates basically what	first of	E
F	a	all your source to tap approach?		F
-	А. У	es.		r
G	Q. B	Because it does talk about customers' taps	here, and it	G
Н	d	loes encapsulate the philosophy that we look	xed at in the	H
I	M	MHO paper, the chapter 4 that you referred	to just now?	I
J	A. C	of the guidelines, yes.		J
K	Q. R	Risk assessment, systematic risk assessmer	nt; then	K
L		control measures, operational monitor atment	ring, from	L
M	t	o customer taps?		M
N	A. A	Absolutely.		N
0	Q. S	So in fact WSD has set out in 2006 at least	t to try and	o
	d	lo that?		
P	А. Т	The framework is there, and the question the	en is at what	P
Q	р	ooint do they need to bring in or make cor	ntact with	Q
R	0	ther people. I have been in circumstances	where other	R
S	S	takeholders just don't want to get involv	red.	S
T	Q. R	Right.		Т
U	A. I	In which case you've got a problem.		U
V	Transcript 1	- 52 -		v

Q. Yes. The point here that I try to make, and see if you agree, is that in that paragraph, it seems that back in

 \mathbf{T}

U

 \mathbf{V}

T

U

 \mathbf{T}

 \mathbf{U}

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		copper pipes would pose any problem. You are aware of	C
D		that?	D
E	Α.	Yes. I've not seen it in detail. I've not looked at it	E
F		in detail.	F
	Q.	All right.	_
G		At 5.1.2, again you see a multi-barrier approach	G
Н		being stated here, an integrated system of procedures	Н
I		and processes that collectively prevent or reduce the	I
J		contamination of drinking water from source to tap.	J
K			K
L		Again, it's the idea of putting in barriers to	L
		ensure or to reduce	
M	Α.	Yes. I have to say that in discussions, the term	M
N		"source to tap" was used fairly loosely.	N
0	Q.	Do you mean they	0
P	А.	It was really source down to the point at which water	P
Q		was supplied to buildings, in much of their thinking.	Q
R	Q.	Well, in much of their thinking, that's one thing, but	R
S		what they have written down is another. What they have	S
		written down there does in fact suggest that at the	-
T		time, they were thinking more they were thinking of	T
U		the source to tap, not just source to connection point.	U
V	_	- 55 -	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	A. I hesitate to disagree, but I think you are using	C
D	a lawyer's view of the way that these words are used.	D
E	The term "source to tap" is very loosely applied and is	E
F	a phrase which is used pretty well to talk about water	F
	safety plans, and many, many	
G	Q. You mean they did not mean to extend sorry.	G
Н	CHAIRMAN: Prof Fawell, you are very, put it this way,	Н
I	generous to the WSD. Let me provide you with this piece	I
J	of information. When the director of the WSD came and	J
K	testified in this hearing, we then came to know that in	K
L	2015, he actually amended	L
	MR HO: I was going to come to that.	
M	CHAIRMAN: He actually amended the pledge from saying	M
N		N
0	"source to consumer tap", and he actually asked his	0
P	subordinates whether that could actually be achieved,	P
Q	and then as a result the wording had been changed to	Q
R	"source to consumer" rather than "to consumer tap".	R
g	MR HO: Yes. Professor	G.
S	A. I can understand why that was done, because of the	S
T	complexity. My criticism of the approach is that there	T
U	was insufficient recognition of the need to work	U
V	- 56 - Transcript by DTI Corporation Asia Limited	V

- 57 -

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	So it's beyond doubt, when they were drafting this	C
D		document, at least the people who endorsed this document	D
E		were actually thinking about water quality to the taps,	E
F		beyond just connection points?	
	Α.	Yes. I have to say, when I did visit, I did not have	F
G		any contact with the Customer Services Branch. One	G
Н		might say that they were conspicuous by their absence.	Н
I	Q.	That's not what I was intending!	I
J		Yes, thank you.	J
K	Α.	I had expected that side to be available. I understand	K
L		the difficulties for the WSD, because it was a very	L
M		short time, at fairly short notice as well.	
IVI	Q.	It would seem at least the drafter at the time, defining	M
N		roles and responsibilities of the Customer Services	N
0		Branch, has a rather broad view of water quality in	0
P		Hong Kong?	P
Q	Α.	Yes.	Q
R	Q.	A comprehensive view?	R
S	Α.	Yes.	S
		So, in some way, would you agree with me, that seemed	
T	L		Т
U		echo with whoever uttered that sentence or the view in	\mathbf{U}
V	Transcr	- 58 -	V

S

T

U

V

size and quality of pipes and fittings", so they actually had their eyes on this. It then talks in terms of circular letters or waterworks safety requirements, and so on, and cites the enabling provision in the

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		Ordinance to support what they could have done, or might	C
D		have done, if they had wanted to?	D
E	А.	Well, I would argue that largely they seem to have	E
F		to that point, they fulfilled their responsibilities in	F
G			G
Н		that they had materials that were supposed to be used.	Н
I		They agreed that approved materials would be used. Then	I
		it all starts to get a bit vague.	
J	Q.	(c) talks in terms of licensed plumbers.	J
K	Α.	Yes.	K
L	Q.	(d), inspection. So despite all the complications about	L
M		private premises, this document was drafted with a view,	M
N		at least at the time, that they recognised the	N
0		importance of inspection of these inside services, upon	O
P		the completion of the construction and installation of	n
r		the plumbing and fittings?	P
Q	Α.	Yes.	Q
R	Q.	And that of course, you also accept or recognise, is	R
S		an important step?	S
T	Α.	Absolutely, and my understanding that in that inspection	Т
U		they do identify things like I raised yesterday, dead	U
v	Transcr	- 60 -	V

- 61 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{v}

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{V}

 ${f c}$ all the rest of it. That's irrelevant at this stage.

Q. Yes.

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

T

U

V

- A. Actually checking for the use of inappropriate materials

 I think would have then have taken place. I am

 concerned, and I would emphasise again, I am concerned

 at the lack of standards, because those standards -- the

 guidelines, as such, it's too soft and too easy to get

 away from, and I think with a set of standards, both

 sides then will understand the importance of what they

 have to do.
- Q. Of course, I take this as a suggested measure going forward, but allow me to take you back to the situation before the incident, where internally, in WSD, they have

this mandate for themselves.

What I am highlighting to you in paragraph (d) here is that for WSD, that inspection, if they had done it, would have been not so much about the construction functionality, but more to do with ensuring quality of water, if they had done that inspection, if they had put in the correct parameters to address where risk might have been?

- 62 -

A	食水含鉛	超標調查委員會	2016年2月18日	A
В				В
C	of			C
D	ā	a building. So one is faced with very		D
E	Ć	difficult-to-detect problems.		E
F	Q. 7	That's right.		F
r	A. 3	You can take random samples but it doesn't s	say that your	Г
G	r	random sample is going to pick up the fact	that you've	G
Н	Ç	got a problem.		Н
I	Q. 7	That's exactly what I want to explore wit	h you,	I
J	E	Professor.		J
K		Now, we know after the incident the WS	SD has	K
L	i	Introduced four additional parameters for h	eavy metals.	L
3.6	A. 3	Yes.		
M	Q. I	I don't see that you are disagreeing that	that is	M
N	ŗ	perhaps an approach with merit.		N
0	A. 3	Yes, it does have merit. It has merit be	cause it is	0
P	â	attempting to investigate and ensure that	there are no	P
Q	C	other problems within plumbing.		Q
R	Q. 1	That's right.		R
S	A. A	And that is prudent.		S
	Q. 3	Yes, prudent. But then the question is, fi	rst, why was	J
T	t	this not done before the incident came to	surface; or,	T
U	i	If it wasn't done, should it have been done	before 2015;	U
V	Transcript	- 64 - by DTI Corporation Asia, Limited		V

lead, and to suggest that WSD should have recognised the

- 65 -

U

 \mathbf{V}

U

В

 \mathbf{C}

D

 \mathbf{E}

F

 \mathbf{G}

H

I

J

K

L

M

 \mathbf{N}

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{V}

В

D

 \mathbf{C}

E

F

 \mathbf{G}

H

I J

K

L

M

N

O

P

Q

R

S

T

U

 \mathbf{V}

Department would not enforce the conditions or were not able to enforce the conditions of the contract is asking a lot, I would say.

fact that there was a good chance that Housing

Since it has happened, clearly there are circumstances that both departments have been -- feel that they have been caught out and let down. There were other parties who clearly did not fulfil their part in the process. So I think at that time it would have been unreasonable to expect that they would have then gone and checked. It would have been, to an extent, saying that another department is incompetent and therefore we are going to double-check on them, and that's not easy to do.

Q. Indeed. This brings me to the plumber point. Now, you know in Hong Kong the legislative framework or the design is such that absolutely nobody would be allowed to construct, install plumbing works, inside service -- I'm simplifying, but that essentially is the design of the legislative framework -- other than a plumber or somebody authorised by the WSD.

charitable remark, to the HD and also to the main

A. Where I have real difficulty in all this, and where

- 67 -

contractors and the subcontractors?

 \mathbf{S}

T

 \mathbf{U}

 \mathbf{V}

T

U

S And I think that is an area that is difficult, but $T \hspace{1cm} \text{I think that's the responsibility of the WSD.}$

Q. That I would also try and explore a little bit further

Т

U

 \mathbf{V}

U

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{V}

В

 \mathbf{C}

D

 \mathbf{E}

F G

H

J

K

L

M

N

o

P

Q

R

 \mathbf{S}

U

T

V

with you later. But I'm just trying to bring you back to your earlier comment that, you know, given all this set-up, the contractual set-up, and so on -- you say, with the benefit of hindsight -- of course, you can say a lot of things could have been done. I'm just asking you whether, with that legislative framework and the scheme that we have, you might also extend your rather charitable remarks to the WSD, to other stakeholders as well, and say, "Yes, we have a contract, you need to enforce your contract", but you also have to recognise the fact is that plumbing work is specifically assigned to the licensed plumber and they are supposed to have the specialty in performing, carrying out the work, ensuring the compliance of the materials under the legislation?

A. Where I would be charitable is that as far as I can -of the documents I have read, as far as I can see, the
roles of the licensed plumber are not as well laid out

as they ought to be. So the clarity of the various parts of the role of the licensed plumber is not as clear as it should be. Yesterday we heard about

- 71 -

 \mathbf{V}

- 72 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{V}

CHAIRMAN: So the control measure was put in place; it's the

monitoring of the control measure that fails?

- 73 -

T

U

 \mathbf{V}

 \mathbf{T}

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	A. Absolutely. Yes, chairman.	C
D	MR HO: Monitoring, of course, we have been through all this	D
E	before, is whether you have your eyes on the ball. If	E
F	you have your eyes on the ball, you put in more	
	monitoring; you pay more attention to it?	F
G	A. Yes, you don't make assumptions, and clearly there were	G
Н	assumptions made at a whole series of levels that	Н
I	something at the lower level was happening, and nobody	I
J	bothered to ask, "Is it really happening?"	J
K	Q. Right. May I ask you to look at one statement. The	K
L	reason why I want to explore that with you is to see	L
M	whether I understand you correctly, your statement at	
M		M
N	paragraph 63. In the middle of that paragraph you say:	N
0	"This is important since WSD do not take	O
P	responsibility for water quality beyond the supply	P
Q	point"	Q
R	Do you see that sentence?	R
S	A. I do.	S
	Q. In fact I think you also say more or less the same	
Т	thing if I may ask you to go to page 116.	Т
U	A. Yes.	U
V	- 74 -	V

A	食水含鉛超標調查委員會		2016年2月18日	A
В				В
C	Q. The fifth li	ne from the top:		C
D	"It would	d appear that no one h	ad specific	D
E	responsibili	ty regarding water qua	lity at the tap."	E
F	Paragraph	n 78, in the middle of	that paragraph:	F
	"It is al	so clear that because	WSD did not take any	_
G	responsibili	ty for water at the tap	and had not formally	G
Н	delegated tha	at authority, no one t	ook that	Н
I	responsibili	ty."		I
J	You see,	there you say, in diffe	erent words, but you	J
K	say WSD had r	no responsibility for w	water quality at the	K
L	tap. Are you	a saying they themselv	es considered not	L
	having a resp	onsibility or are you s	saying as a fact they	
M	did not have	a responsibility or a	re you saying	M
N	A. My understan	ding was that it was a	agreed that within	N
0	Hong Kong and	l within the various dep	partments, WSD would	0
P	not have resp	ponsibility within bui	ldings to the tap.	P
Q				Q
R	That is actua	lly not dissimilar to m	any other countries.	R
S	How that then	operates will vary.	It's only within the	S
	last 12 month	hs that in England and	l Wales, water	٥
T	suppliers hav	re had to take a much gre	eater responsibility	T
U	within build:	ings.		U
V	Transprint by DTI Corneration	- 75 -		V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	Q. Yes.	C
D	A. So, as far as I'm concerned, in terms of formal	D
E	responsibility, that is the case.	E
F	Q. You say "formal responsibility"?	F
	A. Yes.	•
G	Q. Despite what we have looked at, for example, like the	G
Н	Customer Services Branch mandate?	H
I	A. Yes, because the Customer Services Branch	I
J	responsibilities are about materials, equipment, making	J
K	sure the process is in place in order for those	K
L	materials to be used properly.	L
	Taking responsibility for water quality at the tap	L
M	it a little bit you are being a little bit	M
N	disingenuous.	N
0	Q. Me?	O
P	CHAIRMAN: Of course you!	P
Q	MR HO: May I ask you to rephrase that, please?	Q
R	A. You have a position that you are trying to achieve and	R
S	I think	C
3	Q. No. I just want a balanced view from the expert.	S
T		T
U	A. I think the position is that it was agreed amongst	U
v	- 76 - Transcript by DTI Corporation Asia, Limited	V

SO

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

Т

U

 \mathbf{v}

В

C

D E

F

 \mathbf{G}

Н

Ι

J

K

L

M

N

O

P

Q

R

S

U

T

 \mathbf{v}

a number of different departments that although they would cover things like -- they would provide the expertise to cover things like lists of materials and

on, that they did not have the formal responsibility at the tap, they did not take samples at the tap, that this would not be part of their remit.

I happen to think that that is not sensible. What I think is sensible, under those circumstances, is slightly irrelevant. Do I think it should change? Yes.

But what they didn't do, and because there was no regulatory structure, nobody actually decided who was going to have that responsibility.

Q. Yes. That I think is probably the correct analysis, in the sense that despite what they say about what they intend to do in the water safety plans, but then in the legislative framework there is not a specific mandate, to mandate them to look at the water quality at the tap -- I think to that extent I would agree with you. But they have, in fact, I think, as a responsible department, actually produced a water safety plan, general water safety plan, back in 2006, which says they

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		aspire to do a little bit more and then look at also	C
D		ensuring water quality at the tap.	D
E	Α.	I would agree with that, and do I think there was fault	E
F		at not incorporating a broader range	F
G	Q.	Right.	G
Н	Α.	of stakeholders? Yes.	Н
I	Ω.	That was where, having set out to do one thing, and if	I
	χ.	that is taken as implemented, they should then engage	
J		other stakeholders, and if they had done, then probably	J
K		this issue would have been better addressed or would not	K
L		even have arisen.	L
M	А.	One would have hoped that it would have been better	M
N	11.	addressed.	N
0	Q.	I see.	0
P	А.	By all the appropriate stakeholders.	P
	Q.	That's why I believe also you, in your report, have in	
Q	~ *	several places said "engage stakeholders".	Q
R	А.	Yes.	R
S	Q.	I think it's paragraphs 56 and 59 of your report.	S
T	д.	And the wording here was chosen very carefully.	T
U	Q.	"Engaged", yes. I believe you say "WSD to engage other	U
V		- 78 - ipt by DTI Corporation Asia, Limited	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	stakeholders".	C
D	A. Yes. They're the lead. They would engage. "Engage"	D
E	means not just tell them that it's happening, but	E
F	actually have proper, meaningful discussions.	F
G	Q. Absolutely. Okay. Mr Yin, on my left, says you actually use the words "external stakeholders".	G
Н	A. External to WSD.	Н
I		I
J	Q. External to WSD. They engage external stakeholders.	J
K	CHAIRMAN: Let's take the morning coffee break for	K
L	20 minutes. Thank you.	L
M	<u>上午 11 時 18 分聆訊押後</u>	M
N	上午 11 時 40 分恢復聆訊	N
0	MR HO: Professor, this morning the chairman has actually mentioned the 2015 version of the water safety plans put	0
P	out by the	P
Q	A. Yes.	Q
R	Q. Sorry, now prepared by the Water Supplies Department.	R
S	I just want you ask you to have a look at that. If	S
T	you would kindly turn up B15.4 at tab B13.4 at tab	T
U	402, page 40343.	
v	We have done a little bit of homework and tried to	U
•	- 79 - Transcript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		compare the three different versions of the water safety	C
D		plans. You take it from me that's a diligent piece of	D
E		work and what is there is actually accurate.	E
F	Α.	Ah, right. Yes, I've got it.	F
	Q.	As you see from the left-hand side of that page, that's	
G		the 2006 version, which I have taken you to earlier in	G
Н		my discussion with you. In the middle, we have a 2011	Н
I		version, and on the right-hand side we have the 2015	I
J		version. Do you see that?	J
K	Α.	Yes.	K
L			L
3.6	Q.	We have highlighted the changes through these three	
M		different versions. There are one or two parts that	M
N		I want you to comment on. For example, like	N
0		paragraph 2.2, which I have directed your attention to	O
P		this morning	P
Q	Α.	Yes.	Q
R	Q.	in the 2006 version. You see the highlighted part	R
S		refers to "source through treatment to consumers' taps"?	S
T.	Α.	And then through to consumers, yes.	
T	Q.	And the 2015 version cuts out the "tap" and simply says	Т
U		"to customers".	U
V	Transcr	- 80 -	v

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Α.	Yes.	C
D	Q.	This is I think the chairman's comment this morning.	D
E		Incidentally, also go to paragraph 5.1.2.	E
F	Α.	Yes.	F
r	Q.	You see originally it was stated to be "drinking water	r
G		from source to tap" that's your "source to tap"	G
Н		concept; right? And on the right-hand side you see the	Н
I		latest version is "from source to distribution"?	I
J	Α.	Yes, I see that.	J
K	Q.	Do you have any comment about this reading literally,	K
L		it seems to be a retracting of their responsibility for	L
		the water quality?	_
M	Α.	I think on 2.2, "treatment to customers", that could be	M
N		construed as being more accurate in terms of the way	N
0			0
P		that things are constructed in Hong Kong.	P
Q		On 5.1.2, that arguably shouldn't be correct at all.	Q
R		"Source to distribution" implies that it's only just the	R
S		treatment works, or sourced then to the end of the	S
S		treatment works, whereas clearly it should be a lot	5
T		further, and even if it is to the point at which water	T
U		is delivered to consumers, then that should be clear.	U
V	Transcri	- 81 -	V

Transcript by DTI Corporation Asia, Limited

- 82 -

Q. I apo

V

 \mathbf{o}

P

Q

R

S

T

A. What they have said is "source to consumer" or "customer". That is not unreasonable, and that is the way that many water safety plans are actually phrased. However, within that, the lead authority, and WHO emphasise this, should be the water supplier. The water supplier as the lead authority then has responsibility

P

Q

R

 \mathbf{S}

Т

U

 \mathbf{v}

V

U

to engage with other stakeholders, to ensure that the

The whole concept should now -- the incident has

- 85 -

U

 \mathbf{v}

U

U

V

T

but leaving that to one side, as a concept, the WSD, as a concept now, if they were to develop water safety

Т

 \mathbf{U}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		plans, need only stop at connection point, then	C
D		of course that is a very fundamental departure from what	D
E		you said in your paragraph 35?	E
F	Α.	You are getting into the practicalities.	
	Q.	I am, yes.	F
G	А.	When we are talking about water safety plans, it has to	G
Н		fit when we come to that part, it's very	Н
I		straightforward, certainly between the treatment works	I
J		and the point at which it goes into a building, because	J
K		that's clearly under the control of the water supplier.	K
L		At that point, there should be a plan. The plan may	L
M		take a different form	M
	Q.	Yes.	
N	А.	when it starts to go into buildings, but there needs	N
0			0
P		to be a plan. The water supplier needs to be a party to	P
Q		that plan, and also other stakeholders that are	Q
R		involved.	R
S		So, yes, it needs to, but who finally takes the lead	S
T		on that stage of the water safety plan will depend on	Т
		the structure that you decide in terms of	
U		responsibilities, et cetera.	U
V	Transcr	- 87 -	V

only to look up to the connection point; or when you say

- 88 -

U

 \mathbf{V}

U

- 89 -

U

 \mathbf{V}

Q. Yes.

U

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		of implementation?	C
D	Α.	That's correct.	D
E	Q.	Of course, that encompasses all that we have seen in the	E
F		paper, the flowchart	F
G	Α.	Yes.	G
Н	Q.	the risk assessment, identification, control and all	Н
I		that, and then further down is the support measures,	I
J		programmes?	J
K	А.	Absolutely, and it recognises that when you reach that	K
L		stage, it becomes often less precise, because there are	L
M		so many different individual stakeholders and	3.5
M		requirement for individual	M
N	Q.	Of course. Yes, as a concept I am grateful for your	N
0		confirmation that as a concept now we are looking at	0
P		source to tap.	P
Q	Α.	Yes.	Q
R	Q.	Unfortunately, we have heard the director, and perhaps	R
S		you have not been apprised of this piece of	ç
3		information that somehow he sees the need for the	S
T		revision in 2015 it's because he does not seem to	T
U		think that concept of source to tap is something that	U
V	Transcri	- 91 -	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
С		ought to go into the water safety plans. He retracted.	C
D	А.	He may well have decided	D
E	Q.	I am not asking you to criticise anybody, but as	E
TC.		an expert	
F	А.	No, I'm not. There could be a whole range of reasons	F
G		for that. As an expert, I think it should go to the	G
Н		tap, and if the Water Supplies Department are the lead	Н
I		organisation, they need to engage, as I have said	I
J		several times, the appropriate stakeholders, to make	J
K			K
L		sure that there will not be a deterioration beyond the	L
		point that they have control.	
M		They may not be able to guarantee it, but involving	M
N		other people and informing them and making sure that	N
0		they understand	0
P	Q.	Exactly that, yes.	P
Q	А.	where the responsibilities end and where other	Q
R		people's responsibilities take over is important.	R
S	Q.	Heightened awareness and vigilance; would you say that?	
	А.	Yes. I don't think that any organisation can say, "We	S
T		are just going to stop here and not have any"	T
U	Q.	Yes. The ultimate goal must be to prevent people taking	U
v	Transcri	- 92 - ipt by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
С		their eyes off the ball?		C
D	Α.	Correct. That's why I think we should ha	ve	D
E		a regulatory		E
F	Q.	Sorry?		F
-	А.	That's why I think a regulatory structure v	ould be very	r
G		beneficial.		G
Н	Q.	Yes. Now, on the regulatory side I do	want to	Н
I		explore with you the licensed plumber. I	take it you	I
J		are familiar with our legislation?		J
K	Α.	To an extent.		K
L	Q.	Basically, it's just broadly as I described	d to you this	L
M		morning: only licensed plumbers are, unde	r the law,	3.5
M		allowed to deal, construct, install we	are talking	M
N				N
0		about inside service now, but basically plu	mbing works.	o
P	Α.	Yes.		P
Q	Q.	The legislation provides that they should u	se materials	Q
R		that comply with the British Standards, and	d the British	R
S		Standards are set out; right?		S
	Α.	(Nodded head).		5
T	Q.	Nobody else would be allowed to do that, l	est they run	T
U		the risk of criminal prosecution?		U
V	Transci	- 93 - ript by DTI Corporation Asia, Limited		V

A	食水含	鉛超標調查委員會 201	6年2月18日	A
В				В
C	Α.	(Nodded head).		C
D	Q.	You understand?		D
E	Α.	Yes.		E
F	Q.	So licensed plumber, on this legislative des	.gn,	F
-		assumes, I would say, the unique responsibili	ty of	T.
G		ensuring plumbing works comply with, for exam	ple, the	G
Н		British Standards and use of materials?		Н
I	Α.	Yes. Well, from the list of approved materials	there	I
J		are difficulties there, because the way that	the	J
K		legislation is phrased, it actually could be int	erpreted	K
L		that the licensed plumber is being asked to t	ake	L
		a responsibility that they may not have the ca	pability	
M		to take. But I take your point.		M
N	Q.	You mean for supervision of their workers?		N
0	Α.	In other words no, in terms of finding out	about	o
P		which materials are actually approved. There	should be	P
Q		an up-to-date list of approved materials in F	long Kong	Q
R				R
S		that allows the licensed plumbers to make sure	that they	S
5		can obtain the appropriate materials, that any	oody else	ъ
T		is obtaining the appropriate materials, that e	verybody	T
U		else is obtaining the appropriate materials,	whatever	U
V	Transor	- 94 -		V

Q. Again, I'm not perhaps being presumptuous. I don't take over the making of recommendations. But leaving aside the shortcomings, say, of what actually -- what we see now, having heard so many days of evidence about the performance or the awareness of these licensed plumbers

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{V}

U

V

S

T

- 97 -

 \mathbf{v}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

Т

U

 \mathbf{V}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

Η

Ι

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

T

disagreeing with him -- the way to address -- if this is

a question of personality, a person not performing their duties, perhaps it is not a question of changing the system of licensed plumbers under the existing regime, to shift the responsibility to either the architect, the BS engineer or some other person to replace the licensed plumber, but the proper address would be to ensure that the licensed plumbers under the existing regime do

perform their duties diligently?

A. Yes, and I have made some recommendations regarding making sure that the licensed plumbers have intermittent retraining, just perhaps one-day courses, et cetera, in order to highlight that.

The advantage -- I don't think you would be disagreeing with the chair. I don't disagree. I think that having a senior engineer in place is important. What we have is that, with plumbing, it gets rather forgotten, bits of it because there is -- and you need one person who's actually got responsibility and knowledge around that particular area. It's

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	a specialist area.	C
D	Q. Exactly that. Especially we are not talking about	D
E	an individual piece of plumbing work in respect of	E
F	a house in the countryside of England. We are talking	E
	about multi-storey building blocks which you find	F
G	impressive in Hong Kong.	G
Н	A. Yes. Absolutely.	Н
I	Q. So the more that we look at the situation more, we go	I
J	for specialty, specialisation, in respect of different	J
K	areas of work. For example, like fire services, we see	K
L	that there are dedicated I can't remember the term	L
M	used for these subcontractors	M
	CHAIRMAN: Nominated.	M
N		N
0	MR HO: Nominated subcontractors they are dedicated, very	0
P	experienced, to do fire services work. We have	P
Q	electricians who have to be licensed	Q
R	A. Yes.	R
S	Q to do electrical work, and so on and so forth. The	S
т	list continues.	
Т	Now, as far as plumbing is concerned, this is in	T
U	a way, under the existing set-up, very much that, in	U
V	- 99 -	V

Transcript by DTI Corporation Asia, Limited

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		fact to ensure a specialist does the work, not just	C
D		general practitioners	D
E	Α.	Absolutely.	E
F	Q.	be it an architect or a building services engineer?	F
	А.	Yes. I agree. I think it is very important.	
G	Q.	The point really is here to strengthen the training,	G
Н		awareness and the monitoring sorry, and the	Н
I		regulatory monitoring of that work, of their	I
J		performance?	J
K	Α.	Yes, the regulatory oversight of the plumbers, yes.	K
L	Q.	That's right. At the moment, we do have a regulatory	L
3.7		framework for that. WSD has the ultimate power,	
M		disciplinary power, over licensed plumbers. As we see,	M
N		the licensed plumbers involved in this case have been	N
0		taken off and removed from the list?	0
P	Α.	Yes, absolutely. Yes.	P
Q	Q.	So again, it's not a difficulty with the framework,	Q
R			R
S		is it?	s
T	Α.	Well, I said in my report that I think the framework	Т
		Hong Kong has a very good framework in place. It's	1
U		making that framework work efficiently.	U
V	T	- 100 -	V

Transcript by DTI Corporation Asia, Limited

solicitors, the Bar Council to regulate barristers,

still, in relation to individual cases, we just have to

T

 \mathbf{U}

 \mathbf{V}

T

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C		C
D	make sure there is a regulatory mechanism to ensure that	D
E	if somebody doesn't act or perform up to standard, he is	E
\mathbf{F}	taken off the list?	F
G	A. Yes, that is correct, but it's more than that. There is	G
Н	a requirement to ensure that the licensed plumber is	Н
I	aware of responsibilities and aware of what is required	I
J	at all stages.	J
K	Q. Yes. That may engage some suggestions of continuing	K
L	education is probably the wrong word but continuing	L
M	training, and so on?	M
N	A. Yes, and I think that	N
0	Q. Where an occasion will be there to heighten the	0
	awareness of where things may go wrong, look at it from	
P	the perspective of water quality?	P
Q	A. Absolutely, and I think it's important that such	Q
R	training involves groups of licensed plumbers, because,	R
S	as in all professionals, working together as a group	S
T	helps to reinforce the quality of the professional.	Т
	Q. Yes.	
U	CHAIRMAN: I'm not saying that the present licensed plumbers	U
V	- 102 - Transcript by DTI Corporation Asia, Limited	V

- 103 -

 \mathbf{V}

T U

V

compartmentalise but engage another persons who may, to a degree, be more or less involved in the system?

A. I have long thought -- I have had some involvement with -104-

T

U

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		the International Association of Plumbing	and I have	C
D		long felt that this is a group who are ve	ry, very	D
E		important, and without we are not usin	g, in many	E
F		parts of the world, their expertise and t	heir role to	F
G		its full, and we should be doing that. H	ong Kong has	G
		got the basis of a system. I think that sys	stem needs to	G
Н		be strengthened, and then I think Hong Ko	ng will have	Н
I		effectively a world-leading system.		I
J	Q.	Good. Thank you.		J
K		Now, may I tap on your experience of	the UK	K
L		legislation.		L
M	Α.	Right.		M
	Q.	I really would like your view on that.		
N				N
0		If I understand correctly, I thought the	e legislation	O
P		here is the 1999 Water Supply (Water Fitt	ings)	P
Q		Regulations; I presume you are familiar w	ith that?	Q
R	Α.	Yes.		R
S	Q.	Basically, if I understand correctly, thi	s bit at the	S
		end of		
T	Α.	It's not the only bit. There are two bits.	There's the	T
U		Water Fittings Regulations and there's th	e DWI	U
V	Transcr	- 105 - ript by DTI Corporation Asia, Limited		V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	Regulation, regulation 31.	C
D	Q. But let me just focus if it helps, I have some copies	D
E	and maybe it's convenient just to distribute them.	E
F	I think the Benchmarking Study, we have also touched	F
	on this, and we can always make reference to that as	-
G	well but what I am dishing out at the moment is	G
Н	really the regulations itself. (Handed).	Н
I	In particular, I am looking at regulations 6 and	I
J	7 regulation 6.	J
K	A. Yes, I've got it.	K
L	Q. It would seem to us under regulation 6 now, the UK	L
M	deal with it this way:	M
N	"Where a water fitting is installed, altered,	N
0	connected or disconnected by a approved contractor, the	0
P	contractor shall upon completion of the work furnish	P
	a signed certificate stating whether the water fitting	_
Q	complies with the requirements of these Regulations to	Q
R		R
S	the person who commissioned the work."	S
T	Over the page, about penalty, in regulation 7:	T
U	"Subject to the following provisions of this	U
V	- 106 - Transcript by DTI Corporation Asia Limited	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	regulation, a person who	C
D	(a) contravenes"	D
${f E}$	Then it includes (6), which I have just read out,	E
${f F}$	and subregulation (2) you see:	F
	"In any proceedings against an owner or occupier for	
G	an offence under paragraph (1) which is based on the	G
Н	installation, alteration, repair, connection or	H
I	disconnection of a water fitting, it shall be a defence	I
J	to prove	J
K	(a) that the work in question was carried out by or	K
L	under the direction of an approved contractor; and	L
3.6	(b) that the contractor certified to the person who	
M	commissioned that work that the water fitting complied	M
N	with the requirements of these Regulations."	N
0	Do you see that?	0
P	A. Yes.	P
Q	Q. In a nutshell, the UK regime again puts the	Q
R	responsibility of what is called the approved	R
S	contractor, and if I commission I as owner of	S
TD.	a property fitting of plumbing work, I go to	_
T	an approved contractor. He, having done the work,	Т
U	issued me with a certificate to certify that piece of	U
V	- 107 - Transcript by DTI Corporation Asia, Limited	V

- 108 -

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
С		system is gradually evolving to a system whi	ch would be,	C
D		I suspect, not so different from that in H	ong Kong.	D
E	Q.	Right. So again it comes back to this point	. Now, when	E
F		it comes to plumbing work of course, we	e are not	F
G		just let's lift our eyes away from apply	ring solder,	G
Н				
п		because plumbing work		Н
I	Α.	Yes. It's more than that.		I
J	Q.		small part	J
K		the plumbing work that we are talking about,	, and really	K
L		you do need specialised people, like licen	sed	L
M		plumbers		M
N	А.	Yes.		N
0	Q.	to undertake all that very sophisticate	ed plumbing	0
_		work in multi-storey buildings. Responsibil	ity rests	
P		is pivotal to ensuring not just the perfor	mance, the	P
Q		functional performance, but also to have an	n eye on the	Q
R		ball, being quality of the water?		R
S	Α.	Absolutely. This is absolutely right. We	have been	S
T		trying to strengthen this in countries all	over the	T
U		world, because the people who are installi	ng the	U

- 109 -

 \mathbf{v}

 \mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		plumbing you can't see water quality normally, and	C
D		therefore it is doubly important. Whereas you can go	D
E		and check wiring or whatever, electricity, it is not so	E
F		simple for plumbing, and therefore we would like to see	F
-		that strengthened.	r
G	Q.	That's right. Of course, I'm not being disingenuous.	G
Н		If that is the case, by comparison, you don't really	Н
I		want to put the onus on the property owner that much,	I
J		because we are not talking about large developers here.	J
K		Also, if we are looking at the regulatory regime, we may	K
L			L
M		be talking about very small individual owners, and we	M
		may come into difficulty if one were to say, "Then we	IVI
N		put some responsibility on the owners"?	N
0	Α.	Yes. The responsibility that falls on the owner is to	O
P		make sure that the work is done properly	P
Q	Q.	By a registered	Q
R	А.	preferably by	R
S	Q.	Yes, because if I engage somebody to do the piping of Y	s
T		flat, I wouldn't be able to supervise; I would have to	T

 \mathbf{U}

rely on him, being the expert, to do it properly?

U

 \mathbf{S}

T

U

 \mathbf{v}

Q. And where it falls down is that there is perhaps lack of

U

S

T

A	食水会	鉛超標調查委員會 2016年2月18日	A
	N/NL		
В			В
С		awareness on the part of the licensed plumber to know	C
D		that they have to do their job properly?	D
E	Α.	I think there's probably a lack of awareness right	E
17		through the chain, because that chain needs to be	-
F		strengthened, as the chairman has said.	F
G	Q.	Thank you. Given that regime I know lots of things	G
Н		ought to be tightened up to make that regime work but	Н
I		assuming we already have a framework, we already have	I
J		a regime where the plumbing works are done by supposedly	J
K		a specialist, professional person?	K
L	Α.	Yes.	L
	Q.	Then I note what you say, that other stakeholders would	
M		of course have to join in to make sure the whole thing	M
N		becomes effective. I understand you to be staying that;	N
0		I'm not misunderstanding you?	0
P	Α.	No, but you wouldn't necessarily you don't	P
Q		necessarily have to have everybody as a licensed	Q
R		plumber.	R
g	Q.	No.	a
S	Α.	It could be that the licensed plumber is supervising	S
T			Т
U		others who may not be at the level of a licensed plumber	U
V	Transcr	- 112 -	V

- 113 -

 \mathbf{V}

В

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

T

A. That's what water safety plans partly are supposed to be

 \mathbf{C}

about, learning from experience.

 \mathbf{E}

 \mathbf{F}

D

Q. Yes. I'm just trying to see whether you are aware of some of the factual matters in this case. Now, it's not the case -- I say "HA"; HA or HD, it doesn't matter -that the Housing Authority just say, "Okay, we have this provision in the contract and we wash our hands of it

H

 \mathbf{G}

I

already" -- it really is not that.

J

Housing Department, senior people within the Housing

A. I am aware of that, and I have discussed it with the

L

K

Department. It's not at all that. It's a matter of it

M

gets lost in all the other stuff, and that's why having

N

in place the appropriate requirements, and understanding

0

from individuals of the importance of their particular

P

area, but also it has to be seen at a very high level,

Q

at the higher supervisory level, the understanding that

R

responsible, perhaps the licensed plumber, says, "This

 \mathbf{S}

is important, we have to do this", they take notice,

Т

because they have some responsibility in this.

this is important, and when the person who's

U

U

Q. It's not that nobody else should even look at it. I'm

- 118 -

U

 \mathbf{V}

A. Okay.

U

A. Yes, but there is a requirement at the higher level, at

U

 \mathbf{V}

U

require -- HA had a requirement that main contractors T A. Yes. U

T

U

 \mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		should manage their subcontractors. You are aware	C
D		that?	D
E	Α.	I am aware of that.	E
F	Q.	Of course, in this connection, managing subcontractors	F
G		to perform duties required under the main contract also	G
Н		means monitoring use of correct materials; you are aware	Н
I		of that?	I
J			J
	Α.	It does. It does.	
K	Q.	Also, are you aware that the main contractors submit	K
L	Α.	Yes.	L
M	Q.	the subcontractors', what is it, management plans	M
N	Α.	Yes.	N
0	Q.	to the HA, in which, on paper, they say they will	0
P		monitor the use of correct materials? Are you aware of	P
		that?	
Q	Α.	Yes, I am aware of that, and that's why I have made the	Q
R		recommendation that in the contracts, before the	R
S		contracts are let, it's very important that the HA make	S
T		sure that there is a quality assurance train put in	Т
U		place by the contractor, to make sure that things like	U

 \mathbf{v}

use the right materials, this is the list of materials

we are going to use". And again I would re-emphasise,

my recommendation is there is a quality assurance -- the

- 122 -

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{V}

 \mathbf{S}

T

U

- 123 -

 \mathbf{V}

- 124 -

 \mathbf{V}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		general awareness of the health effect of lead but	C
D		not	D
E	Α.	Well, the chief architect said that he wasn't aware that	E
F		lead could be a problem.	F
	Q.	But we had other evidence as well.	
G	Α.	Yes.	G
Н	Q.	Then the question really is that again, it's not the	Н
I		question of somehow this system is these monitoring	I
J		measures or controls are wrongly placed. It's not.	J
K		These are proper controls in the system?	K
L	Α.	It has been throughout the implementation of the	L
		controls.	
M	Q.	Exactly. Then it comes to implementation, of	M
N		course we are looking here not wholescale of	N
0		standards falling short, but then, on a very specific	О
P		matter of the solder posing which is allowed to	P
Q		leach, the wrong kind of use of the material with the	Q
R		result of lead leaching into the water	R
S	Α.	And also some of the figures.	S
T	Q.	then it's a very specific risk, isn't it? It's not	Т
•		the wholescale of things breaking down, or your control	1
U		breaking down?	U
V	Transcr	- 125 -	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
С	Α.	That's one of the issues. It is very specific but it's	C
D		very importantly specific, and also the use of the	D
E			E
F		low-lead copper alloy fittings; it's another area.	${f F}$
G		Understanding why that's important is key to	G
		appropriate implementation.	
Н	Q.	Yes. Now, I don't think we I believe	Н
I	Α.	I think we are saying the same thing.	I
J	Q.	We are stating more or less the same thing; it's just	J
K		a question of emphasis.	K
	Α.	(Nodded head).	
L	Q.	Then ultimately I have to say, understanding of course,	L
M		as you say, why people have taken their eyes off the	M
N		ball was because maybe for a long time nothing has gone	N
0		wrong, so people have lowered awareness?	0
P	Α.	That's what the water safety plan is supposed to fix.	P
Q	Q.	Exactly.	Q
R	Α.	By having processes in place and being renewed and	R
S		reviewed, that is supposed to take away the risk of	S
		people saying, "It's never happened so it's not going	
T	t		T
U		happen again."	U
T 7			

- 126 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{V}

 \mathbf{v}

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	Q. Exactly. That was where all that risk management, risk	c
D	identification, all of that comes back into the picture?	D
E	You agree?	E
F	A. Yes. Absolutely.	F
	CHAIRMAN: But then when copper pipes were introduced in,	
G	say, 2002 to 2005, the HA simply did not conduct or did	G
H	not identify any hazard in respect of lead at all?	Н
I		I
J	A. No.	J
K	CHAIRMAN: And therefore there was simply no risk assessment	K
L	whatever?	L
	A. Yes, from what I've seen, that was the assumption, but	
M	it's more or less what you (indicating Mr Ho) are also	M
N	saying, that because there was a requirement in place	N
0	for low-lead solder at that time, it was just assumed	0
P	that you would not get any of the other hazards. There	P
Q	wasn't a proper hazard assessment and risk assessment,	Q
R	and the hazard assessment was, "Well, lead can come from	R
S	solder. We've put this process in place. Is it	S
	possible for lead solder to be used?"	~
T	MR HO: Yes.	T
U	A. And the answer, quite clearly, has been "yes".	U
V	- 127 - Transcript by DTI Corporation Asia Limited	V

plumbers are under pressure to get work completed, if

you run out of unleaded solder, are you going to, if

particularly -- I don't know what the contract

Conditions are for them, but if you are not getting paid

V

 \mathbf{T}

U

 \mathbf{V}

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		while you go off to find some unleaded sold	er, and you	C
D		happen to have some leaded solder, there wil	l be a very	D
E		strong temptation to use it.		E
F	Q.	Yes. That comes back to the actual monitor	ring of	F
		materials delivered on site, and so on.		
G	А.	And ensuring that the process of supply, et	cetera, is	G
Н		appropriate for the circumstances.		Н
I	Q.	To that extent, of course, you know it's t	ne main	I
J		contractors I have already put it to you	that in the	J
K		subcontractor's monitoring plan, it says the	y will make	K
L		sure that the correct materials are being de	elivered to	L
		site.		
M	Α.	Yes, and there's been effectively a series	of failures	M
N		in that respect.		N
0	Q.	Right. Of course, then yesterday, I the	ink counsel	0
P				P
Q		for the Commission has canvassed with you	certain	Q
R		aspects of the verification aspect, like the	e form 6210	R
S		of the HA. Now, are you aware that in fact t	hat form is	S
		updated through a process, again, of assessi	ng what are	
T		items that may go wrong and addressing the	relevant	T
U		items?		U

- 129 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{V}

as your recommendation?

A. No. I think they should be delegating -- there should

T

 \mathbf{U}

 \mathbf{V}

T

U

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

0

P

Q

R

S

 \mathbf{T}

U

 \mathbf{V}

В

C D

F G

H

J K

L

M

N

O

P

Q

R

S

T U

V

be a clear delegation, clear responsibilities, clear demarcation of responsibilities, and that has to be clear. I haven't seen the contracts themselves.

I obviously wasn't here when the process was going on.

But having talked to a number of people who were involved, fundamentally everybody is so busy, there was not the proper presentation or clarification of that sort of --

- Q. But it wouldn't -- on a complex project like the high building blocks we have, it wouldn't be an efficient use of resources, if the developer were then to monitor each item of materials that come onto the site? It's just practically impossible.
- A. Right, but the process that's been suggested solves that problem, that for some of these smaller items which are difficult to identify, that there is central purchasing.
- Q. Of course, this is what is being recommended. But I'm just saying, before these recommendations, and I see in your report you have actually endorsed these recommendations as being positive and constructive and I think you also used the word "appropriate" -- but even before the introduction of these measures, you don't

- 132 -

 \mathbf{V}

- 133 -

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	that's another matter.	C
D	A. I would agree, Chairman. I was about to ask that: what	D
E	do they actually cover and is it really important stuff?	E
F	MR HO: The old chestnut: really, perhaps the ball has not	F
G	been particularly identified for the eyes to focus on? A. Yes. I think that's a very good way of saying it.	G
Н	I think now that we have had something that's gone	Н
I	wrong, there's nothing like something going wrong to	I
J	focus minds on what they should be focusing on. As long	J
K	as it doesn't take them away from things that are	K
L		L
M	important that they have been dealing with.	M
N	CHAIRMAN: It's now 1 o'clock, and I think some of you do	N
0	have lunch engagements. Let's go to our engagements. <u>下午1時正聆訊押後</u>	0
P	<u> </u>	P
Q	CHAIRMAN: Yes.	Q
R	MR HO: Professor, there are just a couple of perhaps	R
S	smaller points that I want to discuss with you.	S
T	Can I invite you to go to paragraph 94 of your	
	report, please, at page 123.	T
U	So understand your paragraph in a perhaps more	U
V	- 134 - Transcript by DTI Corporation Asia, Limited	V

A	食水含:	鉛超標調查委員會	2016年2月18日	A
В				В
C		positive and constructive light, are you sug	gesting that	C
D	b	now that the incident has come to light, t	here should	D
E		a more co-ordinated effort? You here, in	the fourth	E
F		line of the paragraph, suggest a manual co	overing	F
G		installation of plumbing works in buildings	s Hong Kong.	G
Н		Do you see that?		Н
I	Α.	Yes.		I
J	Q.	Is that the sort of water safety plans that	you have in	
J		mind in making that comment?		J
K	Α.	Yes, and it would be really taking the proc	ess and then	K
L		developing, using that to develop a documen	t that would	L
M		help all parties, putting all of the inform	ation in one	M
N		place, and pulling the various points togeth	ner, because	N
0				O
P		one of the things that is apparent is that	information	P
0		is quite diffuse.		
Q	Q.	Right. I see.		Q
R	Α.	It's an opportunity for the two departments	to actually	R
S		pull together the information and the requi	rements and	S
T		put them in one place so		T
U	Q.	No sorry.		U

 \mathbf{v}

 \mathbf{V}

T a real opportunity for Hong Kong to deal with the plumbing issue on a much broader basis, to ensure that

T

U

 \mathbf{V}

three separate sections, or you could have one document.

- 137 -

 \mathbf{V}

P Q

 \mathbf{S}

T

U

V

Yes. Α.

Q. -- and so on, to find out whether in fact the lead is

- 138 -

from Kwai Luen, and there they have done isotopic

 \mathbf{S}

T

U

 \mathbf{V}

Transcript by DTI Corporation Asia, Limited

tests --

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		full process, all of the other buildings would take	C
D		a long time.	D
E	Q.	So you make an assumption that what you found in	E
F		Kai Ching and Kwai Luen may apply to the other nine	F
		estates?	
G	Α.	Yes, and then you can go back and do sampling as	\mathbf{G}
Н		appropriate.	Н
I	Q.	This is where I want your last sentence here, this	I
J	_		J
K		where I want to draw your attention to. Of course, now,	K
L		I don't know whether you are aware that remedial	L
M		works you talk about remedial works in the last	M
N		sentence of that paragraph.	N
0	Α.	Yes.	o
D.	Q.	I don't know if you are aware, in fact remedial works	_
P		are being undertaken to replace the parts that may be	P
Q		affected by the solder	Q
R	Α.	Yes. I have been made aware of that since I arrived in	R
S		Hong Kong.	S
T	Q.	So we are not going back to further testings, because	Т
U		the worst-case assumption has in fact been adopted, and	U
v	Transcr	- 140 -	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	then remedial works are being undertaken in all of the	C
D	11 estates? You are aware of that?	D
E	A. I am now aware of that, so that, to an extent, is	E
F	redundant as a recommendation.	F
	MR HO: Thank you. Thank you very much, Professor. I am	
G	very obliged for you to have put up with my questions.	G
Н	Thank you.	H
I	Cross-examination by MR LEE	I
J	MR LEE: Professor, you said that you would use two terms	J
K	interchangeably, "Housing Authority" and "Housing	K
L	Department"; is that right?	L
M	A. I have done that, yes.	
M	Q. I think most of us have done that and will continue to	M
N		N
O	do that. Don't worry about it. But do you also use	O
P	other two terms interchangeably, "Water Authority" and	P
Q	"Water Supplies Department"?	Q
R	A. I have used Water Authority very rarely. It's mostly	R
S	"Water Supplies Department".	S
S	Q. Because you are aware of the distinction?	J
T	A. There is a distinction, yes, but there is also	T
U	a blurring of the boundary between the two.	U
V	- 141 - Transcript by DTI Corporation Asia Limited	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	I can see that you are a little saddened by the fact	C
D		that the two departments don't seem to be tangoing	D
E		together?	E
F	Α.	I am concerned this seems to be a situation that I have	
		seen in a number of circumstances in Hong Kong where	F
G		there is a lot of compartmentalisation, and	G
Н		compartmentalisation often leads to a lack of proper	Н
I		co-ordination between different groups.	I
J	Q.	Even during this hearing, you see two different groups	J
K		of lawyers.	K
L	А.	Yes.	L
	Q.	In a way, they are really two men in the same boat, and	
M		if the boat sinks, they both get into lead-infested	M
N		water?	N
0	Α.	Yes. Yes.	0
P	Q.	You have been asked questions on the framework of water	P
Q		safety.	Q
R			R
S	Α.	Yes.	S
	Q.	But there is also a manual, isn't there? I will give	
T		you just a few pages to look at and ask you just a few	T
U		questions on it.	U
V	Transcr	- 142 - ipt by DTI Corporation Asia, Limited	V

- 143 -

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		sorts of things that you would expect to find in any	C
D		well-prepared water safety plan; right?	D
E	А.	Correct. There may be modifications. It is a guidance	E
F		and it is intended to be used with thought and care.	F
C	Q.	Yes. But you have been looking at Hong Kong's own water	
G		safety plan, different versions of it; right?	G
Н	А.	Not so much the water safety plan but the layout of	Н
I		and indeed it's not	I
J	Q.	You don't consider that to be a plan?	J
K	А.	I don't consider that to be a water safety plan.	K
L		A water safety plan has got a lot more to it and you	L
		cannot a water safety plan is not just a single	
M		document.	M
N	Q.	No. But the trouble is they call it a plan, a water	N
0		safety plan.	0
P	А.	That's because that tends to be shorthand. I don't want	P
Q		to get into areas where I suspect I may not be in	Q
R		a position to answer, because I have not spent	R
S		a significant amount of time with the department, in	S
T.		order to go through the process of the water safety	
T		plan	Т
U	Q.	But you have read that document?	U
v	Tax	- 144 -	V

- 145 -

Transcript by DTI Corporation Asia, Limited

a number of different forms. There may be a range of

versions of what will be done in management within

 \mathbf{S}

T

U

 \mathbf{v}

buildings.

T

U

A. I don't think you can say that. In terms of a water safety plan, you go as far as you can and then you start to develop beyond. They have dealt with much of what is directly under their control. There is a need for that to go further, and that development further will involve

 \mathbf{S}

Т

U

 \mathbf{v}

U

 \mathbf{S}

T

- 148 -

 \mathbf{V}

- 149 -

 \mathbf{v}

- 150 -

 \mathbf{v}

A. Yes.

U

V

Q. And I get my drinking water from the tap.

- 151 -

U

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	So if it is not even included in the grand plan, water	C
D		safety plan, the water which comes to me in the tap is	D
E		excluded, because the water stops at the connection	E
F		point, so how can it be a water safety plan?	F
	Α.	Sorry, that's not how a water safety plan works. That	•
G		is not how a water safety plan works. And a water	G
Н		safety plan is not a replacement for regulation. It is	Н
I			I
J		an adjunct to regulation.	J
K	Q.	Yes, in case something goes wrong, then they know how	K
L		react quickly?	L
M	Α.	And also they can it responds, and it develops, and	M
N		it builds over time.	N
0	Q.	Oh, yes. But the overall objective is to ensure that	o
P		the quality of the water is good, the water which comes	D
1		to the consumer?	P
Q	Α.	Is safe.	Q
R	Q.	That's the whole object of it.	R
S	Α.	The overall objective.	S
T	Q.	I know there may be all sorts of difficulties	T
U		encountered. I'm not accepting it, but even assume that	U
V	Transcr	- 152 -	V

make sure that the water is safe when it reaches the

- 153 -

 \mathbf{U}

 \mathbf{V}

to

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	connection point?	C
D	CHAIRMAN: I think there are many different kinds of water	D
E	safety plans.	E
F	A. Absolutely, yes.	F
	CHAIRMAN: There are water safety plans for, say, the	•
G	reservoir, there are water safety plans for treatment,	G
Н	and there are water safety plans, say, in Hong Kong, for	Н
I	pumping stations or pumping substations, et cetera. So	I
J	these can be regarded as proper water safety plans.	J
K	But what you are talking is a different species.	K
L	You are putting all those that I have mentioned aside	L
M	and you are concentrating solely on the public housing	M
	estates.	
N	MR LEE: For this reason: because those plans have nothing	N
О	to do with the consumers. They may not have anything to	О
P	do with Housing.	P
Q	CHAIRMAN: I understand that. So at present there is no	Q
R		R
S	such water safety plan for housing estates and there's	S
T	no water safety plan for, say, even private	
T	developments.	Т
U	So I think the Professor definitely will accept	U
V	- 154 - Transcript by DTI Corporation Asia, Limited	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	that. So when you are talking about a water safety plan	C
D	you have to be specific in order to elicit what you	D
E	want.	E
F	MR LEE: What I want is simply the water which reaches the	F
	consumer, but if you tell me no, for the purpose of this	
G	case, there is no such plan, then okay, I	G
Н	CHAIRMAN: There is no such plan after the connection point.	Н
I	MR LEE: Is that right?	I
J	A. At the moment.	J
K	Q. I don't know whether you have read this book, "Hong Kong	K
L	Water Supply Reducing Lead in Drinking Water" A1,	L
M	tab 21, published by the Government Logistics	
M	Department, but obviously you can see the information	M
N	that has come from the Water Supplies Department. It's	N
0	a document like this, a little book.	O
P	A. Yes, and I've copy of this at home.	P
Q	Q. Have you read this before?	Q
R	A. I have.	R
S	Q. Then if you turn to page 1, it says, "Drinking water	S
	supply in Hong Kong":	S
T	"The Water Supplies Department (WSD) is committed to	T
U		U
V	- 155 -	V

understand? I took them to mean they already have

- 156 -

 \mathbf{v}

doesn't specifically say that is that many of the

- 157 -

parameters that are in the guidelines -- and this is

U

 \mathbf{V}

U

Water Supplies Department finish at the lot boundary.

So, in actual fact, it is not clear -- it doesn't make

it as clear as it should be, but it is trying to make

- 158 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{v}

 \mathbf{S}

T

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	out that the water safety plan is something that it is	C
D	not.	D
E	Q. Precisely.	E
F	A. No, you are trying to make out	F
G	Q. Sorry, I'm following their thinking. The chairman	G
	correctly put to me that there were other plans and	
Н	these other plans would stop at the connection point.	Н
I	But I am looking at their own document, which disavows	I
J	that. It says all the way to the tap.	J
K	CHAIRMAN: I don't think Prof Fawell can speak on behalf of	K
L	the WSD.	L
M		M
N	MR LEE: All right.	N
	CHAIRMAN: I think the witness for next week, one of the	
0	witnesses is the deputy director. You should direct	0
P	your questions to the deputy director.	P
Q	MR LEE: Yes, I will do.	Q
R	CHAIRMAN: I understand what you are saying.	R
S	A. I understand, Mr Chairman. I'm not prepared to answer	S
Т	but I understand.	Т
	MR LEE: Maybe I'm the only person who doesn't understand.	
U	CHAIRMAN: So what you are saying, in effect, Mr Lee, is	U
V	- 159 - Transcript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		that the first statement in fact is a half	-true	C
D		statement?		D
E	MR	LEE: Yes. But they all, from the customer	s's point of	E
F		view, they all want to see this water safe	ty plan, but	F
		there has to be a water safety plan in acco	ordance with	r
G		the WHO Guidelines, and so far we haven't	got it?	G
Н	Α.	With respect, I would say that what custom	ners want is	Н
I		water that meets the standards.		I
J	Q.	Of course. Of course.		J
K	Α.	That's slightly different.		K
L	Q.	I know. We are all agreed on one thing, and	l that is the	L
		water I drink has to be safe.		
M	Α.	Yes.		M
N	Q.	And so far I know it's safe because it's :	from inside	N
0		a bottle.		o
P				P
Q	Α.	Do you know? And what is your basis for t	chat?	Q
R	Q.	I opened it this morning		R
S	Α.	You've been told it's in a bottle, you've be	en told that	C
5		it's safe; you have no verification for the	nat.	S
T	Q.	Not even that, more than that, I found it i	n the bottle	T
U		and I had to open it like this (demonstrat	ing), but	U
V	Transcr	- 160 - ipt by DTI Corporation Asia, Limited		V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
c		I agree with you, it could still have been tap water,	C
D		could still be?	D
E	Α.	It could very easily be all sorts of water.	E
F	Q.	Yes, yes. I also saw TV programmes to say that in fact	F
G		sometimes tap water is cleaner than bottled water?	G
Н	А.	It can be, and one has to be very careful. What you are	Н
I		trying to do is really say, well, we need to have	I
J		standards, we need to be able to demonstrate to the	J
		public, to consumers, that their water is safe. There	
K		has to be a way of doing it. Just having a water safety	K
L		plan is not necessarily going to demonstrate to	L
M		consumers that their water is safe.	M
N		Now, I understand the position, and I think it's	N
0		very important, because confidence in the public water	O
P		supply is I believe absolutely paramount.	P
0	Q.	The test of the water is in the drinking, not taking	0
Q		a shower?	Q
R	Α.	No. I think in a lot of cases that's true. The taste	R
S		will be very, very important, its appearance, its	S
T			T
U		temperature, and so on. But you can't see	U

 \mathbf{v}

- 162 -

Transcript by DTI Corporation Asia, Limited

a half, basically, in total. A lot of that time was

spent with the task force, the task force members, and

members -- people from HD, and I couldn't see them.

- 163 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{S}

Т

U

 \mathbf{v}

 \mathbf{S}

T

U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	I agree that if they had really wanted to, they	C
D	could have asked to see me.	D
E	Q. They could even be lining up outside court to see you at	E
F	5 o'clock?	F
G	A. I hope not. I'm planning on going back.	G
Н	DR WONG: Mr Chairman, we would be most happy with that.	Н
I	MR LEE: Good. That's good news.	I
J	You mention rightly that our licensed plumbers'	J
K	status is not perhaps as good as it should be?	K
L	A. That is my perception and my concern.	L
M	Q. Do you know how long it would take to train one of them	M
N	to be licensed?	N
O	A. I think it's about it's months rather than years, and	O
P	that is not unreasonable.	P
	Q. So I don't think, therefore, it is reasonable, at least	r
Q	for our purposes as to who should be responsible for the	Q
R	quality of the drinking water, and so on, to look at	R
S	them as if they were professional people, like doctors,	S
T	engineers, architects or lawyers, in the context of	T
U	Hong Kong?	U
V	- 164 - Transcript by DTI Corporation Asia, Limited	v

Transcript by DTI Corporation Asia, Limited

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	CHAIRMAN: I'm do sorry, what's your question?	C
D	MR LEE: It won't be right to look at the status of these	D
E	licensed plumbers and put them in the same status as	E
F	other professionals?	F
	CHAIRMAN: Why not?	•
G	MR LEE: If they were trained in a few months.	G
Н	CHAIRMAN: No, no. We know as a matter of fact that they	Н
I	now have to go through a three-year craft certificate.	I
J	A. Yes, before they can	J
K	CHAIRMAN: Before they practise, for another four years	K
L	no, incorrect. They can actually then go on to take	L
M	another course, to qualify themselves as a licensed	M
		112
N	plumber.	N
0	So we are not talking about months. We are talking	0
P	about years, actually.	P
Q	MR LEE: What about the older plumbers?	Q
R	CHAIRMAN: For the older ones, there's no formal	R
S	qualification at all.	S
5	MR LEE: And some of them are grandfathers.	S
T	CHAIRMAN: Yes.	Т
U	MR LEE: Do you know that they have no at least some of	U
V	- 165 - Transcript by DTI Corporation Asia, Limited	V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	them can't even decide what materials could be bought?	C
D	Sometimes, they are bought for them?	D
E	CHAIRMAN: If you believe them.	E
_	MR LEE: Yes, if you believe them.	
F	A. Well, that is within what we have talked about and	F
G	what we know about the role of a licensed plumber, that	G
Н	doesn't fit very well with their roles.	Н
I	But that isn't something that then becomes their	I
J	responsibility. It means that others are not fulfilling	J
K	their responsibilities properly.	K
L	Q. Okay.	L
	CHAIRMAN: Can I ask you, Professor because you talk	_
M	about skeleton WSD WSP. What exactly, because I have	M
N	read those WSPs myself too well, on the face of those	N
0	documents, it seems they are quite sort of comprehensive	O
P	to me.	P
Q		Q
R	A. The detail is very limited.	R
S	CHAIRMAN: Right.	g
5	A. It's like so many things, the devil is in the detail,	S
T	and one of the things you cannot put into a single	Т
U	plan almost invariably, these things are living	U
V	- 166 - Transcript by DTI Corporation Asia, Limited	V

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

T

U

В

C

D E

F

Н

 \mathbf{G}

Ι

J

K

L

M

N

o

P

Q

R

S

T

 \mathbf{U}

v

Transcript by DTI Corporation Asia, Limited

documents, so you've got a framework, you've got the skeleton that you can hang everything else on. That's very important.

The skeleton is interesting, but the detail, as

I have said in places in my statement, is not so
obvious. How they operate the distribution system is
not so clear from this, because that would involve
a level of detail, explaining what processes are there
to deal with planning out, have they got GIS maps of the
distribution system, how do they operate valves, do they
have records of whether valves are closed or open, all
of these things. And you can't put everything onto the
skeleton. The skeleton has a lot of flesh that's
attached to it, and that's important.

I haven't had -- it's impossible in the time frame to walk through the details of the water safety plan. When I was helping Northern Ireland to do their water safety plans, there were two of us working with them, and we were involved for six months, more than six months.

- 167 -

So it requires a lot of the detail, and the detail

v

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

N

 \mathbf{o}

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{V}

В

C

D

E

F G

Н

Ι

J

L

K

M

N

0

P

Q R

S

T

U

 \mathbf{V}

in the different treatment works, the different catchments, and so on, means that there's a lot of detail in there.

Now, I know that there is a lot more detail in

different places, but you don't put them all in the one plan. The danger is always that if, as happens with some, where the consultant has prepared the water safety plan for the water supplier, and it comes as a volume, and it goes on to the managers, often the chief executive's shelf so he can show it off and nobody looks at it, and that is not what a water safety plan is about. A lot of the water suppliers in the UK, fortunately, have computer systems. You've got the different steps and different plans. You have operating procedures. All of those are part of the water safety plan.

MR LEE: Professor, you just mentioned about your experience in Ireland, both you and your colleague, and it took six months. But did you have all the stakeholders together, working with you?

A. We had not all of them at that stage. We hadn't been through all of them. We had been through a number of

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

I

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

Η

Ι

J

K

L

M

 \mathbf{N}

 \mathbf{o}

Q

P

R

 \mathbf{S}

T

U

V

Transcript by DTI Corporation Asia, Limited

the stakeholders. And the water supplier -- it's a publicly owned water supplier -- was still trying to get to grips with the part of the plan that was going to

stakeholders that needed to be involved. They knew some of the things and they had had dealings with their public -- the consumer department, who wanted to be trained. They were trained in what a water safety plan was about, so they knew about that. But they knew that a water safety plan would not be in the same form as the water safety plan for the treatment works and the distribution system. It's going to have various bits.

look at buildings, because there were a lot of different

But the plan would involve a lot of different stakeholders, and those stakeholders will vary, according to the circumstances that you are in. The level of detail in the plan will depend on whether you can access buildings, what sort of regulations are in place to support that.

In Hong Kong, you have a number of those steps for the water safety plan. The piece that's been missing is

- 169 -

Т

 \mathbf{U}

 \mathbf{v}

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		that implementation, the level of that imp	olementation.	C
D	s	It should have been very straightforward o	but, like in	D
E		many things, when nothing has happened	- I'm reading	E
F		a book at the moment where they say, "We ha	d a hurricane	F
G		in 1910 but we never have hurricanes here	e", and that	G
Н		sort of reasoning, "It hasn't happened fo	r ages so why	Н
I		would it happen again?" that sort of t	thinking is	I
J		something that creeps in. It's not somet	hing that's	J
K		a conscious thought. It's an unconscious	thought, and	K
L		it involves everybody.		L
M	Q.	The hurricane is an act of God?		M
N	Α.	No, I think it's an act of physical and me	eteorological	N
0		conditions.		O
P	Q.	People abusing the earth?		P
Q	Α.	I don't think so. Hurricanes have been a	around for a	Q
R		rather long time.		R
S	Q.	More so than before, I suppose?		S
	Α.	There's some doubt about that.	vou hecauso	
Т	Q.	I don't want to enter into an argument with you know about all these things; I don't.		T
U		you know about all these things; I don't.	•	U
V	Transcr	- 170 -		\mathbf{V}

Transcript by DTI Corporation Asia, Limited

A	食水含	鉛超標調查委員會 2016年2月18日 2016年2月	A
В			В
С		But tell me this. So who should take the initiating	C
D		step to get people together, so they can begin to look	D
E		at all these things with a view to coming up with a good	E
F		water safety plan?	F
	Α.	My feeling is that it should be the WSD?	
G	Q.	The WSD?	G
Н	Α.	Because they already know about water safety plans. So	Н
I		I would say that it is incumbent upon them to pull	I
J		together the various groups.	J
K	Q.	And the first one, who should be ready and nearby would	K
L		be the Housing people, because it's in another	L
		government department?	
M			M
N	А.	Yes.	N
0	Q.	And it's the owner of so many public housing blocks,	O
P		housing more than 2 million people; do you know that?	P
Q	А.	Yes, I knew that.	Q
R	Q.	Of course, when you come to individual owners of flats,	R
		there may be more problems, but there's nothing to stop	
S		them from getting on first with this one; right?	S
T	Α.	I've been saying this over the last two days: there is	T
U	a		U

- 171 -

V

it and following it, so warning themselves of the possibility of this sort of thing happening, do you think this could have been prevented?

T

U

 \mathbf{v}

T

U

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

N

 $\mathbf{0}$

P

Q

R

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{v}

В

C
D
E
F
G

J

K

L

M

Ν

A. I think it would have been considerably less likely, because it focused the mind. I'm not going to say that it couldn't possibly happen. You can't ever say that something will always be prevented, because it depends what goes wrong. But the process would have been highlighted, that a proper water safety plan of that type means you are taking it seriously; you have checks in there, you have processes that are about making sure what you have in place works. And we talked about verification.

- Q. Yes.
- A. Verification that the system is working properly and the barriers are there.
- Q. And taking water samples?
- A. Not necessarily. Not necessarily. The illustration

 that I made earlier, for your colleague, was about

 a well and you have animals accessing the well. That's

 a danger, that's a hazard, and so you fence it off and

 you check that the gate is closed, et cetera. So it can

 be inspections, it can be making sure that certain

 things have been done. It isn't necessarily all about

 \mathbf{V}

- 175 -

Transcript by DTI Corporation Asia, Limited

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	now is that there perhaps should be central purchasing	C
D	of items like solder. That means you have a store of	D
E	them there. It's much more difficult to use the wrong	E
F	material.	F
	The training side is very important.	
G	Q. It's more expensive than the solder with lead?	G
Н	A. It is more expensive. That's the problem we have had	Н
I		I
J		J
	the UK, that it's more expensive. The DIY plumbers go	
K	in and buy the cheapest and it's not the right way to	K
L	do	L
3.4	it. You have to work hard to make sure they use the	
M	correct materials and the level of training and	M
N	supervision has to go all the way down to the people	N
0		0
	actually doing the soldering itself.	
P	Q. So are you suggesting then, Professor, that if all the	P
Q	stakeholders were to be involved in this, under, for	Q
R	instance, a proper water safety plan, and they all did	R
S	their job, as it were	S
S.	A. Yes.	S
T	Q then this sort of thing ought not to have happened?	T
U	2. Shen this sold of thing dagne not to have happened.	U
	A. I would argue it ought not to have happened anyway, but	Č
V	- 176 - Transcript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		yes, I would agree with that.		C
D	Q.	I'm interested, why do you say "anyway"?		D
E	А.	The procedures, the requirements were in pla	ce, and they	E
F		should have been followed, and if they had	been	TC.
		followed, this would not have happened.		F
G	Q.	Yes. If the presumption is that people wo	uld do what	G
Н	Δ.	expected of them all the time, then I suppo	ese a lot of	Н
I		civil servants would just be complacent an		I
J		therefore nothing would happen?	a assume,	J
K	Α.	It's not just civil servants. I think thi	s is	K
L	Q.	Fair enough; including you and me too.		L
M		It is a fact of life. People tend to be like	e that, and	M
		-	·	
N		unfortunately, unless you have a very clea	r	N
0		understanding of why you are doing things,	then people	О
P		tend to forget how important small things	are.	P
Q	Q.	But the trouble is, as you put it I mea	n, assuming	Q
R		here we have very good document, or maybe	a series of	R
S		good documents, and if people don't read i	t and don't	S
T		talk about and discuss it, then it's still	no use?	T
U	Α.	That's correct, but then it's not a water	safety plan	U

- 177 -

V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		anymore. A water safety plan has got proce	edures and	C
D		requirements, and you have to have checks in	that those	D
E		procedures are being followed.		E
F	Q.	And meetings?		F
1	А.	Well, meetings will be in there. There will	be a whole	Г
G		range of different things.		G
Н		But it's not just a document. If nobody	is reading	Н
I		it, it ain't a water safety plan.		I
J	Q.	It requires good plan and a lot of people	who always	J
K		warn themselves that anything can happen an	d therefore	K
L		you must be prepared?		L
M	Α.	Yes. That's what we try one of the thing:	s we try and	
M		teach is to ask outrageous questions, "wha	t if", and	M
N		sometimes we ask outrageous questions and th	e answer we	N
0		get is silence and then panic.		O
P	Q.	And of course you ought to make sure there'	s a culture	P
Q		among these people, all these stakeholders	, that	Q
R				R
S		whatever can go wrong will go wrong?		S
	Α.	Yes, and that's why you try and prevent it.	That is	S
T		one of the points about water safety plan,	or water	T
U		safety planning as a principle is there is a	significant	U
V	Transcr	- 178 - ipt by DTI Corporation Asia, Limited		V

A	食水含:	鉛超標調查委員會 2016年2月18日	A
В			В
C		culture change within that, and it does direct the	C
D		culture.	D
E	Q.	That is the most difficult part, isn't it?	E
F	Α.	It is, and it takes time. It obviously takes time.	${f F}$
	Q.	This expression I got it from my learned friend	
G		Mr Ho when you ask people to fix their eyes on the	G
Н		ball, and if you should fix your eyes on the ball,	Н
I		even though it is put there at the corner, before it is	I
J		kicked, you should place your eye on the ball, not when	J
K		the ball comes near to you, and that's the difficulty?	K
L	А.	As a keen watcher of football, I can tell you that	L
3.6		people take their eyes off the ball even when it is very	
M		close!	M
N	Q.	That's what I told my son, when you want to head the	N
0		ball, you must watch the ball all the time.	0
P	А.	Absolutely, and it's the same with everything else.	P
Q		With water, if you become complacent and start cutting	Q
R		corners, that's when things go horribly wrong, and there	R
S		are lots and lots of examples that I'm not going to give	S
		you here because we haven't got time.	5
T	Q.	You are in a hurry to go home tomorrow?	Т
U			U

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	A. I have to go home tomorrow evening, but it's quite late.	C
D	Q. Don't worry.	D
E	A. It's delightful sitting here in the room, but	E
F	Q. Don't make it more delightful for me, otherwise I may	F
	change my mind!	_
G	Occasionally, when you have a particle with lead in	G
Н	it, which gets into the water, and then it's tested, and	Н
I	then you see some abnormal rise; right? I mean, you	I
J	have seen this chart; I won't show this again to you.	J
K	Should the sample be discarded?	K
L	A. No. It is a signal that something is wrong. You may	L
	want to go and re-take a sample. You may want to	
M	re-examine. But it shouldn't be just discarded.	M
N	I was trying to pick that up before, and one of the	N
O	key mantras that I certainly have and I try and bring	O
P	to	P
Q	water suppliers is, if you are taking samples and you	0
Q	are going to disregard the results, what's the point of	Q
R	taking samples.	R
S	Q. Exactly.	S
T	A. So you need to consider it.	Т
U	Q. If you are working for the Waterworks Department, then	U

- 180 -

 \mathbf{v}

Q. Okay. Is there any way to find out where a particle of

that type might have come from? Can you use this

 \mathbf{T}

U

 \mathbf{v}

 \mathbf{T}

U

 \mathbf{v}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

G

H

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{v}

В

D E

 \mathbf{C}

G

H

 \mathbf{F}

Ι

K

J

L

M

N

 \mathbf{o}

P

R

Q

S

T

U

 \mathbf{V}

So, in terms of particles, if you are picking those up, then in exposure terms it's still going to be the average over time. So it's not something that necessarily requires that you should be any more concerned about, but it does require that the water -- whoever is responsible for that plumbing system is aware of the presence of those particles, and the approach that you take to ameliorating the problem, that should be taken into account when you are doing that.

- Q. I take it that there is no longer, as far as the WHO is concerned, a health-based level, is there?
- A. That's correct.
- Q. And the 10 micrograms per litre is a decision-based
 - guideline -- I think yesterday you said that, or an intervention action level?
- A. Yes. It's a level below which you are trying to achieve. You should be trying to achieve to get as low as possible. 10 micrograms is what we know with extensive systems, where there's lots of lead, we know you can get down to 10 fairly readily, using a treatment with orthophosphate.

A	食水含	鉛超標調查委員會 2016 年 2 月 18 日	A
В			В
C	Q.	And you said for Hong Kong it could be half?	C
D	А.	I think for Hong Kong you ought to be aiming at a lower	D
E		value, simply because you do not have that basis of	E
T.		considerable levels of lead, service connections, lead	
F		piping, and so on.	F
G	Q.	Indeed, the water in our mains has practically no lead?	G
Н	Α.	That's correct.	Н
I	Q.	Do you know how low it is?	I
J	А.	It's less than a microgram. Most of the time it's below	J
K		detection.	K
L	Q.	Below detection. So in theory, then, if I turn on my	L
		tap and have my water tested, and if it has 2 micrograms	L
M		per litre, then already there's something wrong with the	M
N		internal system?	N
0	Α.	Not necessarily. We don't have a very good background,	0
P		and that's something that needs to be looked at, as to	P
Q		what the contribution will be. There will be a small	Q
R			R
S		contribution from fittings that do meet the British	
5		Standard, because there will be some lead there.	S
T	Q.	It would be very low, wouldn't it?	T
U	А.	It will be very low. It may well be below detection,	U
v	Transcr	- 184 - ipt by DTI Corporation Asia, Limited	V

connections, you don't have unplasticised PVC pipe that's got lead stabiliser. All of these things are in place that you don't have. Therefore, you could have a very low standard.

 \mathbf{S}

Т

U

 \mathbf{v}

 \mathbf{S}

T

U

- 186 -

 \mathbf{V}

A	食水含鉛	出超標調查委員會 2016年2月	18日	A
В				В
C		interpretation becomes very difficult.		C
D	Q.	I stand corrected on having used the word "aspired t	,	D
E		because Hong Kong doesn't have to aspire to 5.		E
F	Α.	It's already got it.		F
G	Q.	It's already there. That's why, why don't we bring	g it	G
Н		down?		Н
I	Α.	You don't have a standard. That's the point. You do	on't	I
J		have any standards.		J
K	Q.	At the moment our water people are using 10.		K
L	Α.	Because they work to the WHO Guidelines. My point \boldsymbol{v}	vith	L
M		my report is that the guidelines are not supposed to		M
N		used that way. Therefore, it would be helpful to		N
O		Water Supplies Department, and everybody else, if had Hong Kong standards. It wouldn't be the long		o
P		of guidelines that they have, it would be smaller t		P
Q		that and it would be relevant ones, but you could	set	Q
R		the standard at what would be appropriate, and it co	ould	
		be 2.		R
S	Q.	It could be 2?		S
Т	А.	For lead, it could be 2. It could be.		Т
U	Q.	That's the answer I wanted, because we have already	got	U
V	Transcrip	- 187 - ot by DTI Corporation Asia, Limited		V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	it, actually.	C
D	A. Absolutely. I have no problem with that. It's just	D
E	logical that that would be the way forward.	E
F	Q. I will move on to another point. You gave some evidence	F
C	on orthophosphate dosing.	a
G	CHAIRMAN: Before you ask your next question, I think there	G
Н	is a problem with the LiveNote. I think they have to	Н
I	fix the LiveNote, so let us, say, adjourn for	I
J		J
K	a ten-minute coffee break.	K
L	MR LEE: I won't be too long.	L
L	下午 3 時 39 分聆訊押後	L
M	下午 3 時 52 分恢復聆訊	M
N	MR LEE: Mr Chairman.	N
0	Professor, I think you can fly away tonight, unless	O
P	something terrible happens.	P
Q	A. I'm not flying tonight. I'm flying tomorrow night.	Q
R	I may be frying tonight.	R
S	Q. So would you rather that I give you until tomorrow	S
	morning? I shan't be long.	
T	Professor, you mentioned something about	Т
U	orthophosphate dosing.	\mathbf{U}
V	- 188 - Transcript by DTI Corporation Asia, Limited	V

- 189 -

- 190 -

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		the leaching of lead.	C
D	Q.	Does it mean that you don't need to replace the pipes,	D
E		because then the inner coating would protect the water	E
F		from the lead?	F
	Α.	That is what is used to get the lead level down to about	
G		10 micrograms per litre. You don't replace the pipes	G
Н		under those circumstances, but you have to keep on	Н
I		dosing the orthophosphate. It's not something you dose	I
J		it and then you stop, because if you stop dosing then	J
K		that layer starts to break away.	K
L	Q.	I see.	L
M	А.	So once you start, that's it.	M
	Q.	I could be wrong, but I'm told that this sort of	
N		technique is used pretty a lot in Germany, for	N
0		example; are you aware of that?	О
P	Α.	You are coming to a particular brand.	P
Q	Q.	I won't mention it.	Q
R	Α.	I've had emails from the people concerned.	R
S		Orthophosphate dosing is used widely across the world.	S
T		It's not just Germany. This is not a German invention.	
		It has been used very widely, it is very commonly used	Т
U			U
V	Transcri	- 191 -	V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
С		and it is well-established.	C
D	Q.	So it's used in the States, and in England too?	D
E	Α.	Yes, extensively, and in Scotland, Wales, all of these	E
F		places. It's used in different parts of Europe where	F
		they have lead problems. So it is a well-established	Г
G		technique.	G
Н	Q.	Thank you. I haven't mentioned the brand name. You	Н
I		haven't either.	I
J	А.	No. I did have an email from them.	J
K	Q.	Me too!	K
L		Now I'm going to ask you some questions about BS EN.	L
		Could you please tell us what EN European norms, is	_
M		it?	M
N	Α.	Yes.	N
0	Q.	How is it related to BS standards?	0
P	А.	There are a whole range of standards organisations, and	P
Q		there's a certain amount of co-ordination between those	Q
R		standards organisations, so some will adopt other	R
S		standards.	
3		My suggestion for Hong Kong is that they don't	S
T		completely restrict themselves to the British Standards;	Т
U		that they accept materials of equivalent standards,	U
v	Transcr	- 192 - ipt by DTI Corporation Asia, Limited	V

- 193 -

Transcript by DTI Corporation Asia, Limited

 \mathbf{v}

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Q.	But sometimes we get BS EN and then a number, sometimes	C
D		just BS and a number. What is the difference between	D
E		these?	E
F	Α.	There isn't much difference between them.	F
	Q.	No difference?	
G	Α.	I'm not familiar with the detail of the difference	G
Н		between them. I don't get involved in that, if I can	Н
I			I
J		avoid it.	J
K	Q.	But the four MS is Great Britain, France, Germany and	K
L		the Netherlands?	L
M	Α.	Yes.	M
	Q.	And what's happening?	1 V1
N	Α.	There was a meeting	N
0	Q.	I know you were involved.	O
P	Α.	Yes. There was a meeting held in May of last year,	P
Q	t	a two-day meeting there have been various attempts	Q
R		get this adopted by the European Commission there was	R
S		a two-day meeting at which I gave the keynote lecture	S
T		and then chaired the second day and gave a summary at	Т
U		the end. The Commission have agreed, under a certain	U
v	Transcr	- 194 -	V

A	食水含	鉛超標調查委員會 2016年2月	∄ 18 日	A
В				В
C		dodgy!		C
D	Q.	We want one judge. We don't want the Court of App	eal!	D
E		Okay.		E
F		What about legislation? You are familiar with	the	F
		legal framework in Hong Kong?		
G	Α.	Yes.		G
Н	Q.	And it's pretty old-fashioned stuff		Н
I	Α.	Indeed.		I
J	Q.	and it needs a lot of updating, do you think?		J
K	Α.	I think that's exactly right and I've made some		K
L		recommendations in that respect. I think there need	ls to	L
		be much clearer delineation of the responsibilitie	s of	
M		the different departments. I've said time and time	me	M
N		again, I think there should be standards and		N
0		a regulator. I'm a great believer in an independ	ent	0
P	i	regulator, and WHO are very keen and we mention	n it	P
Q		many places within the guidelines that an indepen	dent	Q
R		regulator and standards that are tailored to the		R
S		particular country are a beneficial way of going		S
T		forward.		T
U				U

- 197 -

V

 \mathbf{V}

В

 \mathbf{C}

D

 \mathbf{E}

F

G

H

J

K

L

M

0

P

Q

R

 \mathbf{S}

T

U

 \mathbf{v}

В

C

D

F

 \mathbf{E}

G

H

Ι

J

K

M

L

N

0

P

Q

R

S

T

 \mathbf{U}

 \mathbf{v}

An independent regulator, because that removes a lot

of the potential pressures.

And for standards, because you have to think about them, and thinking about things is really a very important exercise. Understanding which of the contaminants, apart from microbiology -- the pathogens are always important -- but amongst the chemicals, understanding which ones are really important, which ones need to be monitored at what rate, how you monitor them, how regularly you monitor them, how often you have to do checks.

We have introduced risk-based monitoring in Europe now. We modified annex 2 of the Directive. That allows member states who introduce water safety plans -- that gives them a basis, because they have hazard assessment and risk assessment, to be able to say, "We have got a supply here, we've got two or three contaminants here that are in the Directive but which we don't see at anywhere near the standard levels; we don't need to monitor these as regularly as laid down in the Directive." So they can justify infrequent monitoring.

That focuses the resources on the things that are

В

 \mathbf{C}

D

 \mathbf{E}

F

G

H

I

J

K

L

M

Ν

0

P

Q

R

 \mathbf{S}

Т

U

 \mathbf{v}

В

D

 \mathbf{C}

F

 \mathbf{E}

Н

 \mathbf{G}

Ι

J

K

L

M

N

0

P

Q

R

 \mathbf{S}

T

U

 \mathbf{V}

important. The advantage of focusing resources on things that are important is that you don't get lots and lots and lots of zeros. When you get masses of zeros,

it's easy to lose what's important in that. And it gets away from a practice which is unfortunately very common in many parts of the world, partly introduced by some of

the analytical results recording systems, where it only reports a result, flags it up, when there's a failure, and I can't see the point of doing monitoring only to measure failure. You should be using all of the data. There's a huge investment, and using all of that data and understanding the trends, et cetera, is an important part of the process.

This is an opportunity for Hong Kong. You've come to a point where this can be introduced into the regulation, improving the regulation, looking to the future, and the future is going to get tougher and tougher for everybody in terms of water and water supply and water resources, et cetera. Populations are going up. Resources need to be conserved. So we need to be

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	much more focused. And this is a real opportunity,	C
D	I think, for Hong Kong to look to the future, put in	D
E	place a legislative and regulatory framework that will	E
F	help them to be able to focus on the important things	F
	and deliver first-class water.	
G	Q. Does it help to have water safety legislation? A lot of	G
Н		Н
I	countries have it.	I
J	A. I think that's really important. I think that's really	J
K	important. How complex that legislation is I think is	K
L	something to be discussed. I'm in favour of as simple	L
M	as possible. That's a good thing.	M
N	Q. Which model is simple and good?	N
0	A. That's a very big question.	0
	Q. No, a very short question.	
P	A. I'm not quite sure what I would recommend. I wouldn't	P
Q	necessarily recommend going down the route that we've	Q
R	gone in the UK. I think that's very complex, and	R
S	there's reasons for it.	S
T	I think that Hong Kong is well capable of looking at	Т
U	its own requirements, what it needs, and developing its	U
V	- 200 -	v

- 201 -

 \mathbf{v}

be criminal sanctions for offenders?

- A. Not necessarily.
- Q. What about fines?

 \mathbf{S}

T

U

 \mathbf{S}

Т

U

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
С	Α.	Could be. It just depends. It depends w	nat suits	C
D		Hong Kong. In the UK, we have criminal sa	anctions	D
E	Q.	But not imprisonment? I don't think it's in	mprisonment.	E
F		Just fines, isn't it?		F
G	А.	Potentially, under certain circumstatossible.	ances, it's	G
н		It's never happened. But there is the po-	tential for	Н
I		that, for a water company. If a water com	pany boss is	I
J	g	negligent in delivering water, they could to	effectively	J
K		to prison. It's unlikely to happen, partl	y because it	K
L		certainly focuses the mind if you think th	at you might	L
M		get that sort of sanction. But whether it's	criminal or	M
N		whether it's civil or whatever, I think is	t's whatever	N
11		suits the jurisdiction that you are dealist	ng with.	11
0		They don't have criminal sanctions in	most of the	0
P		European countries. It's a different regula	tory system.	P
Q		I don't recommend one way or another.	I think it's	Q
R		got to be what suits Hong Kong.		R
S	Q.	I'm going to ask you just a very few ques	tions on	S
		a topic on which you have been asked a lot	of questions	
T		on already, and that's water samples, tak	ing water	T
U		samples.		U

 \mathbf{v}

 \mathbf{V}

- 204 -

 \mathbf{v}

В

 \mathbf{C}

D

 \mathbf{E}

 \mathbf{F}

 \mathbf{G}

H

I

J

K

L

M

 \mathbf{N}

0

P

Q

R

 \mathbf{S}

 \mathbf{T}

U

 \mathbf{v}

В

 \mathbf{C} D

 \mathbf{E} \mathbf{F}

 \mathbf{G} H

Ι J

K

L

M

N

P

 \mathbf{o}

Q

R

S

T

U

V

alternative is to take random samples. If it's a new property, then it's no problem in setting it up to take a first-draw sample that's been in contact overnight. That's not a problem. If you have lots and lots of apartments that are full of people, it becomes a lot

more onerous and more difficult for all those people. So random daytime sampling may be more appropriate. And that is to identify the presence of those metals.

- Q. So your opinion on this -- you are quite firm on this, first draw should be taken, for our purposes?
- A. I think on the new buildings, on the new flats, that if you are sampling to see if there is -- this is your verification that lead has not been used -- then yes, I think it should be after an overnight stagnation period, then first-draw -- it depends how much you are going to take. One of the reasons that Prof Lee did what he did was because that helps to inform how big a sample would be necessary to get the information. I was a little concerned that there was a lot of discussion with him, missing the purpose of what we did.

We did not do it to assess risk or anything like that.

- 206 -

 \mathbf{T}

U

 \mathbf{V}

T

U

P Q R \mathbf{S}

T

U

V

because it's inconvenient.

 \mathbf{T}

U

 \mathbf{V}

Q. Now that you've got experience of the results of the five samples, in fact do you agree that if there were

A	食水含:	鉛超標調查委員會 203	16年2月18日	A
В	N.J. L.		7, 7, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	В
c		two just take the first two then I think	a lot of	C
D		lead would have gone by then; right?		D
E	Α.	Well, if you flush it for any length of time	, and you	E
F		are pulling through the water that's in the d	own pipe,	F
G		then because the contact time between that water	er and the	G
		lead is so short, you would not expect to se	е	J
Н		significant concentrations of lead.		Н
I	Q.	After the first two		I
J	Α.	Well, after the first two to whatever minutes.	It will	J
K		depend on the apartment.		K
L	Q.	So I suppose you would like the Water Suppli	es	L
L		Department from now on, if they have come up	with	L
M		another similar thing, then they should test fi	rst draw,	M
N		they must test first draw?		N
0	Α.	It depends what they are going to be doing, bu	it if they	0
P	b	are looking for lead in the plumbing, then t	hat would	P
Q	D	the appropriate way forward, but they would	need to	Q
R				R
S		think very carefully because they are lookin	g at	S
T		antimony and chromium and other things as well	-	т
1				Т
U		they take first draw, it's not an unreasonable	position	U

 \mathbf{v}

 \mathbf{V}

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	to be in.	C
D	Q. I will end with my last question: do you drink water	D
E	from the tap?	E
F	A. Of course, and in Hong Kong.	F
	Q. And in Hong Kong. But back home?	r
G	A. Yes, all the time.	G
Н	Q. Thank you.	Н
I	A. I can't afford all that bottled water you have got.	I
J	Re-examination by MR SHIEH	J
K	(All questions in English)	K
L	MR SHIEH: Just a few clarification questions. The first	L
M	question is really a point of correction. Can I ask you	
M	to look at your report at paragraph 6?	M
N	A. Yes.	N
0	Q. Six lines from the top, you mention "new properties in	0
P	Wales".	P
Q	A. Yes.	Q
R	Q. The year you stated there is 2001. It should be 2007.	R
S	A. Yes.	S
	Q. So you would change that to 2007?	Б
T	A. Yes.	T
U	Q. Next, during your questioning, and I think it permeates	U
V	- 209 - Transcript by DTI Corporation Asia, Limited	V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C				C
D		the entirety of your evidence, the system :	n place in	D
E		many other jurisdictions		E
F	Α.	Regulatory?		F
G	Q.	The regulatory system in place, or the back	kground in	C
		a lot of overseas jurisdictions is that they	still have	G
Н		leaded water pipes, and so it is impractical	to replace	Н
I		those types wholesale?		I
J	Α.	That's right.		J
K	Q.	So the remedial measure of using orthophosp	nate had to	K
L		be resorted to?		L
M	Α.	Yes.		M
	Q.	A document was produced by Mr Chan Kin Man in	the course	
N		of his evidence. Could I ask you to look a	t it. It's	N
0		bundle C21, page 19045, tab 182.		0
P	Α.	Yes.		P
Q	Q.	It is a Journal of Water and Health; you ha	ave heard	Q
R		of it?		R
S	Α.	Yes, I am familiar with this.		S
	Q.	The authors of this article		
T	Α.	I am familiar with the authors.		T
U	Q.	You are familiar with the authors? Yes.		U
V	Transcr	- 210 - ript by DTI Corporation Asia, Limited		V

- 211 -

 \mathbf{v}

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	Q. Thank you. Then I have a series of questions which we	C
D	would like to seek your clarification on. It arises	D
E	the series of questions arises out of answers you have	E
F	given this morning.	F
	Could I ask you to look at the transcript for this	r
G	morning, [draft] pages 54 to 55, so just scroll back up.	G
Н	A. I'm still on the paper.	Н
I	CHAIRMAN: He can't see.	I
J		J
K	MR SHIEH: You have it?	K
L	At the bottom of [draft] page 54, there's an answer	L
	at line 18 well, it starts at [draft] line 10, where	
M	I think it was Mr Ho asked you:	M
N	"But then the question is, first, why was this not	N
0	done before the incident came to surface; or, if it	O
P	wasn't done, should it have been done before 2015",	P
Q	et cetera.	Q
R	Do you see that series of questions? Then you	R
S	mention, "It is very easy to use 20/20 hindsight".	S
	Have you found it?	В
T	CHAIRMAN: He can't see.	T
U	MR SHIEH: You cannot see? You mean it has disconnected?	U
V	- 212 - Transcript by DTI Corporation Asia, Limited	v

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	[Draft] Pages 54 to 55.	C
D	[Draft] Page 54, at the bottom, around about near	D
E	line number 10, you can see the question:	E
F	"But then the question is, first, why was this not	F
	done"	_
G	Can you see that question?	G
Н	A. Yes.	Н
I	Q. "But then the question is, first, why was this not done	I
J	before the incident came to surface; or, if it wasn't	J
K	done, should it have been done before 2015",	K
L	et cetera.	L
M	Then the answer you gave was:	M
N	"It's very easy to use 20/20 hindsight	N
0	Question: Absolutely.	O
P	Answer: and say that this should have happened.	P
Q	In discussion between both HD and WSD, it was clear	Q
R	that they believed that the procedures that they had put	R
S	in place to prevent the use of lead were working	S
Б	efficiently, therefore suggesting that there would be	S
T	additional and quite complicated steps at that time,	T
U	without having the knowledge of what's happened since,	U
V	- 213 - Transcript by DTI Corporation Asia Limited	V

unreasonable to expect that they would have then gone and checked. It would have been, to an extent, saying that another department is incompetent and therefore we are going to double-check on them, and that's not easy to do."

R

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{v}

V

R

 \mathbf{S}

T

U

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		You see that series of questions and	answers?	C
D	Α.	And that garbled response from me, yes.		D
E	Q.	We get the feel of what you were saying. \(\)	When you refer	E
F		to, "Barriers have been put in place to pr		F
G		of lead", I take it you are referring to	at least the	G
Н	А.	<pre>legal, the contractual requirement? Yes.</pre>		Н
I	Q.	Both in the Housing Authority context and	the building	I
J		context. In the water context, we have t		J
K		Regulations requiring adherence to Briti	sh Standards;	K
11	S	0		IX
L		these are the barriers you refer to, rig	ht?	L
M	Α.	Absolutely.		M
N	Q.	When you say they have been let down, or	"there were	N
0		other parties who clearly did not fulfil	their part in	O
P		the process", you are referring to people	like licensed	P
Q		plumbers who you suggest the primary res	ponsibility	Q
		should fall?		
R	Α.	Yes.		R
S	Q.	I suppose you would also include people	like plumbing	S
T		contractors		T
U				U

- 216 -

 \mathbf{v}

 \mathbf{v}

V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C		mouth not that you are likely to have words put into	C
D		your mouth but if any fault is to be attributed, you	D
E		would not regard the lack of testing at the tap as the	E
F		ultimate point	F
-	Α.	No.	r
G	Q.	the something that you would regard as unreasonable?	G
Н	Α.	I think to say that that was to blame is unreasonable,	Н
I		because the whole process is designed or should be	I
J			J
K		designed to prevent this occurring in the first place.	K
L		If you find it at the tap, it's too late; you have	L
		a problem.	
M	Q.	Whether any omission at an earlier point in time to do	M
N		any checking is blameworthy is another matter?	N
0	Α.	That's totally separate.	0
P	Q.	You have expressed your views and can I just I won't	P
Q		read it out in detail again, but can I ask you to look,	Q
R		for example, at your paragraph 47. I won't use the word	R
S		"blame" but deserving of comment, let me put it in	S
_		a neutral way. Whether one would elevate it to	D
T		a question of blame would obviously be a matter of	T
U		submissions to the Commission.	U

- 218 -

V

 \mathbf{V}

T

U

 \mathbf{v}

 \mathbf{T}

U

V

happened.

Transcript by DTI Corporation Asia, Limited

Q. Thank you. I have got that clear now.

- 219 -

 \mathbf{S}

T

Q. But at the moment, in Hong Kong, there are constraints, because the current statutory regime doesn't actually allow the Water Supplies Department to randomly say to a tenant, "Can I come in and test your tap?"

 \mathbf{S}

 \mathbf{T}

 \mathbf{U}

 \mathbf{v}

U

V

A	食水含	鉛超標調查委員會 2016年2月18日	A
В			В
C	Α.	Yes. It's purely a voluntary system.	C
D	Q.	That is the difference between Hong Kong and some other	D
E		systems that you have seen?	E
F	Α.	Yes. It varies. There are similarities. There are	F
G		countries in Europe who don't have the same right of	G
Н	0.	access. Some systems do legislate for	Н
I	φ.	Oh, yes.	I
J	Q.	coercive entry?	J
K	А.	I wouldn't use the word "coercive" but they have a right	K
L		of entry to take samples.	L L
	Q.	Right of entry for the purpose of testing, yes.	
M	Α.	It doesn't mean that they can turn around and say, "You	M
N		need to be in when we call". Far from it. It's	N
0		arranged. But there are other countries, France for	O
P		example, where socially it is not very acceptable, and	P
Q		so that will not happen.	Q
R	φ.	But all you need, if the will is there to provide for	R
S		to introduce a scheme whereby the authorities could have	S
T		a right to enter for the purpose of testing would simply	Т
U			U

V

V

A	食水含	鉛超標調查委員會	2016年2月18日	A
В				В
C		be some legislative amendment?		C
D	А.	That's correct, and that can be put in var	ious ways so	D
E		that it's not seen as particularly coerci	ve.	E
F	Q.	Thank you. Let me just check.		F
		One last point. Paragraph 47. I think	it's a point	r
G		that Mr Ho raised with you. There is a se	ntence which	G
Н		says:		Н
I		"If staff in the HA are unaware or uns	sure why a	I
J		contractual requirement is included then the	nis should be	J
K		rectified before the contract is let."		K
L	А.	Yes.		L
	Q.	By "rectified", I think what do you me	an by	
M		"rectified"?		M
N	А.	I mean they should understand why and they s	should go out	N
0		of their way to find out why.		0
P	Q.	The reason they need to know why before the	contract is	P
Q		let well, to let the contract simply me	eans to	Q
R		conclude a contract, to grant a contract to	a particular	R
S		contractor?		S
	Α.	Absolutely.		B
T	Q.	The reason is because if you don't know to	he rationale	T
U		behind a clause, you can't actually design	n schemes to	U
v	Transcr	- 222 - ipt by DTI Corporation Asia, Limited		V

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	monitor compliance with that particular clause, to	C
D	prioritise monitoring?	D
E	A. That's right, and you are not in a position to be able	E
F	to ensure that the contractor himself, itself, has in	F
G	place the appropriate steps.	G
Н	MR SHIEH: Thank you very much, Prof Fawell. I have no more	Н
I	questions for you. You can relax and sit back and	I
J	return home. As an avid football watcher, I wish your	J
K	team good luck, except for 2 April this year.	K
L	WITNESS: I realise that.	L
M	CHAIRMAN: Prof Fawell, on behalf of the people of	3.4
M	Hong Kong, may I express our sincere thanks to you for	M
N	your assistance in this Inquiry, both in terms of	N
0	preparation of the two reports and also in testifying in	0
P	these proceedings.	P
Q	With the co-operation of our politicians, hopefully	Q
R	on your next visit to Hong Kong you can see some of your	R
S	recommendations being adopted and implemented here, and	S
T	that we have better and safer drinking water.	Т
U	Thank you very much.	U
v	- 223 -	v

Transcript by DTI Corporation Asia, Limited

A	食水含鉛超標調查委員會 2016年2月18日	A
В		В
C	WITNESS: Thank you very much indeed.	C
D	CHAIRMAN: Do you wish to say something, Mr Lee?	D
E	No. He is no longer a politician; he becomes	E
F	a dodgy lawyer!	F
G	Thank you.	G
Н	石先生:主席,就有少少嘢想匯報,就係聽日就我哋係水務署方面通知 咗我哋,佢哋係會傳召佢哋嘅一位專家證人簡國樑先生。咁就完成咗 簡先生嘅證供之後,水務署就係唔會傳召另外一位證人,雖然另外一	Н
I	位專家證人係入咗一份初步嘅報告。跟住我哋係會回歸到水務署嘅一 啲事實證人,咁就我哋嗰個表遲啲我哋會即係正式出嘅,但係就先後 次序,就遲啲會編排,但係就係會包括黃仲良先生、梁永廉先生,即	I
J	係之前原先諗住 plan 好會傳召嘅水務署嘅事實證人,就係會隨住簡 先生專家證人之後就會傳召。	J
K	主席:咁	К
L	石先生:應該係星期一傳召嘅。	L
M	主席: 咁樣聽日你哋想九點半抑或十點,請問?	M
N	王先生:睇下石大律師需要問幾耐。	N
0	石先生:唔會好耐。	0
P	王先生:咁樣開十點吖。	P
Q	李柱銘先生:如果係上畫完得嘅,就我自己九點半。	Q
R	主席:係,咁我哋聽日九點半先喇。咁就下個星期一就我哋十一點鐘先至 開,因為有啲 personal engagement。咁聽朝早,嗄。	R
S		S
T	2016年02月18日	T
U	下午 4 時 40 分聆訊押後	U
*7		

- 224 -

V

 \mathbf{V}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Thursday, 18 February 2016	C
D	(9.32 am)	D
E	PROF JOHN FAWELL (on former affirmation)	E
	Cross-examination by DR WONG (continued)	
F	(All questions and answers in English)	F
G	DR WONG: Good morning, Prof Fawell.	G
Н	The topic that I would like to explore with you next	Н
I	is your suggestion to add three more chemicals for	I
J	testing in the water sampling.	J
K	A. Yes.	K
L	Q. Let me make it clear first, the stance of the WSD is	L
	that they are very welcome to considering any additional	
M	chemical to be tested. So it's not that we are	M
N	resistant to any suggestions. They are suggestions	N
0	only. Just so there is no misunderstanding on that.	0
P	We would just like to understand the rationale, the	P
Q	basis for inclusion of the three additional metals.	Q
R	First, you suggest the inclusion of zinc.	R
	A. Yes.	
S	Q. If we look at your paragraph 69 in your report.	S
T	A. Yes.	Т
U	Q. There you say that zinc is unlikely to be present unless	U
V	- 1 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		galvanised pipes are present.	C
D	Α.	That's correct. Usually zinc comes from galvanised	D
E		pipe. I know that galvanised pipe was used in the past	E
F		in Hong Kong.	F
G	Q.	In Hong Kong. So in terms of risk assessment, since	G
Н		Hong Kong has not used galvanised pipe for quite some	Н
I		time, in terms of assessing risk for inclusion of	I
J		another heavy metal into the sampling, testing, what is	J
K		your thinking behind the inclusion of zinc?	K
L	Α.	My thinking is that because the galvanised pipes were	L
M		used in the past, that an investigation, in other words,	M
N		for a short while, as samples are being taken, then to	
N		look and see if zinc is present. If zinc isn't present	N
0		in significant concentrations, then it can be dropped.	0
P		But then the WSD have got the information and they are	P
Q		not surmising that zinc may or may not be present; they	Q
R		actually have facts that allow them to say, "We have	R
S		looked and we can show that it's only present in very,	S
		very low concentrations, it's not a problem" and they	
T		can always check also well, they are checking with	Т
U		the raw water, I hope.	U
V	Transor	- 2 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. Yes, perhaps out of an abundance of caution?	C
D	A. Yes.	D
E	Q. Talking about data, you know that Prof Joseph Lee has	E
_	conducted a rather detailed research.	
F	A. Yes.	F
G	Q. One of the parameters that he finds is about the level	G
Н	of copper	Н
I		I
J	A. Yes.	J
K	Q. You know the figures; right? It's at page 173.13	K
L	onwards. If you want to have a look, $V1/173.13$.	L
L	There is nickel, copper, lead, et cetera; right?	L
M	A. Yes.	M
N	Q. As far as lead is concerned, I don't think we have any	N
0	disagreement here that lead is health-based; right?	O
P	That level is health-based; right?	P
Q	A. Yes.	Q
R	CHAIRMAN: The level is?	R
C.	DR WONG: Health-based, the guideline value for copper is	a
S	health-based; right.	S
T	Prof Lee has done a rather detailed analysis by way	T
U	of his sampling protocol.	U
V	- 3 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Right.	C
D	Q. And the level of copper found is less than	D
E	A. It's very low.	E
	Q. It's very low; right?	
F	A. Yes, it's very low. But in the future you would be	F
G	looking at other circumstances, and it may not be the	G
Н	same. I'm not thinking just about these housing	Н
I	estates, but in the future there will be new	I
J	developments, new buildings. There will be private	J
K	buildings, and so on. There are circumstances it's	K
L	almost invariably when the building is new that levels	L
М		3.6
M	of copper can, particularly if they have been standing	M
N	for any length of time, actually get up close to or	N
O	above the guideline value.	0
P	When that happens, it can cause some difficulties.	P
Q	Now, an example would be that I was dealing I have	Q
R	dealt with it in various parts of the world, but in	R
S	a part of England where they have been installing new	S
	copper pipes into schools of course nobody is in the	S
T	school over the weekend, so the pipes the water is	T
U	standing in the pipes. It's quite aggressive water, so	U
V	- 4 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	it could dissolve the copper. And on a Monday morning,	C
D	when the taps were turned on at the drinking fountains,	D
E	at break-time for the children, there were actually very	E
IP.	high levels of copper, enough to make them feel	_
F	uncomfortable and not very well. But that flushed	F
G	through very quickly.	G
Н	It was a case of managing the situation for a few	Н
I	months, and then it settled down and there wasn't	I
J	a problem.	J
K	So it's just being aware that these things can	K
L	happen, because when you have potentially a new	L
_	building, and if people start to report that they are	L
M	not feeling very well, which sometimes happens, for	M
N	a range of reasons, you have information that will tell	N
0	you it's likely to be the water, it's not likely to be	0
P		P
Q	the water, and so on.	Q
R	Q. Okay. Thank you.	R
C	Lastly, about antimony.	G
S	A. Yes.	S
T	Q. If I may invite you to go to C2/1412. That's the WHO	Т
U	document which you are very familiar with.	U
V	- 5 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
С	A. Yes. The WHO Guidelines. Okay. I pretty well know	C
D	that one.	D
E	Q. "Antimony is used in solders as a replacement for	E
	lead"	_
F	A. That was a proposal at one time. That has not happened.	F
G	Q. If that has not happened, your thinking about the risks	G
Н	of antimony to exist in the Hong Kong drinking water	Н
I	system	I
J	A. Well, it hasn't happened. We specifically did	J
K	a guideline because that was a proposal and it was	K
.	important to have available the information so that	
L	judgments could be made. But since then, we also know	L
M	that antimony is seen at low levels in various	M
N	distribution systems, presumably as a contaminant in	N
0	various alloys. Certainly we see concentrations in	0
P	Europe that approach 5-plus micrograms per litre.	P
Q	If it's present, it would be useful for WSD to know	Q
R	whether or not it really is present, and so some	R
S	analysis, in order to determine whether it's found in	S
5		3
T	Hong Kong at the tap, would be valuable.	Т
U	It's not something I'm proposing that would be added	U
v	- 6 - Transcript by DTI Corporation Asia Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	for lots and lots of analysis. But you have the	C
D	capability in the WSD, and the knowledge of the system	D
E	is part of water safety plans.	E
	Therefore, I'm suggesting that Hong Kong these	
F	are found elsewhere Hong Kong should find out what	F
G	sort of levels, if any, of antimony are here.	G
Н	Q. That's a very good and cautious judgment.	Н
I	The last topic I would like to explore with you is	I
J	that you have been referred to a Benchmarking Study of	J
K	Overseas Regulations, which is at C19.6.	K
_	A. Yes.	
L	Q. There's one paragraph in that Benchmarking Study that	L
M	I would like your assistance on. That's paragraph 2.5.3	M
N	on page 14411. That's talking about the practice in	N
0	England, or the UK, about the approval of new plumbing	0
P	work, at page 14411, 2.5.3.	P
Q	A. Yes.	Q
R	Q. The system in the UK, or in England and Wales, is that	R
	whenever there is completion of new plumbing works,	
S	then "TW" is a water company; right?	S
T	A. That's exactly right. This is dependent on the water	T
U	company. This is not a statutory scheme. The companies	U
V	- 7 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	would prefer to have they are in the position that	C
D		D
E	they cannot insist on an approved plumber being used.	E
F	The Water Safe scheme is fairly recent and has been	F
•	promoted by the water suppliers, in the absence of any	F
G	action from government, in order to, to an extent,	G
Н	mirror the scheme in Scotland. They have put together	Н
I	a scheme where there is training and a plumber can be	I
J	approved.	J
K	That's slightly different to Hong Kong, because in	K
L	Hong Kong you have a licensed plumber and then you have	L
_	a whole series of other plumbers. And in the UK, often	L
M	it's all one group.	M
N	Q. In the UK, "approved plumber is used", and then "Taps	N
0		0
P	certificates provided simply needs to be sent to TW with	P
0	a pressure test and chlorination certification	0
Q	(self-certify)."	Q
R	So I want to ask you and to tap on your experience:	R
S	why is it that you need a self-certification by approved	S
T	plumbers, as far as new buildings are concerned?	T
U	A. It's part of the process of making sure that things	U
V	- 8 - Transcript by DTI Corporation Asia, Limited	v

A Annex: Realtime English Transcription based on floor / Simultaneous Interpretation A Commission of Inquiry into Excess Lead Found in Drinking Water Day 57 В В happen, but to minimise the amount of work that's \mathbf{C} \mathbf{C} involved by the water company. The water companies have D D fittings inspection teams, and they have to ensure that \mathbf{E} \mathbf{E} the bylaws -- this is the WRAS scheme -- are being met. \mathbf{F} \mathbf{F} That means inspecting backflow devices, the way the \mathbf{G} \mathbf{G} plumbing is put in, the materials that are used, H H Ι et cetera. I It only goes so far, because of course once you get J J into the house or into a property, they have limited K K powers in that respect. They can insist that anything L L that's used up to the point that it enters the property M M is a particular material, approved material, and they N N can advise within the property, and they do advise, \mathbf{o} 0 because one of the things they don't want is water quality problems occurring because of the materials that P P are used, incorrect materials, and they can say to the Q Q consumer, "Sorry, it's your problem, you used the wrong R R material. It's between either you and your plumber or \mathbf{S} \mathbf{S} you, yourself, to fix it", and they will not be held T T responsible. U U So if somebody did repairs in their house and used V \mathbf{v} - 9 -

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	leaded solder, the water supplier would not be	C
D	responsible for that. So if they found lead in a sample	D
E	of water, and the fittings inspectors have been around	E
	and said, "They have been using leaded solder", the	
F	water company can say, "This has nothing to do with the	F
G	water supply or with the normal piping; we don't have	G
Н	any responsibility for this. We don't have to put in	Н
I	treatment or anything; this is a problem for the	I
J	particular householder."	J
K	So it's a little bit more complex than in Hong Kong,	K
L	but in the UK we don't have the same sort of big public	L
M	housing set-ups that you do in Hong Kong.	M
NT.	nousing see ups char you do in hong hong.	
N	Q. Sure.	N
0	A. And obviously we don't have these very high-rise	0
P	buildings.	P
Q	Q. Sure, sure, sure. This system would rely, would you	Q
R	agree, to a very large extent, on a trust on the	R
_	approved plumbers to certify that? Because they have to	
S	self-certify themselves and the water company	S
T	A. Well, they self-certify on chlorination the pressure	T
U	test and the chlorination. But the plumber has been	U
V	- 10 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	certified beforehand.	C
D	Q. Yes.	D
E	A. So a certified plumber would do the various tests and	E
T.	then send the paperwork to the water supplier. And yes,	
F	they would rely on that certified plumber doing the	F
G	right thing.	G
Н	If the plumber is found not to have done the right	Н
I	thing, then he has two problems. One is his	I
J	certification will be removed by the water supplier, and	J
K	that information will go out that this is no longer	K
L	a certified plumber, which will mean he's going to have	т
L	difficulty getting business. And the second is that his	L
M	clients that he's been working for will be in a position	M
N	that they may well be able to take him to court for	N
0		O
P	breach of contract.	P
Q	DR WONG: Okay. Thank you very much, Mr Fawell. I have no	Q
R	further questions for you.	R
	Cross-examination by MR HO	
S	MR HO: Professor, good morning. I represent the Housing	S
T	Authority.	T
U	A. Yes.	U
V	-11 -	V

A	Annex: R	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into ead Found in Drinking Water Day 57	В
C	Q.	I hope what I'm going to ask you perhaps to a large	C
D		extent is actually pushing some open doors, but do bear	D
E		with me.	E
_		Professor, I have noticed first of all, in your	
F		reports, at different parts of your report, you have	F
G		actually used terms like "Housing Authority" and	G
Н		"Housing Department". Now, I don't know if this is	Н
I		an intended distinction, because the report actually	I
J		talks about roles and responsibilities of various	J
K		parties. I don't know whether, in so doing, you are	K
L		making a conscious distinction or whether in fact the	L
		terms are quite interchangeable?	_
M	Α.	They are largely interchangeable.	M
N	Q.	Right.	N
0	Α.	When I visited, in talking to people from the Housing	O
P		Department, they were using the terms "Housing	P
Q		Department" and "Housing Authority" reasonably	Q
R		interchangeably.	R
S			S
T	Q.	Sorry. I just want to make sure there's nothing,	
T		difference in terms?	T
U	А.	Yes. It wasn't very clear, the differentiation, and	U
V	Transcrij	- 12 - pt by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on	floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water	Day	57 B
C	I wonder whether in ma	ny respects there is a need fo	or C
D	that differentiation,	just how important it is.	D
E	Q. Probably not. I just	want to make sure that	E
_	I understand the situa	tion.	
F	The one aspect that	t I want to try and ask you to	F
G	elaborate a little bit	upon is the part where you ta	G
Н	about the concept of w	ater safety plans.	Н
I	May I direct your a	ttention to paragraphs 35 and	36 I
J	of your report, please		J
K	A. Yes.		K
L	Q. Towards the middle of p	paragraph 35, you were referring	ng L
	to:		2
M	"The concept of wate	er safety plans was introduced	M
N	order to encourage a p	roactive preventive approach	to N
0	managing risks to drin	king water from the catchment	to O
P	the point at which con	sumers receive their drinking	P
Q	water"		Q
R	And you use the ter	rm "source to tap approach".	R
g.	A. Absolutely.		
S	Q. There is a helpful ref	erence to one of the papers -	S -
T	I will take you to tha	t in a moment but if I may	Т,
U	just for the time being	, go to your next paragraph.	In U
v	Transcript by DTI Corporation Asia, Limited	- 13 -	V

A	Annex: Rec	ltime English Transcription based on floor / Simultaneous Interpretation	A
В		n of Inquiry into d Found in Drinking Water	Day 57 B
C			C
D	p	aragraph 36 you say water safety plans require sev	eral D
E	t	hings. I pick up the key words here as being, or	ne, E
	S	ystem assessment	
F	A. N	Im-hmm.	F
G	Q	- from catchment to tap; two, identification of	G
Н	h	azards.	Н
I	Α. Υ	es.	I
J	Q. T	hree, assessment of risk; and following, in line	5 J
K	С	nwards, then recommendations of supporting activi	ties K
L	S	uch as ensuring materials in contact with drinki	ng L
	W	ater do not cause degradation of the quality of	the
M	s	upply. So supporting activities there.	N
N	A. F	aight.	N
0	Q. I	oo I understand that these are sorts of concepts	or C
P	t	erms actually used in that paper, which I go bac	k to P
Q	У	our paragraph 35 at the end in fact, those are	the
R	S	orts of thinking incorporated in that paper?	F
	Α. Υ	es.	
S	Q. E	asically, your summary your paragraph 36 is	S
T	а	summary of the things in that paper, isn't it?	Т
U	Α. Υ	es.	U
v		- 14 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С	Q.	May I take you to the paper then?	C
D	Α.	Right.	D
E	Q.	It's in bundle A3, and chapter 4 page 1687, please.	E
F		I don't think counsel for the Commission has	F
G		actually taken you to this paper when you went through	G
Н		the report in some detail. So if you would bear with	Н
I		me	I
J	Α.	Yes, that's right.	J
K	Q.	let me try and take you through this paper.	K
L	Α.	Yes.	L
M	Q.	Now, page 1687, that's the chapter 4, on water safety	M
N	71	plans.	N
0	Α.	<pre>It is. That's your "source to tap" approach?</pre>	0
P	Α.	Yes.	P
	Q.	If I may ask you to look at page 1687, just the head	
Q		under that chapter. Basically, the first paragraph	Q
R		says well, if I understand correctly, these water	R
S		safety plans are basically risk managements?	S
T	Α.	Yes.	Т
U	Q.	Basically, it's to identify risk, identify hazards,	U
V	Transcr	- 15 - ript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		identify how to control these risks, control these	C
D		hazards, and then have a management plan for	D
E	Α.	Absolutely. You identify what the hazards are. You	E
F		assess the risks that those hazards will cause problems.	F
G		Then you have plans and steps in place that will either mitigate or manage the risks.	G
Н	Q.	Right. There seems to be, as a layman reading this	Н
I		paper, to be a very helpful figure at the next page,	I
J			J
K		1689.	K
L	Α.	Yes. Mmm	L
	Q.	This sort of flowchart really, for me, it summarises	L
M		what this chapter is about.	M
N	Α.	Yes. It was intended to do that. You have to be	N
0		careful not to be too rigid about this.	0
P	Q.	No.	P
Q	Α.	We have had some difficulties with it. You've got to	Q
R		remember that this is written by experts, and experts	R
S		are not always the best communicators.	S
	Q.	You must be the exception, if I may say so.	
T		But by and large, what I get from this figure,	Т
U		following the direction of the arrows, what you have is,	U
V	Transcr	- 16 - ript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		for example, you first assemble the team	C
D	Α.	Yes.	D
E	Q.	to prepare these water safety plans.	E
F		Skipping the documentation part, because it comes	F
		back right at the end and it comes back in a circle, but	-
G		skipping that for the time being, then this team, in the	G
Н		third box, they are supposed to do a hazard assessment;	Н
I		identify risks, basically the risk assessment approach;	I
J		characterisation of these risks.	J
K		I suppose then "characterisation" meaning, "Is the	K
L		risk high or low or what?"	L
Z	Α.	Absolutely.	L
M			M
N	Q.	"Can we ignore this for the time being, due to resource	N
O		considerations", all that?	0
P	Α.	Yes, prioritisation and so on.	P
Q	Q.	Prioritisation and all that.	Q
R		Then, moving down to the fifth box, another bold	R
		highlight is "control measures". Having identified	
S		risk, then you identify what are the control points and	S
T		how can we	T
U	Α.	Absolutely.	U
V	Transcr	- 17 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Assion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	effectively address the risk.	C
D	Α.	Absolutely.	D
E	Q.	In those two boxes I will take you to the relevant	E
T.		parts in a moment, because on the right-hand side you	_
F		see a reference to section 4.1 and 4.2, those two	F
G		references.	G
Н		But if I may just move down that chart for the time	Н
I		being, there you have a box for monitoring, you have	I
J		a box for verification. I suppose that's your control,	J
K		verification, to see if the control measures are	K
L	Α.	Yes. The verification is making sure that your control	L
		measures are working.	
M	Q.	That's right.	M
N		Then lower down that box you come to "supporting	N
0		programmes".	0
P	Α.	Yes.	P
Q			Q
R	Q.	If I may just read out also the words in brackets:	R
C		"(eg, training, hygiene practices, standard	G.
S		operating procedures, upgrade and improvement, research	S
T		and development, et cetera)."	T
U		There is more elaboration on that in section 4.4.	U
${f v}$	Transcr	- 18 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation		A
В		ssion of Inquiry into Lead Found in Drinking Water	Day 57	В
C		I will take you to that in a moment.		C
D	Α.	Yes.		D
E	Q.	Then "Prepare management procedures", and then		E
F		"Documentation", and then coming back to the		F
•		documentation in the first place.		Г
G		Now, I will ask you about supporting program	me in	G
Н		a moment, but perhaps I leave that for the time k	eing,	Н
I		because first I may want to go to 4.1, first.		I
J		If you turn over the page to 1690.		J
K	Α.	Yes.		K
L	Q.	Now, this is your sorry, not "your" but the	nis is	L
		the hazard assessment and risk characterisation	part,	_
M		another part?		M
N	Α.	Yes.		N
0	Q.	4.1, the first paragraph says this:		O
P		"The first stage in development [the water s	afety	P
Q		plan] is to form a multidisciplinary team of exp	erts	Q
R		with a thorough understanding of the drinking wa	ıter	R
S		system involved. Typically, such a team would in	ıclude	C
S		individuals involved in each stage of the supply	of	S
T				T
U		drinking water, such as engineers, catchment and	water	U
V	Transcr	- 19 - ipt by DTI Corporation Asia, Limited		V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	managers, water quality specialists, environmental or	C
D	public health or hygienist professionals, operational	D
E	staff and representatives of consumers. In most	E
T.	settings, the team will include members from several	_
F	institutions, and there should be some independent	F
G	members, such as from professional organisations or	G
Н	universities.	Н
I	Effective management of the drinking water system	I
J	requires a comprehensive understanding of the system,	J
K	the range and magnitude of hazards"	K
L	Perhaps I will come to that in a moment. But coming	T
L	back to the first paragraph, this multidisciplinary team	L
M	of experts now, I can see that the first few	M
N	categories, these of course all have their own	N
0	expertise, like engineers or hygiene professionals,	o
P	water quality specialists and so on?	P
Q	A. Yes.	Q
R	Q. These are highly specialised experts?	R
c	A. Reasonably specialised, yes.	G.
S	Q. "Reasonably specialised". And the whole purpose is to	S
T	actually tap on their expertise here?	Т
U	A. Absolutely. It's essential.	U
V	- 20 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	Yes, and because of that expertise, they would be able	C
D		to identify where the risk is, where the hazards are,	D
E		and so on?	E
F	А.	Yes, and it's important that they have practical	F
G		involvement, because there's no point in having a	G
Н		totally theoretical water safety plan. We've got that	Н
I		here. What they need is something which is practically	I
J		delivered.	J
K	Q.	Yes.	K
L	Α.	So they will have knowledge of the system as it is	L
M	Q.	operated. Right. Now, then it brings me to the composition. Then	M
N		you have an element of consumer there.	N
0	Α.	I think I know where you are going.	0
P	Q.	Not necessarily.	P
Q	Α.	I hope you are going down this way because I have some	Q
R		quite strong views on it.	R
S	Q.	You do?	S
T	Α.	Yes.	T
U	Q. A.	Perhaps you'd mind sharing with us? I commented in the report that I was concerned about	U
V		-21 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	it wasn't clear how many external stakeholders from WSD	C
D	had been involved in developing the water safety plans.	D
E	I would regard the Housing Department as one of the	E
T.	key stakeholders for the part or for knowledge of the	-
F	systems within buildings, and although it's very	F
G	difficult for a water supplier to produce a water safety	G
Н		Н
I	plan for covering every single building, it's very	I
J	important that there is an input, with knowledge about	J
K	the types of buildings, what's in the buildings, how	K
L	they are operated, how they are managed, et cetera.	L
	Q. Yes.	
M	A. And from what I've seen of Hong Kong in the UK, we	M
N	would have a number of groups, but particularly the	N
0	environmental health officers, who are local authority	0
P	people, and they've got responsibility for the health	P
Q	side of the buildings. In Hong Kong, it appears to me	Q
R	that the Housing Department are actually very well	R
C	placed to provide a focus for that particular part of	a
S	the process, and it is important to be aware of what	S
T	will happen within the buildings.	Т
U	That doesn't mean that WSD suddenly get a massive	U
V	- 22 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	increase in what they've got to do, but they need to	C
D	understand that part and work with those stakeholders	D
E	who are responsible for the buildings.	E
F	Q. Yes. Essentially, the experts would of course then	F
G	contribute to their expertise, to devise first of all, to identifying hazards, telling us characteristics	\mathbf{G}
Н	of particular risk, high/low, something that you need	Н
I	to	I
J	pay a lot of attention to or something that you can	J
K	basically put aside for the time being.	K
L	A. Yes.	L
M	Q. And then introduce control measures. But then I agree	M
N	with you to the extent that of course then you need the	N
0	users' perspective, which of course injects a degree of	0
P	practicality to the whole exercise. You don't want just	
	very high-level experts	P
Q	A. No, no. It has to be much more detailed than that	Q
R	Q. On the ground?	R
S	A otherwise it	S
Т	Q. Something that can be A. Yes, because otherwise it's not going to achieve	Т
U	,	U
V	- 23 - Transcript by DTI Corporation Acia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		anything.	C
D	Q.	That's where the users' contribution would be most	D
E		useful?	E
	Α.	It would indeed.	
F	Q.	Yes.	F
G	Α.	And we've operated like that in a number of countries.	G
Н	Q.	Yes.	Н
I	Α.	Including ones where we don't have piped water supply	I
J		actually to taps in houses, where you've got external	J
K		systems, and it still works in fact even more	K
L		important in many respects there. But there are	L
		different ways of doing it and I have made	
M		recommendations in here about building management plans,	M
N		which I would see as being particularly for the public	N
0		housing, but I think Hong Kong has to look and see how	O
P			P
Q		this would apply to private systems as well, but	Q
R		building management plans, as effectively the landlord,	R
C		for building managers to operate.	
S		For example, we have an issue of the potential for	S
T		Legionella, and that is very important that that is	T
U		managed properly.	U
V	T	- 24 -	V

A
В
C
D
E
F
G
Н
I
J
K
L
M
N
0
P
Q
R
S
Т
U
v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	Yes.	C
D	Q.	And there is of course the users' perspective, to ensure	D
E		that when something is devised or even discussed, that	E
TC.		is something that works on the ground and not something	
F		up in the air	F
G	Α.	Absolutely.	G
Н	Q.	or theoretical, and so on?	Н
I	Α.	Yes.	I
J	Q.	So the contribution of these different people on that	J
K		committee is different?	K
L	Α.	Yes. They are not actually going to be normally	L
L		well, there may be people who are operating the system.	L
M		It just depends how it's done. It can vary under	M
N		different circumstances. It does mean that it provides	N
0		an opportunity for the different groups to actually	0
P		communicate.	P
Q	Q.	Yes.	Q
R	Α.	And for example the current situation that we've had in	R
c		Hong Kong may have been avoided if there had been that	
S		sort of communication between the different departments.	S
T		I understand it's difficult, in different set-ups,	T
U		and where you've got two different departments, separate	U
V	Transcr	- 26 - ipt by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	departments, government departments, then sometimes	C
D	getting those departments to be able to talk together is	D
E		E
F	difficult, and I am painfully aware of the shortfall in	F
G	the United Kingdom, where sometimes our government	G
Н	departments will not communicate with each other.	Н
I	Q. This is perhaps something I will explore with you at	I
J	a later stage. But I notice you use words like	T
J	"department". But anyway, this is perhaps where HD and	J
K	HA may have a difference.	K
L	A. Yes.	L
M	Q. But I understand what you say.	M
N	May I move on then to the second paragraph.	N
0	Basically, there it talks in terms of hazards	O
P	A. Yes.	P
	Q as you see in the first sentence, "range and	
Q	magnitude of hazards that may be present and the ability	Q
R	of existing processes and infrastructure to manage	R
S	actual or potential risks". Then the last part of that	S
T	paragraph:	T
U	" the first step in developing a WSP is the	U
v	- 27 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	collection and evaluation of all available relevant	C
D	information and consideration of what risks may arise	D
E	during delivery of water to the consumer."	E
F	A. Yes.	F
G	Q. So again very much a focus on risk and identification of	G
Н	hazards.	Н
I	A. Yes.	I
J	Q. Over the page, in the box, at the top again, the same	J
K	point, isn't it?	K
L	A. It's exactly the same, yes.	L
M	Q. Risk management, hazard identification, identification	M
N	of hazardous events and risk. Again, basically the same	N
O	point?	0
P	A. Yes.	P
0	Q. Then the first sentence after the box:	
Q	"Assessment of the drinking water system supports	Q
R	subsequent steps in the WSP in which effective	R
S	strategies for control of hazards are planned and	S
T	<pre>implemented."</pre>	Т
U	Now, of course this now goes into a little bit about	U
V	- 28 - Transcript by DTI Corporation Asia Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		control after the identification of risk.	C
D	Α.	Yes.	D
E	Q.	Right. But of course in this section, 4.1, if I again	E
T.		come back to some key points there, basically it's	_
F		identification of hazards, identification of risk,	F
G		assessment of that risk, and characterisation?	G
Н	Α.	Identify the hazards and assess the risks.	Н
I	Q.	Assess the risks.	I
J	Α.	You don't need to identify the risks. If you have	J
K		a hazard there, you need to understand what the risk is,	K
T		and that risk could be a risk to health, it could be	
L		a risk of exceeding a drinking water standard or	L
M			M
N		a guideline.	N
0	Q.	Yes.	0
P	Α.	There are a number of things it could be something	P
Q		that will cause taste and odour or something, so that	Q
R		consumers would not find the water acceptable.	R
	Q.	Yes. Then characterising that risk?	
S	Α.	Yes. At this stage, you would be wanting to record what	S
T		barriers, what processes were there, if they were	T
U		physical. So if you've got further up the system,	U
v		- 29 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	you've got water treatment in place, then that's part of	C
D	what you are recording within the system.	D
E	So when we come to buildings, you have requirements	E
F	for non-return valves, et cetera. So that's part of the	F
G	overall recording of the system.	G
Н	When it comes to recording how things operate,	Н
I	diagrams of the system in buildings, that obviously	I
J	becomes a lot more complex, and it actually is quite	J
K	beneficial to have where you've got somewhere like Hong Kong, where you've got buildings that are so large,	K
L	to have an idea of how those buildings operate, how the	L
M	distribution system operates, et cetera.	M
N	Q. Your last point would be that somehow this body of	N
0	representatives would be best positioned to actually	0
P	assess that?	P
Q	A. It would	
		Q
R	Q. To look into it?	R
S	A. There would be somebody who would have expertise who would bring that to the table.	S
T	Q. Right. May I move on to 4.2 now. This is about control	Т
U		U
V	- 30 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
С	of the risk and hazards.	C
D	At page 1707.	D
E	A. When you go through this, you realise just how long	E
	these documents are.	2
F	Q. Indeed, it doesn't make it easier for anybody,	F
G	administrators, to actually go through this document.	\mathbf{G}
Н	A. I will take that message back to the WHO.	Н
I	Q. But the flowchart is very helpful though.	I
J	Anyway, under the box in 4.2, you have this	J
K	sentence:	K
L	"The objectives of operational monitoring are for	L
L	the drinking water supplier to monitor each control	L
M	measure in a timely manner to enable effective system	M
N	management and to ensure that health-based targets are	N
0	achieved."	O
P	The point that I pick up from that paragraph	P
Q	here, it certainly put the emphasis on the drinking	Q
R	water supplier to monitor?	R
C.	A. Yes, but this is monitoring, the operational monitoring,	
S	the barriers that have been put in place, and it's not	S
T	just the water supplier, because it's recognised that	Т
U	it	U
v	- 31 - Transcript by DTI Corporation Asia Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	may not be within a water supplier's control. So maybe	D
E	somebody else has got to do that.	E
F	What's important is there's some co-ordination.	T2
r	Q. Right.	F
G	A. That is really important.	G
Н	Q. Right. I do understand the engagement of stakeholders,	Н
I	which you mention several times in your report. I do	I
J	understand that.	J
K	But here, for example, I take it that the emphasis	K
L	put on the drinking water supplier is that this is the	L
L	authority or the department that should take the lead?	L
M	A. They should take the lead.	M
N	Q. Yes.	N
0	A. But it's recognised that the sorts of barriers and	0
P	operational controls within buildings are not usually	P
Q	under the control of the supplier. So a lot of this	Q
R	relates to the way that the treatment works are	R
a	operated, the way the distribution system is operated.	
S	Q. Yes.	S
T	A. So you've got to be careful not to overinterpret this	T
U	all the way through to the tap.	U
V	- 32 -	\mathbf{v}

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С	Q.	Yes.	C
D	Α.	But the principles are still there.	D
E	Q.	Yes.	E
F		I then look at 4.2.1 and 4.2.2: laying down control	F
G		measures, to address the nature of hazards and magnitude	G
Н		of the associated risk; 4.2.1, still, in the second	Н
I		paragraph:	I
J		"Control measures should reflect the likelihood and	J
K		consequences of loss of control."	K
L		4.2.2:	L
M		"The parameters selected for operational monitoring	M
		should reflect the effectiveness of each control	1 V1
N		measure"	N
0		So it's still part of that philosophy of, having	0
P		identified risk, then you put in the control measures	P
Q		and you put in the parameters, you select your	Q
R		parameters to address the risk by way of these control	R
S		measures, to make it effective?	c
	Α.	Yes. You put in a control measure, and the operational	S
T		parameter is telling you it's how you monitor the	Т
U		system that you've put in place, the barrier you have	U
V	Transcr	- 33 - ipt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	put in place, is operating, and it can be a whole range	C
D	of different things.	D
E	If we take a very simple example outside of	E
TC.	a building, if we have a small supply in a developing	
F	country, and they have a well, and animals can access	F
G	that well, you put a fence around it to prevent	G
Н	So the operational monitoring is checking that the	Н
I	fence is operating, is there, intact, and that somebody	I
J		J
K	shuts the gate all the time. It can be as simple as	K
L	that. Or it can be at complex as looking at, as	
L	I mentioned yesterday, continuous monitoring of	L
M	turbidity on filters in a treatment works.	M
N	Q. I presume all these operational issues, for example,	N
0	like shutting a gate, the fence to a well this sort	0
P	of thing would have been discussed in that rather	P
Q	high-level, multidisciplinary committee, to set up to	Q
R	address or to devise the water safety plan?	R
S	A. Yes, but it's not so high-level, because you have	S
T	practical people involved.	T
U	Q. Right.	U
v	- 34 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	If you don't have practical input, then invariably it's	C
D		likely to become very rarefied and not very real. The	D
E		key thing about water safety plans is they've got to be	E
		real and	
F	Q.	Practical?	F
G	Α.	they've got to deliver practical benefits.	G
Н		That's an interesting one for buildings, but you	Н
I		have to have people who understand the buildings, to be	I
J		able to devise sensible ways of doing this.	J
K	Q.	At the moment, I'm still sort of discussing this in	K
L		a rather abstract manner, because obviously this paper	L
		can only talk about, you know, things that are more	
M		abstract, because it's meant to be read by not just	M
N			N
O		Hong Kong people or Hong Kong circumstances	0
P	Α.	This is the whole world.	P
Q	Q.	Yes, a much broader audience here. So at the moment I'm	Q
R		still sort of exploring with you the philosophy behind	R
		this.	
S		Perhaps in a moment maybe we can get down to	S
T		something more specific.	T
U		But if I may turn now to the supporting programme.	U
v	T.	- 35 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation		A
В		ssion of Inquiry into Lead Found in Drinking Water	Day 57	В
C	Α.	Yes.		C
D	Q.	You see further down that flowchart		D
E	Α.	Yes.		E
F	Q.	you have a section of developing supporting		F
r		programmes.		r
G		First of all, I note, in your report just	now,	G
Н		when I was reading to you paragraph 36, you did us	e the	Н
I		words "supporting activity".		I
J	Α.	Supporting programme.		J
K	Q.	In paragraph 52, at page 111 of your report		K
L		paragraph 52, that's the head.		L
	Α.	Yes.		
M	Q.	The second line, going on to the third line, you se	e you	M
N		have also used the term:		N
0		"Supporting programmes would include systems	for	0
P		ensuring that only appropriate materials are used	both	P
Q		in terms of approval and ensuring that only appr	oved	Q
R				R
S		materials and chemicals that meet the appropriat	е	S
Т		quality criteria are used."		Т
		So you also use the term "supporting activity	", or	
U		"programme", it doesn't really matter; it seems	it's	U
V	T	- 36 -		V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		referring to the same thing?	\mathbf{C}
D	Α.	Yes. It's pretty well interchangeable.	D
E	Q.	But you put the control of materials as a supporting	E
		programme?	
F	Α.	Yes.	F
G	Q.	If I may ask you to look at a supporting programme.	G
Н		Page 1721. 4.4.5 do you see that?	н
I	Α.	Yes.	I
J	Q.	Now:	J
K		"Many actions are important in ensuring drinking	K
L		water safety but do not directly affect drinking water	L
L		quality and are therefore not control measures. These	L
M		are referred to as 'supporting programmes' and should	M
N		also be documented in a WSP.	N
0		Supporting programmes could involve "	O
P		And it is the second bullet point that perhaps is of	P
Q		relevance to us, the second and fourth:	Q
R		" developing verification protocols for the use of	R
S		chemicals and materials in the drinking-water supply -	
J		for instance, to ensure the use of suppliers that	S
T		participate in quality assurance programmes".	T
U			U
v	Tuons	- 37 -	${f v}$

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С		Then the fourth point:	C
D		" training and educational programmes for	D
E		personnel involved in activities that could influence	E
		drinking water safety"	L
F	Α.	Yes.	F
G	Q.	You put the control of the materials as a supporting	G
Н		programme rather than a control measure. Is there any	Н
I		reason for that?	I
J	Α.	Well, it's one of these things that can fall into either	J
K		category.	K
L	Q.	But you chose support programme in two places in your	L
_		report?	L
M	Α.	It can go in two places, but it's not actually part of	M
N		the supply process.	N
0	Q.	Okay.	0
P	Α.	So it's slightly to one side, and although in many	P
Q		respects it's a control measure, there is a programme	Q
R		involved with it. So it's not just a straightforward,	R
S		"We've put a treatment step in here and we chlorinate."	G
S		It's not like that. You have a whole series of steps	S
T		and you have a programme that's involved in actually	T
U		approving the materials, listing the approved materials,	U
v	Transcr	- 38 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	and so on. The control measure is making sure that the	C
D	appropriate chemicals and materials are used.	D
E	Q. Yes. Sorry, I interrupted you there.	E
F	A. Yes, yes.	F
G	Q. But let me see if I understand you correctly, or try and	G
Н	see if this really is the philosophy.	Н
I	Of course, if we talk about training and educational	I
J	programmes, these are support programmes I mean, by	J
K	the very nature, training, for example if you strengthen	K
L	the training of the plumbers, this is an important	L
M	aspect of the support programme?	M
141	A. Yes.	1V1
N	Q. You make them knowledgeable about the importance of the	N
0	correct use of materials, that's an important part, but	0
P	it is a support programme?	P
Q	A. Yes.	Q
R	Q. Whether or not you elevate certain things to a control	R
S	measure say, for example, if in the first stage, your	S
	high-level sorry, I keep using the word	S
T	"high-level" your multidisciplinary committee	T
U	identifies a risk, and this is a material risk, there	U
V	- 39 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	is	\mathbf{C}
D	a hazard in it, then you may want to say, "Certain parts	D
E	of the monitoring programme should be a control	E
F	measure", but otherwise, for example, like the normal daily ensuring of correct materials are used may well	\mathbf{F}
G	be	G
Н	a support programme. So you have to identify the risk	Н
I	first.	I
J	A. Right. You said "monitoring" what do you mean by	J
K	"monitoring"? Because "monitoring", it can fall into	K
L	we use "monitoring" very loosely, and the definition of	L
M	"monitoring" really relates to what you are trying to	M
N	achieve. So there can be investigative monitoring, but	N
0	I'm suggesting some investigative monitoring for metals	O
P	in here, where they will be examined, we will look to	P
Q	see whether they are present, and so on. So we gain	Q
R	information from there. Q. Yes.	R
S	A. There's operational monitoring, such as we've talked	S
T	about making sure the gate is shut and so on. Then	Т
U	there can be verification monitoring.	U
v	- 40 -	v
•	- 40 - Transcript by DTI Corporation Asia Limited	•

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С		Now, are you talking about verification	C
D	Q.	I'm talking about perhaps the process.	D
E	Α.	Right.	E
	Q.	You start with, say for example, material monitoring.	L
F	Α.	Right.	F
G	Q.	You have introduced different parameters you have	G
Н		suggested additional parameters	Н
I	Α.	Yes.	I
J	Q.	as means of the monitoring, then operational and	J
K		verification.	K
Ŧ	Α.	Yes.	
L	Q.	But even the first layer, first item of monitoring, that	L
M		of course is dependent on the risk assessment in the	M
N			N
0		first place?	O
P	Α.	Yes, and clearly a risk assessment had taken place,	P
Q		because Hong Kong has recognised that lead was	Q
R		a problem, and lead solder and high lead copper alloy	R
S		fittings are not permitted for use. So you have that in	
5		place. So there's a risk assessment, and the risk	S
T		assessment says that this is likely to be a problem.	T
U		You then have taken steps you have a control	U
v	Transcr	- 41 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		measure in place. That control measure is that you	C
D		don't use these.	D
E		The Housing Department have that control measure	E
		stated in their contracts.	
F	Q.	Yes. That's right.	F
G	Α.	Where the problem has come has been the operational	G
Н		monitoring that that's actually working. I understand	Н
I		that can be quite complicated, but that's where it's	I
J		broken down.	J
K	Q.	This is where it comes back to, I think, one of your	K
L		answers yesterday. You were impressed about the fact	L
		that Hong Kong has been able to put up all of these	_
M		high-rise buildings.	M
N	Α.	Yes.	N
0	Q.	I think you mentioned it a couple of times.	O
P	Α.	Yes.	P
Q	Q.	I think you did say at one stage that it takes your	Q
R			R
g.		breath away or something like that, to that effect.	
S	А.	Yes. It is very impressive, having visited the	S
T		buildings.	T
U	Q.	Also I think one or two places you say this is a very	U
V	Transcr	- 42 - ipt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	unique situation, in Hong Kong. Certainly the	C
D	buildings, the putting up of these buildings, is	D
E	a complicated procedure. You have lots of procedures,	E
F	lots of different aspects of the construction work to	F
r	look after, and so on and so forth.	r
G	Now, I don't want to rehearse everything that you	G
Н	said yesterday, but in essence you did say at one point,	Н
I	though, that perhaps people have taken their eyes off	I
J	the ball?	J
K	A. Yes.	K
L	Q. That's an expression you used yesterday.	L
L	A. Yes. That's exactly the expression I used yesterday.	L
M	Q. That is where the risk assessment and then the	M
N	highlighting of this the reiteration of this risk	N
0	comes in.	0
P	A. Not quite. I understand what you are saying, but that's	P
Q	not quite correct, because nothing had changed,	Q
R	basically. Nothing had changed. So the iterative	R
g	process is something has changed and therefore you go	
S	back to the beginning. Nothing had changed. Lead was	S
T	still a problem, if you put it in.	T
U		U
V	- 43 - Transcript by DTI Corporation Asia Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. Yes.	C
D	A. What the failure was was at the point of the operational	D
IF.	monitoring. So one has to say, "Okay, if we are going	_
E	to fix this we are not actually going all the way to	E
F	the beginning; we need to make sure that our operational	F
G	monitoring is both practical and effective."	G
Н	Q. Right, but also that of course requires somebody with	Н
I	his eye on the water quality rather than on the	I
J	construction aspect of the project?	J
K	A. Yes, yes, absolutely.	
K	CHAIRMAN: Well, it's not mutually exclusive.	K
L	A. No, no, it's not.	L
M	MR HO: But I think what you say you do say that	M
N	of course people putting up these high-rise buildings	N
o		o
P	you know, their concern or their main concern was that	P
0	these buildings don't fall down. You say that, in	
Q	a way	Q
R	A. I did. We had a conversation about that when I visited	R
S	the buildings.	S
T	Q. In conjunction with your comment that people might then	Т
U	have taken their eyes off the ball, then would you say,	U
V	- 44 -	v
•	- 44 - Transcript by DTI Corporation Asia Limited	•

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	"In that case, these are people who are primarily	C
D	concerned with functionality of a construction process,	D
E	but there must be somebody who should look after another	E
F	aspect, like water quality"?	F
G		G
Н	A. Absolutely. There needs to be somebody who is aware of	н
11	water quality.	п
I	Q. Yes.	I
J	A. The way that it's been set up, it would appear that that	J
K	should fall to the licensed plumber.	K
L	Q. Yes.	L
	A. That's the logical person.	
M	Q. I'm coming to that, in fact. But this is the present	M
N	set-up. Now, of course we can talk about how to improve	N
o	on the present set-up	0
P	A. Yes.	P
Q	Q but this is the set-up before the incident has come	Q
R	to light, and probably now is in the process part of	R
	the terms of this Commission is to see how to improve	
S	on	S
T	the system.	T
U	But the present set-up is that, yes, there are lots	U
V	- 45 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	of people engaged in the construction of these very	C
D	impressive units. You have a developer, you have	D
E	architects, you have building services engineers, you	E
F	have main contractors, you have licensed plumbers. Now,	F
r	I haven't mentioned WSD. But certainly, if somebody	r
G	were to raise the awareness of this construction	G
Н	industry to not just look at the functionality of your	Н
I	building process but also pay some attention to water	I
J	quality and an assurance there, WSD must have a role?	J
K		K
L	A. They certainly do. They should be the experts on water	
L	quality and they should be treated as the experts on	L
M	water quality.	M
N	Q. In this, I say the process of construction, WSD cannot	N
0	say, "I don't have a role there"?	O
P	A. No, they can't say that it's nothing to do with them,	P
Q	because they understand about water quality.	Q
R	Q. They are the person who should be looking at water	R
a	quality?	_
S	A. They have expertise, and they can advise.	S
T	Q. Yes.	T
U	A. So they have an advisory role. And the system in	U
V	- 46 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Hong Kong is a little vague when it comes to this area,	C
D	between the two sides.	D
E	Q. I will take you to that in a moment. Yes. But you do	E
	agree that certainly they have a role?	15
F	A. Yes.	F
G	Q. In raising the alarm, because they are the ones who look	G
Н	at water quality?	Н
I	A. That's a difficult one, because as written down at the	I
J	moment, they are responsible for water quality up to the	J
K	point that the water goes into the building. Their	K
L	expertise is such that they ought to be able to advise	т
L	that there may be issues within buildings.	L
M	Q. Yes.	M
N		N
O	A. And to speak to the HD about that.	0
P	Q. Yes.	P
Q	A. Now, their position might well be that there is	Q
R	a process in place, in terms of approved materials.	R
g	Q. I am grateful for your last answer, because you say that	
S	they have the expertise to advise.	S
T	A. Yes.	T
U	Q. Now, whether or not they did and whether or not the	U
V	- 47 -	\mathbf{v}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	present water safety plans do take care of that, that's	C
D	a matter I will come to in a moment.	D
E	A. Okay.	E
L	Q. But I think your premise is that whether or not they are	L
F	actually doing it, they do have the expertise to do it,	F
G	if they wanted to?	G
Н	A. That is likely, in Hong Kong at the moment, to be the	Н
I	source of expertise.	I
J	Q. Yes.	J
K	A. Because they deal with water quality.	K
L	Q. Indeed. They are the person in this development	L
L	project, where most people would be more concerned with	L
M	functionality, they are the ones to actually raise	M
N	an alarm bell. If there is an alarm bell somewhere	N
0	about water quality, that's where they should come in?	0
P	A. Yes. They should be consulted about that. Then the	P
Q	question is how does that consultation take place.	Q
R		R
S	Q. Yes. Then we come back to the water safety plans and so	S
T	on, and that philosophy.	T
U	A. Yes.	U
V	- 48 - Transcript by DTI Corporation Asia, Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	May I now take you to the water safety plans that we	C
D		actually had before the incident, and now, it seems,	D
E		after the incident has come to light.	E
	А.	Right. Where are we?	
F	Q.	Before that perhaps, sorry, I want to take you to one	F
G		matter first, before I come to water safety plans. May	G
Н		I ask you to go to your paragraph 63, because this is	Н
I		one part that I may have to ask you to elaborate.	I
J		Paragraph 63 first, you have been taken to their	J
K		meetings, the first working group meetings on the	K
L		Development and Implementation of Water Safety Plans of	
L		28 February 2005. Yesterday we looked at that.	L
M	А.	(Nodded head).	M
N	Q.	This is where they say somebody has mentioned that	N
0		they do have indirect control of systems	0
P	Α.	Yes.	P
Q	Q.	in private buildings, in private premises. I think	Q
R		your evidence yesterday is that due to the time	R
g.		constraints you could not actually ask further and probe	
S		further what that actually meant.	S
T	Α.	Yes.	T
U	Q.	But in fact, this is 2005, this meeting, and in 2006 we	U
V	Transcr	- 49 - ript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	do actually have the water safety plans from sorry,	D
E	I don't say "we" because they are not published the	E
.	Water Supplies Department did produce a water safety	_
F	plan, and if I may ask you to look at their plan. This	F
G	is C20.1, page 15582.	G
Н	A. Which tab is that, please?	Н
I	Q. 169-1.	I
J	A. Got it.	J
K	Q. It starts at page 15549.	K
.	A. Yes. I've got it. Thank you.	
L	Q. You see, on this cover page, the edition, this one is	L
M	2006, in March. You see that?	M
N	A. Yes.	N
0	Q. I don't immediately jump to the conclusion that this has	0
P	something to do with somebody has uttered that they do	P
Q	have direct control of the premises. But it seems that	Q
R	this somehow chronologically follows from that meeting;	R
	you see that?	
S	A. Yes.	S
T	Q. At 2.2, at page 15555, you see the preambles?	T
U	A. I have it.	U
V	- 50 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. At 2.2, they say:	C
D	"The WHO considers the application of a preventive	D
E	WSP as an effective means to assure the quality of	E
	drinking water for the protection of public health.	
F		F
G	A [water safety plan] systematically assesses risks	G
Н	throughout a drinking water supply system from the	Н
I	source through treatment to customers' taps and identify	I
J	the control measures and operational monitoring that can	J
K	manage and minimise the risks to public health."	K
L	So, in that sentence, it does seem, at least from	L
	paper here, it encapsulates basically what first of	
M	all your source to tap approach?	M
N	A. Yes.	N
0	Q. Because it does talk about customers' taps here, and it	o
P	does encapsulate the philosophy that we looked at in the	P
Q	WHO paper, the chapter 4 that you referred to just now?	Q
R	A. Of the guidelines, yes.	R
S	Q. Risk assessment, systematic risk assessment; then	S
	control measures, operational monitoring, from treatment	
T		Т
U	to customer taps?	U
V	- 51 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	Absolutely.	C
D	Q.	So in fact WSD has set out in 2006 at least to try and	D
E		do that?	E
TC.	Α.	The framework is there, and the question then is at what	
F		point do they need to bring in or make contact with	F
G		other people. I have been in circumstances where other	G
Н		stakeholders just don't want to get involved.	Н
I	Q.	Right.	I
J	Α.	In which case you've got a problem.	J
K			K
L	Q.	But here, the WSP is not a publicly sorry, these	L
M		water safety plans have not been publicly available	M
		documents. These are internal documents for WSD,	
N		apparently, as a fact?	N
0	Α.	That's not entirely true. You can access it on the web,	0
P		but you have to know what you are looking for.	P
Q	Q.	It is a fact in Hong Kong that even when we asked, we	Q
R		had difficulty trying to get hold of WSPs, until	R
S		recently, of course. Now it's produced for the purpose	
		of this Commission. But hitherto, it's not available to	S
T		the public.	T
U	Α.	I have said in my report that I was concerned about	U
V	Transcr	- 52 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		it was not clear to me how much consultation there had	C
D		been with other stakeholders. That wasn't clear from	D
E		the information that was available. It wasn't clear	E
F		from the discussions, because there wasn't time to take	F
-		through all of these things.	r
G	Q.	Yes.	G
Н	А.	Therefore, there is a clear gap at this point.	Н
I	Q.	Yes. The point here that I try to make, and see if you	I
J		agree, is that in that paragraph, it seems that back in	J
K		2006, the WSD did recognise the advantage of this	K
L		approach and incorporated here as a preamble?	L
M	Α.	Clearly they recognised the importance of the approach,	M
		but, like many other organisations, when it comes down	M
N			N
0		towards the tap bit, it becomes less certain.	O
P	Q.	Yes.	P
Q	Α.	That's very common. In fact it's usual, and the WHO	Q
R		recognised that this is a difficult area. It would have	R
S		been helpful, I think, if there had been other external	S
		stakeholders, including the HD, involved. Equally,	
T		there are issues where other stakeholders need to make	Т
U		an effort to make contact with perhaps WSD or whatever	U
V	_	- 53 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	other equivalent there might be, in order to say, "We	C
D	have concerns in this area, you have expertise; we are	D
E	seeking your expertise."	E
F	Q. Yes. Well, this in fact I don't know whether you are	F
G	aware of this when the idea of introducing copper pipes to the public housing estates back in 2002, there	G
Н	was a consultation with the WSD and they were asked for	н
I	their comment, to ask them to see if the introduction	I
J	of copper pipes would pose any problem. You are aware of	J
K	that?	K
L	A. Yes. I've not seen it in detail. I've not looked at it	L
M	in detail.	M
N	Q. All right.	N
0	At 5.1.2, again you see a multi-barrier approach	O
P	being stated here, an integrated system of procedures	P
Q	and processes that collectively prevent or reduce the contamination of drinking water from source to tap.	Q
R	concentration of althring hadde from boarde to cap.	R
S	Again, it's the idea of putting in barriers to	S
T	ensure or to reduce	T
U	A. Yes. I have to say that in discussions, the term	U
V	- 54 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	"source to tap" was used fairly loosely.	C
D	Q. Do you mean they	D
E	A. It was really source down to the point at which water	E
_	was supplied to buildings, in much of their thinking.	
F	Q. Well, in much of their thinking, that's one thing, but	F
G	what they have written down is another. What they have	G
Н	written down there does in fact suggest that at the	Н
I	time, they were thinking more they were thinking of	I
J	the source to tap, not just source to connection point.	J
K	A. I hesitate to disagree, but I think you are using	K
L	a lawyer's view of the way that these words are used.	T
L	The term "source to tap" is very loosely applied and is	L
M	a phrase which is used pretty well to talk about water	M
N	safety plans, and many, many	N
0	Q. You mean they did not mean to extend sorry.	O
P	CHAIRMAN: Prof Fawell, you are very, put it this way,	P
Q	generous to the WSD. Let me provide you with this piece	Q
R	of information. When the director of the WSD came and	R
c	testified in this hearing, we then came to know that in	
S	2015, he actually amended	S
T	MR HO: I was going to come to that.	T
U	CHAIRMAN: He actually amended the pledge from saying	U
v	- 55 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	"source to consumer tap", and he actually asked his	D
E	subordinates whether that could actually be achieved,	E
F	and then as a result the wording had been changed to	10
r	"source to consumer" rather than "to consumer tap".	F
G	MR HO: Yes. Professor	G
Н	A. I can understand why that was done, because of the	Н
I	complexity. My criticism of the approach is that there	I
J	was insufficient recognition of the need to work	J
K	together. That is where I have criticism.	K
L	CHAIRMAN: Yes.	L
L	MR HO: I understand that. I understand your point.	L
M	A. And that's on both sides.	M
N	Q. But the reason, despite all the shortcomings of	N
0	lawyers I'm not being pedantic in this case or trying	O
P	to highlight a term that probably the WSD didn't mean	P
Q	what they said. "Tap" does mean tap, when they actually	Q
R	use this in the document.	R
S	Because if I may then ask you to go to annex 4 ,	g
S	which is at page 15582 now, the WSD, within their	S
T	department, they have got a Customer Services Branch,	T
U	and in the document they have the specific annex to	U
V	- 56 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	provide for the roles and responsibility of this	C
D	particular department within the WSD.	D
E	Now, you see in paragraph 1.1, their mandate, this	E
F	branch's mandate, is responsibility "for undertaking	F
G		G
**	measures and practices to ensure the quality and the	
Н	safety of drinking water supply to customers", and these	Н
I	are important words, "beyond the connection points."	I
J	A. Yes.	J
K	Q. So it's beyond doubt, when they were drafting this	K
L	document, at least the people who endorsed this document	L
L	were actually thinking about water quality to the taps,	L
M	beyond just connection points?	M
N	A. Yes. I have to say, when I did visit, I did not have	N
O	any contact with the Customer Services Branch. One	0
P	might say that they were conspicuous by their absence.	P
Q	Q. That's not what I was intending!	Q
R	Yes, thank you.	R
S	A. I had expected that side to be available. I understand	S
, and the second	the difficulties for the WSD, because it was a very	3
T	short time, at fairly short notice as well.	Т
U	Q. It would seem at least the drafter at the time, defining	U
V	- 57 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 5	7 B
C		roles and responsibilities of the Customer Services	C
D		Branch, has a rather broad view of water quality in	D
E		Hong Kong?	${f E}$
	Α.	Yes.	
F	Q.	A comprehensive view?	F
G	Α.	Yes.	G
Н		So, in some way, would you agree with me, that seemed	d H
I	to	0	I
		echo with whoever uttered that sentence or the view in	
J			J
K		their first meeting, saying, "We do have an indirect	K
L		control over the quality in private premises"?	L
M	Α.	I would have expected a rather more detailed involvement	t M
N		in the development of the water safety plan. One of the	e N
0		things which is also apparent is that there is quite	o
		significant compartmentalisation within the WSD, and	
P		I've read a number of documents where Customer Service.	P
Q		Branch are sort of a separate organisation. And that is	Q
R		not unusual, actually, to be fair, in many places,	R
S		because they operate in a different way. It takes time	e S
T		to overcome a philosophy of separation and change that	t T
U		philosophy of separation to a philosophy of inclusion	n U
V 7			<u></u>

- 58 -

Transcript by DTI Corporation Asia, Limited

V

A	Annex: Rea	ultime English Transcription based on floor / Simultaneous Interpretation		A
В		n of Inquiry into d Found in Drinking Water	Day 57	В
C	a	nd co-operation.		C
D	Q. I	understand. May I just bear with me and le	t me	D
E	С	omplete this page, if I may.		E
		We know their scope of duties and responsibi	Lity	£
F	i	nclude (a) (a) talks about "prescribing the na	ture,	F
G	s	ize and quality of pipes and fittings", so they		G
Н	a	ctually had their eyes on this. It then talks in	terms	Н
I	0	f circular letters or waterworks safety requirem	ents,	I
J	a	nd so on, and cites the enabling provision in t	he	J
K	0	rdinance to support what they could have done, or	might	
	h	ave done, if they had wanted to?		K
L	A. W	Well, I would argue that largely they seem to ha	ve	L
M	up			M
N	t	o that point, they fulfilled their responsibiliti	es in	N
0				o
P	t	hat they had materials that were supposed to be	used.	P
1	Т	hey agreed that approved materials would be used.	Then	Г
Q	i	t all starts to get a bit vague.		Q
R	Q. (c) talks in terms of licensed plumbers.		R
S	А. У	es.		S
T	Q. (d), inspection. So despite all the complications	about	Т
U	р	rivate premises, this document was drafted with a	view,	U
V		- 59 -		\mathbf{V}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	at least at the time, that they recognised the	C
D	importance of inspection of these inside services, upon	D
E	the completion of the construction and installation of	E
TC.	the plumbing and fittings?	т.
F	A. Yes.	F
G	Q. And that of course, you also accept or recognise, is	G
Н	an important step?	Н
I	A. Absolutely, and my understanding that in that inspection	I
J	they do identify things like I raised yesterday, dead	J
K	ends and teed off connections, and so on.	K
L	Q. Of course counsel for the Commission yesterday has also	L
M	pointed out to you that in inspection, solder is not one	M
171	of those things being inspected?	171
N	A. No, because under those circumstances, the methodology	N
0	that was available for inspecting a solder was simply	O
P	not available to them.	P
Q	Q. Right, but this may be an explanation for I don't	Q
R	necessarily use the word "excuse", but I just say,	R
S		S
T	neutrally, an explanation for the construction industry,	T
T .	when they look at the construction of the building.	
U	But for somebody who would be concerned with quality	U
\mathbf{V}	- 60 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		of the drinking water, this inspection would have taken	C
D		a different dimension, would it not?	D
E	Α.	I would say that the problem has been that there has not	E
F		been an appropriate if there had been an appropriate	F
		set of standards, and appropriate regulations, then that	
G		would have been taken a step further in terms of water	G
Н		quality sampling, which would have provided	Н
I		a verification in new buildings that lead had not been	I
J		used. Now, we can talk about sampling techniques and	J
K		all the rest of it. That's irrelevant at this stage.	K
L	Q.	Yes.	L
	А.	Actually checking for the use of inappropriate materials	
M		I think would have then have taken place. I am	М
N		concerned, and I would emphasise again, I am concerned	N
О		at the lack of standards, because those standards the	0
P		guidelines, as such, it's too soft and too easy to get	P
Q		away from, and I think with a set of standards, both	Q
R		sides then will understand the importance of what they	R
S		have to do.	e.
S.	Q.	Of course, I take this as a suggested measure going	S
T		forward, but allow me to take you back to the situation	Т
U		before the incident, where internally, in WSD, they have	U
v		- 61 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	this mandate for themselves.	D
E	What I am highlighting to you in paragraph (d) here	E
F	is that for WSD, that inspection, if they had done it,	.
r	would have been not so much about the construction	F
G	functionality, but more to do with ensuring quality of	G
Н	water, if they had done that inspection, if they had put	Н
I	in the correct parameters to address where risk might	I
J	have been?	J
K	A. Possibly.	K
L	Q. Sorry, is that too long?	Ŧ
L	A. Possibly. I think that you are you cannot shift or	L
M	grey the responsibility for making sure that the terms	M
N	of the contract are met, to another department.	N
0	Q. No, no, no. You have completely misread my question.	O
P	I am not asking you at this stage about who else should	P
Q	have been involved in the water safety plans and so on.	Q
R	A. I would have if I	R
S	Q. I am just focusing at the moment	g
S	A. If I had designed it and had been involved, I would have	S
T	wanted some sort of verification that the terms of the	T
U	contracts were being met. In the end, it is such	U
V	- 62 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	a complex process that the most the two most useful	C
D	ways of verification, one is actually using the X-ray	D
E	fluorescent spectormetry to look at joints and the other	E
F	is actually taking water samples and looking for lead,	F
G	the appropriate water samples.	G
Н	The difficulty with both of those is that we are	Н
I	seeing signs that within buildings, the lack of meeting	I
J	the requirements is not consistent in different parts of	J
K	a building. So one is faced with very	K
L	difficult-to-detect problems.	L
M	Q. That's right.	M
N	A. You can take random samples but it doesn't say that your	N
o	random sample is going to pick up the fact that you've	0
P	<pre>got a problem. Q. That's exactly what I want to explore with you,</pre>	P
Q	Professor.	Q
R	Now, we know after the incident the WSD has	R
S	introduced four additional parameters for heavy metals.	S
T	A. Yes.	Т
U	Q. I don't see that you are disagreeing that that is	U
V	- 63 - Transcript by DTI Corporation Asia, Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		perhaps an approach with merit.	C
D	Α.	Yes, it does have merit. It has merit because it is	D
E		attempting to investigate and ensure that there are no	E
		other problems within plumbing.	_
F	Q.	That's right.	F
G	Α.	And that is prudent.	G
Н	Q.	Yes, prudent. But then the question is, first, why was	Н
I		this not done before the incident came to surface; or,	I
J		if it wasn't done, should it have been done before 2015;	J
K			K
L		if it should have been done before 2015, should it have	L
L		been done in the same way as it is now done, that WSD	L
M		has now put in a circular and is advising all those	M
N		stakeholders that, "These are the parameters we are	N
0		going to test"?	o
P	Α.	It is very easy to use 20/20 hindsight	P
Q	Q.	Absolutely.	Q
R	Α.	and say that this should have happened.	R
		In discussion between both HD and WSD, it was clear	
S		that they believed that the procedures that they had put	S
T		in place to prevent the use of lead were working	T
U		efficiently, therefore suggesting that there would be	U
V	Transcr	- 64 - ipt by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	additional and quite complicated steps at that time,	C
D	without having the knowledge of what's happened since,	D
E	I think would have been showing a level of foresight	E
_	that might be regarded as quite spectacularly good.	
F	Q. Sorry, you say, if one were to require, I say WSD first,	F
G	to actually have that degree of foresight, in fact you	G
Н	say it's spectacular?	Н
I	A. Barriers have been put in place to prevent the use of	I
J	lead, and to suggest that WSD should have recognised the	J
K	fact that there was a good chance that Housing	K
L	Department would not enforce the conditions or were not	L
	able to enforce the conditions of the contract is asking	
M	a lot, I would say.	M
N		N
0	Since it has happened, clearly there are	0
P	circumstances that both departments have been feel	P
Q	that they have been caught out and let down. There were	Q
R	other parties who clearly did not fulfil their part in	R
S	the process. So I think at that time it would have been	S
	unreasonable to expect that they would have then gone	
T	and checked. It would have been, to an extent, saying	T
U	that another department is incompetent and therefore we	U
V	- 65 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	I
C	are going to double-check on them, and that's not easy	(
D	to do.	I
E	Q. Indeed. This brings me to the plumber point. Now, you	1
F	know in Hong Kong the legislative framework or the	I
G	design is such that absolutely nobody would be allowed	
	to construct, install plumbing works, inside service	(
H	I'm simplifying, but that essentially is the design of	I
I	the legislative framework other than a plumber or	1
J	somebody authorised by the WSD.	J
K	A. Yes.	I
L	Q. So the legislative design puts the sole responsibility	1
M	on the plumber, because all that follows about use of	Ŋ
N	correct materials, compliance with British Standards,	N
0	ensuring that the plumbing work is done compliant with	(
	drawings, say for example, falls on the plumber, on the	
P	regulatory framework?	J
Q	A. Yes.	(
R	Q. Of course, you just say hindsight is a very powerful]
S	thing, but if we have that legislative framework, with	\$
Т	the plumber being the only person who's authorised to	7
U	do	τ
V	- 66 -	•
	- 00 - Transcript by DTI Corporation Asia, Limited	•

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A	L
В		ssion of Inquiry into Lead Found in Drinking Water	Day 57 B	}
C		plumbing work, the licensed plumber, would you also	o say C	7
D		that well, if you were to say, without that	D)
E		hindsight, it would be a marvellous thing if the WSI) had E	C
		the foresight of going one step further and looking	ıg at	
F		the quality of drinking water, would you not say	F the	,
G		same thing and give your equally generous remark,	G	Ţ
Н		charitable remark, to the HD and also to the main	Н	I
I		contractors and the subcontractors?	I	
J	Α.	Where I have real difficulty in all this, and who	ere J	
K		I would be critical, is that according to the	K	ζ.
L		information I have on the training that is given to	the L	_
		licensed plumbers, there is quite clear informati		
M		about the potential health hazards of lead in water	Mand	1
N		lead soldering and that is why lead solder is not	N	1
0		approved, and so on. Even if it doesn't say, "Lea	d in O)
P		water is a hazard and therefore we have banned le	ad P	,
Q		solder", if the level of intelligence of the peop	ole Q)
R		applying for licensed plumber is so low that they o	an't R	Ł
S		make that connection fairly easily, then I think t	here S	,
		is a problem in the process, in the examination proc	ess.	
T	Q.	Yes.	Т	
U	Α.	I think that where there is a difficulty in the	U	J
V		- 67 -	V	7

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	licensing process is that it appears to be a one-step.	D
E	So you license a plumber and he's licensed, and there is	E
F	no subsequent re-examination or reaffirmation of the	F
G	importance of the role.	G
Н	And I think that is an area that is difficult, but	Н
I	I think that's the responsibility of the WSD.	I
J	Q. That I would also try and explore a little bit further	J
	with you later. But I'm just trying to bring you back	
K	to your earlier comment that, you know, given all this	K
L	set-up, the contractual set-up, and so on you say,	L
M	with the benefit of hindsight of course, you can say	M
N	a lot of things could have been done. I'm just asking	N
0	you whether, with that legislative framework and the	0
P	scheme that we have, you might also extend your rather	P
	charitable remarks to the WSD, to other stakeholders as	
Q	well, and say, "Yes, we have a contract, you need to	Q
R	enforce your contract", but you also have to recognise	R
S	the fact is that plumbing work is specifically assigned	S
T	to the licensed plumber and they are supposed to have	T
U	the specialty in performing, carrying out the work,	\mathbf{U}

- 68 -

V

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into Lead Found in Drinking Water Day 57	В
C		ensuring the compliance of the materials under the	C
D		legislation?	D
E	Α.	Where I would be charitable is that as far as I can	E
_		of the documents I have read, as far as I can see, the	
F		roles of the licensed plumber are not as well laid out	F
G			G
Н		as they ought to be. So the clarity of the various	Н
I		parts of the role of the licensed plumber is not as	I
J		clear as it should be. Yesterday we heard about	J
K		a situation where licensed plumbers just signed off	K
		documents.	
L	Q.	Yes.	L
M	Α.	That should not happen.	M
N	Q.	That is the implementation. Of course, we can talk	N
0		about strengthening what is actually happening. "It's	0
P		undesirable; we need to strengthen it." But I am	P
Q		talking about more the structural and legislative	Q
R		framework, in asking you that question.	R
		You may say, "Well, the licensed plumbers are not	
S		doing their job, and therefore we need to strengthen	S
T		their training, we need to perhaps see how we can deal	T
U		with it", but in the legislative framework that we have,	U
V	Transcri	- 69 - pt by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	and the legislative design that we have, they are	C
D	supposed to be the specialists and not even architects	D
E	can deal with	E
	A. I understand that.	
F	Q the plumber. Not even the electrician can deal with	F
G	the plumbing work. Not even the BSE can deal with the	G
Н	plumbing work. They can have a higher level of perhaps	Н
I	checking	I
J	A. As I have indicated I have indicated this in the	J
K		K
L	report, that I do feel there's been a failure on the	L
	part of the licensed plumbers to fulfil their proper	
M	function, as people who have been trained to cover this	M
N	area.	N
o	Q. That's right. I think also in your report you say that	О
P	is very important, because especially things like the	P
Q	solder, once it's taken out then it's very difficult to	Q
R	distinguish	R
K	A. You can see but it's	K
S	Q. It's very difficult to distinguish lead and no lead. So	S
T	their training is all the more important?	Т
U	A. It is, and the training that's provided to the technical	U
V	- 70 -	V

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into Lead Found in Drinking Water Day 57	В
C		plumbers, the trade-trained plumbers, is also important	C
D		in that respect.	D
E	Q.	Yes. Also, they are the ones who are supposed not only	E
_		to look at the functionality of the work, whether or not	
F		it leaks, and so on, the pipe leaks after it's been	F
G		joined, but also you say they also should look at the	G
Н		water quality, from that angle; they should pay more	Н
I		attention to water quality?	I
J		Or, sorry, maybe I should rephrase it. To be more	J
K		alert to the effect of the use of wrong materials on	K
_		water quality?	
L	Α.	Yes, that's a better way of putting it.	L
M	Q.	Right. Yes.	M
N			N
0	Α.	They should be more alert to the requirements in terms	O
P		of materials, because that is a significant role. And	P
Q		yesterday I suggested that I personally, if I was in	Q
R		control of the system in Hong Kong, would like to see	R
C		the licensed plumber position given greater status and	
S		therefore greater authority.	S
T	Q.	Allow me to ask you later on on that, because I do think	T
U		that that is an area that I would like to discuss with	U
v	Transcri	- 71 - pt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
С	you, especially I would then try to tap your experience	C
D	on the UK experience.	D
E	But allow me to come back to this question first.	E
T.	Given that they are at least in the scheme, legislative,	_
F	regulatory or whatever, the scheme of things, they are	F
G	the ones who are most or are supposed to pay a great	G
Н	deal of attention also to water quality and ensure the	Н
I	use of materials, correct materials, to that; right?	I
J	A. Yes.	J
K	Q. Then of course, depending on what this Commission is	K
L	going to find, at the end of the day, as a matter of	L
	fact, how the wrong use of material came about. I am	L
M	not trying to preempt or prejudge here, but assume at	M
N	the end of the day the Commissioners were to find that	N
0	it is a wrong use of the materials or a misuse of the	0
P	materials that contributed to the lead into the	P
Q	system right?	Q
R		R
S	A. Yes.	S
J	Q. Then you are asking the other stakeholders, who are more	3
T	remote from the immediate cause of this, to say,	T
U	"Should I, before the incident, have a foresight into	U
v	- 72 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	this?"	C
D	A. I think you are rather undermining your position,	D
E	because the argument is that they did have foresight	E
	because they actually put it in the contract.	
F	Q. Yes.	F
G	A. And it was specified separately. There are not so many	G
Н	things that are specified so separately.	Н
I	CHAIRMAN: So the control measure was put in place; it's the	I
J	monitoring of the control measure that fails?	J
K	A. Absolutely. Yes, chairman.	K
	MR HO: Monitoring, of course, we have been through all this	_
L	before, is whether you have your eyes on the ball. If	L
M	you have your eyes on the ball, you put in more	M
N	monitoring; you pay more attention to it?	N
0	A. Yes, you don't make assumptions, and clearly there were	O
P	assumptions made at a whole series of levels that	P
Q	something at the lower level was happening, and nobody	Q
R	bothered to ask, "Is it really happening?"	R
C	Q. Right. May I ask you to look at one statement. The	
S	reason why I want to explore that with you is to see	S
T	whether I understand you correctly, your statement at	Т
U		U
V	- 73 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	paragraph 63. In the middle of that paragraph you say:	C
D	"This is important since WSD do not take	D
E	responsibility for water quality beyond the supply	E
_	point"	
F	Do you see that sentence?	F
G	A. I do.	G
н	Q. In fact I think you also say more or less the same	Н
I	thing if I may ask you to go to page 116.	I
J	A. Yes.	J
K	Q. The fifth line from the top:	K
L	"It would appear that no one had specific	L
	responsibility regarding water quality at the tap."	
M	Paragraph 78, in the middle of that paragraph:	M
N	"It is also clear that because WSD did not take any	N
O	responsibility for water at the tap and had not formally	0
P	delegated that authority, no one took that	P
Q	responsibility."	Q
R	You see, there you say, in different words, but you	R
S	say WSD had no responsibility for water quality at the	S
m.	tap. Are you saying they themselves considered not	
T	having a responsibility or are you saying as a fact they	T
U	did not have a responsibility or are you saying	U
\mathbf{V}	- 74 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	My understanding was that it was agreed that within	C
D		Hong Kong and within the various departments, WSD would	D
E		not have responsibility within buildings to the tap.	E
F		That is actually not dissimilar to many other countries.	F
G		How that then operates will vary. It's only within the	G
Н		last 12 months that in England and Wales, water	Н
I		suppliers have had to take a much greater responsibility	I
J		within buildings.	J
K	Q.	Yes.	K
L	Α.	So, as far as I'm concerned, in terms of formal	L
		responsibility, that is the case.	
M	Q.	You say "formal responsibility"?	M
N	А.	Yes.	N
0	Q.	Despite what we have looked at, for example, like the	0
P		Customer Services Branch mandate?	P
Q	Α.	Yes, because the Customer Services Branch	Q
R		responsibilities are about materials, equipment, making	R
S		sure the process is in place in order for those	S
		materials to be used properly.	~
T		Taking responsibility for water quality at the tap	T
U		it a little bit you are being a little bit	U
V	Transcr	- 75 - ript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	disingenuous.	C
D	Q. Me?	D
E	CHAIRMAN: Of course you!	E
L	MR HO: May I ask you to rephrase that, please?	E
F	A. You have a position that you are trying to achieve and	F
G	I think	G
Н	Q. No. I just want a balanced view from the expert.	Н
I		I
J	A. I think the position is that it was agreed amongst	J
K	a number of different departments that although they	K
L	would cover things like they would provide the	L
M	expertise to cover things like lists of materials and so	M
171	on, that they did not have the formal responsibility at	IVI
N	the tap, they did not take samples at the tap, that this	N
0		0
P	would not be part of their remit.	P
Q	I happen to think that that is not sensible. What	Q
	I think is sensible, under those circumstances, is	
R	slightly irrelevant. Do I think it should change? Yes.	R
S	But what they didn't do, and because there was no	S
T	regulatory structure, nobody actually decided who was	T
U	going to have that responsibility.	U
v	- 76 -	v

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A	
В		ssion of Inquiry into Lead Found in Drinking Water Day 57		
C	Q.	Yes. That I think is probably the correct analysis, in	C	
D		the sense that despite what they say about what they	D	
E		intend to do in the water safety plans, but then in the	E	
		legislative framework there is not a specific mandate,		
F		to mandate them to look at the water quality at the	F	
G		tap I think to that extent I would agree with you.	G	
Н		But they have, in fact, I think, as a responsible	Н	
I		department, actually produced a water safety plan,	I	
J		general water safety plan, back in 2006, which says they	J	
K		aspire to do a little bit more and then look at also	K	
L		ensuring water quality at the tap.		
	А.	I would agree with that, and do I think there was fault	L	
M			M	
N		at not incorporating a broader range	N	
0	Q.	Right.	0	
P	А.	of stakeholders? Yes.	P	
Q	Q.	That was where, having set out to do one thing, and if	Q	
R		that is taken as implemented, they should then engage	R	
		other stakeholders, and if they had done, then probably		
S		this issue would have been better addressed or would not	S	
T		even have arisen.	T	
U	Α.	One would have hoped that it would have been better	U	
V	Transcri	- 77 - pt by DTI Corporation Asia, Limited	V	

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	addressed.	C
D	Q. I see.	D
E	A. By all the appropriate stakeholders.	E
F	Q. That's why I believe also you, in your report, have in	F
•	several places said "engage stakeholders".	r
G	A. Yes.	G
Н	Q. I think it's paragraphs 56 and 59 of your report.	Н
I	A. And the wording here was chosen very carefully.	I
J	Q. "Engaged", yes. I believe you say "WSD to engage other	J
K	stakeholders".	K
L	A. Yes. They're the lead. They would engage. "Engage"	L
	means not just tell them that it's happening, but	
M	actually have proper, meaningful discussions.	M
N	Q. Absolutely. Okay. Mr Yin, on my left, says you	N
О	actually use the words "external stakeholders".	O
P	A. External to WSD.	P
Q		Q
R	Q. External to WSD. They engage external stakeholders.	R
C	CHAIRMAN: Let's take the morning coffee break for	~
S	20 minutes. Thank you.	S
T	(11.18 am)	T
U	(A short adjournment)	U
v	- 78 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	(11.40 am)	C
D	MR HO: Professor, this morning the chairman has actually	D
E	mentioned the 2015 version of the water safety plans put	E
_	out by the	
F	A. Yes.	F
G	Q. Sorry, now prepared by the Water Supplies Department.	G
Н	I just want you ask you to have a look at that. If	Н
I	you would kindly turn up B15.4 at tab B13.4 at tab	I
J	402, page 40343.	J
K	We have done a little bit of homework and tried to	K
L	compare the three different versions of the water safety	L
2	plans. You take it from me that's a diligent piece of	L
M	work and what is there is actually accurate.	M
N	A. Ah, right. Yes, I've got it.	N
0	Q. As you see from the left-hand side of that page, that's	0
P	the 2006 version, which I have taken you to earlier in	P
Q	my discussion with you. In the middle, we have a 2011	Q
R	version, and on the right-hand side we have the 2015	R
g	version. Do you see that?	a
S	A. Yes.	S
T		T
U	Q. We have highlighted the changes through these three	U
V	- 79 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		different versions. There are one or two parts that	C
D		I want you to comment on. For example, like	D
E		paragraph 2.2, which I have directed your attention to	E
F		this morning	F
•	Α.	Yes.	r
G	Q.	in the 2006 version. You see the highlighted part	G
Н		refers to "source through treatment to consumers' taps"?	Н
I	Α.	And then through to consumers, yes.	I
J	Q.	And the 2015 version cuts out the "tap" and simply says	J
K		"to customers".	K
L	Α.	Yes.	Ŧ
	Q.	This is I think the chairman's comment this morning.	L
M		Incidentally, also go to paragraph 5.1.2.	M
N	Α.	Yes.	N
0	Q.	You see originally it was stated to be "drinking water	0
P		from source to tap" that's your "source to tap"	P
Q		concept; right? And on the right-hand side you see the	Q
R		latest version is "from source to distribution"?	R
S	Α.	Yes, I see that.	C
	Q.	Do you have any comment about this reading literally,	S
T		it seems to be a retracting of their responsibility for	Т
U		the water quality?	U
V	Transcri	- 80 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. I think on 2.2, "treatment to customers", that could be	C
D	construed as being more accurate in terms of the way	D
E		E
TC.	that things are constructed in Hong Kong.	.
F	On 5.1.2, that arguably shouldn't be correct at all.	F
G	"Source to distribution" implies that it's only just the	G
Н	treatment works, or sourced then to the end of the	Н
I	treatment works, whereas clearly it should be a lot	I
J	further, and even if it is to the point at which water	J
K	is delivered to consumers, then that should be clear.	K
L	So that, actually, as it stands, would not be	L
	acceptable.	
M	Q. What I want to ask you is that if there were these water	M
N	safety plans, if I have taken note of the document	N
0	that I discussed with you this morning, about the	0
P	concept of water safety plans, ensuring quality from	P
Q	source to tap would you have said that 2006, in fact,	Q
R	as far as water safety plans are concerned, they	R
g	probably have got it right; but 2015, in fact, is	~
S	a regression?	S
T	I don't mean to underestimate the difficulty or the	T
U	practicality	U
V	- 81 - Transcript by DTI Corporation Asia. Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С	Α.	It's very difficult	C
D	Q.	but it is a regression, isn't it?	D
E	Α.	You are asking me to give an opinion of somebody's	E
		thinking, when I was not present when that thinking was	L
F		taking place, so it's very, very difficult. I wouldn't	F
G		necessarily regard 2.2 as a regression, because that's	G
Н			Н
I		quite frequently what I see in many water safety plans.	I
J	Q.	Yes, but would you leaving aside what is actually	J
K		stated in the document have said, "What if one now	K
L		stands in the shoes of the WSD today", say today	L
L		of course, assuming the chairman may recommend that we	L
M		should look at water safety plans more vigorously, "It	M
N		would be a good idea, the way forward, for WSD to engage	N
0		other stakeholders to develop water safety plans"?	0
P		Assuming that's the position, that's the standard, would	P
Q		you have said, then, in that case the 2006 version	Q
R		should be a better model than 2015?	R
		Leaving aside the wordings here?	
S	Α.	No, I think you are missing or you are trying to put too	S
T		much emphasis on one word	T
U	Q.	Ah.	U
v	Transcr	- 82 -	V

A	Annex: Realtime Eng	glish Transcription based on floor / Simultaneous Inte	erpretation A
В	Commission of Inqui Excess Lead Found i		Day 57 B
C	A when	n that is not the way that most	people think now. \mathbf{c}
D	You	n have given me some information	about changes and D
E	how the	ose changes were made. I have	not seen any ${f E}$
	evidend	ce whatsoever as to whether th	at is the case or
F	not. I	I only have your word for that.	F. So I cannot put
G	myself	in the position of the direct	or and what the ${f G}$
Н	directo	or is saying.	Н
I	Q. Sorry.		I
J	A. I would	d say that	J
K	Q. I apolo	ogise to you, because we've hear	d the director and $oldsymbol{K}$
L			L
3.6	he's g	iven evidence on that.	
M	But	t leave that aside, for example	e. Leave that
N	aside.	I'm not trying to just focus	on one word. As ${f N}$
0	a matte	er of concept that's probab	ly more important O
P	A. Well -	_	P
Q	Q you:	r "source to tap" concept, wou	$oldsymbol{Q}$ ald you say, as of
R	today,	if we were to look into devel	opment of water ${f R}$
S	safety	plans, should WSD approach th	at question by ${f S}$
T	looking	g into really the concept of "s	source to tap", or
U	should	they simply say "source to conne	ection point", and $f U$
V	Transcript by DTI Co	- 83 -	\mathbf{v}

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water	Day 57 B
C		then, "Because your connection point is far too	C
D		difficult, far too complicated, we will leave that	t out D
E		for the time being"?	E
F	Α.	What they have said is "source to consumer" or	IP.
		"customer". That is not unreasonable, and that i	
G		way that many water safety plans are actually phr	ased.
Н		However, within that, the lead authority, and WH	О Н
I		emphasise this, should be the water supplier. The	water I
J		supplier as the lead authority then has responsib	ility J
K		to engage with other stakeholders, to ensure tha	t the K
L		whole of the train is covered.	L
L	Q.	Yes, precisely that, is because the whole point	
M		engaging other stakeholders is to ensure that beyon	$oldsymbol{M}$ d the
N		connection point these other stakeholders would al	so be N
0		aware of their own responsibility, how they can	0
P			P
Q		contribute to safeguard the water safety?	Q
R	Α.	Absolutely. I don't think it matters in the det	ail R
		here, because it still is not clear to me exactly	
S		the legislative responsibilities where they lie.	S I'm
T		not sure anybody is totally sure.	T
U	Q.	But it's not just about the words allow me	U
V	Transcr	- 84 - ipt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation		
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В	
C	A. But the engagement part and engaging with other	C	
D	stakeholders and that's why I actually commented	D	
E	about I was uncertain about the extent to which other	172	
	external, ie people outside the WSD, stakeholders, had	E	
F	been engaged and been involved in the process.	F	
G	Q. It's not don't get me wrong. I'm not sort of trying	G	
Н	to play around with words, just pick up one word and so	Н	
I	on. It's the concept and thinking behind it that	I	
J	I really want your expertise and your expert opinion on.	J	
K	The whole concept should now the incident has	K	
	surfaced, we know this matter, which affects public	K	
L	housing and I don't know to what extent it also affects	L	
M	other private developments but leaving that to one	M	
N	side, the idea, if this Commission were to pick up the	N	
0	idea, adopt the idea of water safety plans, as	0	
P	a concept, you have in your report, in paragraph 35,	P	
Q	said WHO back in 2004, whatever, maybe that paper is	Q	
	2008 but it doesn't really matter we are several		
R	years after that now	R	
S		S	
T	A. Yes, it evolved through, but now we're in	T	
U	Q. It evolved, but the concept of water safety plans under	U	
V	- 85 - Transcript by DTI Corporation Asia Limited	v	

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	the lead authority is to ensure water safety from source	C
D	to tap.	D
E	I'm just asking you	E
	A. Yes.	
F	Q this ideal I know you may not be very conversant	F
G	with all the nice ownership matters, about how pipes	G
Н	belong to whom and once it goes into private premises	Н
I		I
	but leaving that to one side, as a concept, the WSD, as	
J	a concept now, if they were to develop water safety	J
K	plans, need only stop at connection point, then	K
L	of course that is a very fundamental departure from what	L
M	you said in your paragraph 35?	M
N	A. You are getting into the practicalities.	N
0	Q. I am, yes.	0
	A. When we are talking about water safety plans, it has to	
P	fit when we come to that part, it's very	P
Q	ric when we come to that part, it's very	Q
Q	straightforward, certainly between the treatment works	Ų
R	and the point at which it goes into a building, because	R
S	that's clearly under the control of the water supplier.	S
T	At that point, there should be a plan. The plan may	T
U	take a different form	U
V	- 86 - Transcript by DTI Corporation Asia Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. Yes.	C
D	A when it starts to go into buildings, but there needs	D
E	to be a plan. The water supplier needs to be a party to	E
F	that plan, and also other stakeholders that are	F
G	involved.	G
Н	So, yes, it needs to, but who finally takes the lead	Н
I	on that stage of the water safety plan will depend on	I
J	the structure that you decide in terms of	J
K	responsibilities, et cetera.	K
L	It need not necessarily be the water supplier. The	L
	water supplier would have an important part to play, but	L
M	they may not lead in terms of the water safety plan in	M
N	buildings.	N
0	Q. Can I just pause you there we are possibly talking at	0
P	cross-purposes.	P
Q	A. Possibly.	Q
R	Q. What I am exploring with you is, say of course I'm	R
S	not speaking for the Commission the Commission will	S
T	have to make recommendations at the end of the day. I'm	Т
U	just saying if the Commission were to say it's a good	U
v	- 87 - Transcript by DTI Corporation Asia Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Assion of Inquiry into Lead Found in Drinking Water Day 57	В
C		idea to ask the WSD to take the lead, develop water	C
D		safety plans, or at least look into possibilities of	D
E		developing water safety plans by engaging stakeholders;	E
		right	
F	Α.	(Nodded head).	F
G	Q.	along the signs that we looked at, the model, the	G
Н		philosophy that we looked at in the paper now, would	Н
I			I
J		you say, in that case, these water safety plans ought	J
K		only to look up to the connection point; or when you say	K
L		"engaging stakeholders", obviously we are thinking about	L
		engaging stakeholders beyond the connection point, and	
M		that may be the way forward for Hong Kong?	M
N	Α.	Absolutely.	N
0	Q.	I'm just asking whether	0
P	Α.	I would have no problem with that. There should be	P
Q		a water safety plan that goes to the tap.	Q
R		The situation is that in recommendations that I have	R
		made in the UK and elsewhere, recognising the	
S		complexities of dealing with plans in buildings because	S
T		of the different responsibilities, and so on, and there	T
U		are sensitivities as well what we have done is we	U
V	Transcr	- 88 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		have referred to a customer liaison plan.	C
D	Q.	Yes.	D
E	Α.	In other words, it's a system it's a water safety	E
T.		plan but it has less of the precision about it than the	
F		plan has up to the point of the curtilage, because you	F
G		can't have the same level, unless you've got a very	\mathbf{G}
Н		intrusive regime, that says, "This authority can go into	Н
I		your house and do it", and that's going to be not	I
J		possible.	J
K	Q.	Yes.	K
L	Α.	But there needs to be something in place that provides	L
M			M
171		management plans for buildings, management advice for	171
N		buildings. That's particularly important in Hong Kong	N
0		because of the nature of the multi-occupancy buildings.	0
P	Q.	Yes.	P
Q	Α.	Under those circumstances, the WSD are an expert group	Q
R		in certain respects. They may not be quite so expert in	R
S		the details of what goes on in a building. Therefore,	c
S		it becomes a joint effort between a number of	S
T		stakeholders, and a decision has to be taken as to which	T
U		of those stakeholders, under those circumstances, is	U
V	Transcr	- 89 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		going to lead.	C
D		So yes, they should be involved, yes, it should go	D
E	_	to the tap, but yes, there should be a lot of	E
F	Q.	I hear you. It should go to the tap. I think that's probably the answer that I'm trying to get to.	F
G		This is basically consistent with what you said	G
Н		yesterday	н
I	Α.	Yes.	I
J	Q.	that they are the expert, they provide advice, and	J
K		then other stakeholders will then have a responsibility	K
L		of implementation?	L
M	Α.	That's correct.	M
141	Q.	Of course, that encompasses all that we have seen in the	IVI
N		paper, the flowchart	N
0	Α.	Yes.	0
P			P
Q	Q.	the risk assessment, identification, control and all	Q
R		that, and then further down is the support measures,	R
S		programmes?	S
	Α.	Absolutely, and it recognises that when you reach that	
T		stage, it becomes often less precise, because there are	Т
U		so many different individual stakeholders and	U
V	Transcri	- 90 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Lead Found in Drinking Water Day 57	В
C		requirement for individual	C
D	Q.	Of course. Yes, as a concept I am grateful for your	D
E		confirmation that as a concept now we are looking at	E
L		source to tap.	£
F	Α.	Yes.	F
G	Q.	Unfortunately, we have heard the director, and perhaps	G
Н		you have not been apprised of this piece of	Н
I		information that somehow he sees the need for the	I
J		revision in 2015 it's because he does not seem to	J
K		think that concept of source to tap is something that	K
		ought to go into the water safety plans. He retracted.	
L	Α.	He may well have decided	L
M	Q.	I am not asking you to criticise anybody, but as	M
N		an expert	N
0	Α.	No, I'm not. There could be a whole range of reasons	0
P		for that. As an expert, I think it should go to the	P
Q		tap, and if the Water Supplies Department are the lead	Q
R		organisation, they need to engage, as I have said	R
		several times, the appropriate stakeholders, to make	
S			S
T		sure that there will not be a deterioration beyond the	T
U		point that they have control.	U
V	Tronce	- 91 -	v

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into Lead Found in Drinking Water Day 57	В
C		They may not be able to guarantee it, but involving	C
D		other people and informing them and making sure that	D
E		they understand	E
	Q.	Exactly that, yes.	
F	Α.	where the responsibilities end and where other	F
G		people's responsibilities take over is important.	G
Н	Q.	Heightened awareness and vigilance; would you say that?	Н
I	Α.	Yes. I don't think that any organisation can say, "We	I
J		are just going to stop here and not have any"	J
K	Q.	Yes. The ultimate goal must be to prevent people taking	K
		their eyes off the ball?	
L	Α.	Correct. That's why I think we should have	L
M		a regulatory	M
N	Q.	Sorry?	N
O	Α.	That's why I think a regulatory structure would be very	0
P		beneficial.	P
Q	Q.	Yes. Now, on the regulatory side I do want to	Q
R		explore with you the licensed plumber. I take it you	R
		are familiar with our legislation?	
S	Α.	To an extent.	S
T	Q.	Basically, it's just broadly as I described to you this	T
U		morning: only licensed plumbers are, under the law,	U
V		- 92 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Assion of Inquiry into Lead Found in Drinking Water Day 57	В
C		allowed to deal, construct, install we are talking	C
D			D
E		about inside service now, but basically plumbing works.	E
F	Α.	Yes.	F
r	Q.	The legislation provides that they should use materials	Г
G		that comply with the British Standards, and the British	G
Н		Standards are set out; right?	Н
I	Α.	(Nodded head).	I
J	Q.	Nobody else would be allowed to do that, lest they run	J
K		the risk of criminal prosecution?	K
	Α.	(Nodded head).	
L	Q.	You understand?	L
M	Α.	Yes.	M
N	Q.	So licensed plumber, on this legislative design,	N
0		assumes, I would say, the unique responsibility of	O
P		ensuring plumbing works comply with, for example, the	P
Q		British Standards and use of materials?	Q
R	Α.	Yes. Well, from the list of approved materials there	R
a		are difficulties there, because the way that the	_
S		legislation is phrased, it actually could be interpreted	S
T		that the licensed plumber is being asked to take	T
U		a responsibility that they may not have the capability	U
V	Transcri	- 93 - ipt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		to take. But I take your point.	C
D	Q.	You mean for supervision of their workers?	D
E	Α.	In other words no, in terms of finding out about	17
E		which materials are actually approved. There should be	E
F		an up-to-date list of approved materials in Hong Kong	F
G			G
Н		that allows the licensed plumbers to make sure that they	Н
I		can obtain the appropriate materials, that anybody else	I
J		is obtaining the appropriate materials, that everybody	J
K		else is obtaining the appropriate materials, whatever	K
L		the materials, and that they are being installed.	Ŧ
L	Q.	Let me pause you there again. If we drift into approval	L
M		of materials of course we do have the procedure,	M
N		called the PLU1, but never mind about that for the time	N
O		being. I am just coming back to the system first, about	O
P		the licensed plumber. They are absolutely pivotal	P
Q	Α.	Yes, I	Q
R	Q.	to ensuring correctness of materials?	R
	Α.	I would agree. From all I have read, the licensed	
S		plumber is a very important position.	S
T	Q.	Yes. They are the specialist?	Т
U	Α.	They are the specialist. I have a caveat to that. The	U
v	T.	- 94 -	V

A	Annex: Realt	me English Transcription based on floor / Simultaneous Interpretation	Α
В		of Inquiry into Found in Drinking Water	Day 57 B
C	ca	veat is in the discussions that I have had	with C
D	a	number of people, the status of the licensed	plumber D
E	in	the eyes of other groups is not as high as	it ${f E}$
_	sh	ould be.	
F	Q. Ag	ain, I'm not perhaps being presumptuous. I do	r take
G	OV	er the making of recommendations. But leavi	ng aside ${f G}$
Н	th	e shortcomings, say, of what actually wha	t we see H
I	no	w, having heard so many days of evidence ab	out the I
J	pe	rformance or the awareness of these licensed	plumbers
K			K
L	of	the situations or their responsibility, havi	ng heard $oldsymbol{L}$
	so	much about it leaving that aside for th	e time
M	be	ing, I'm just talking about if one looks at	the
N	sy	stem, it would seem at the moment the syste	m does N
О	pl	ace a great deal of reliance on the license	0
P	pl	umber	P
Q	A. It	does.	Q
R	Q	doing the job properly. That is one safeg	uard for R
a	en	suring that proper materials are used	
S	A. Ye	s.	S
T	Q	and hence indirectly not to contaminate you	T water;
U	ri	ght?	U
v	T	- 95 -	v

A	Annex: F	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into ead Found in Drinking Water Day 5	7 B
C	Α.	Yes. It's a very important step.	C
D	Q.	Yes, and there is at the moment I don't say whether	D
E		this is effective or not effective but at the moment	E E
		there is a regulatory system in place, overseeing the	9
F		conduct of the licensed plumbers, because they have to	F
G		be licensed, they run the risk of the licence being	G
Н		revoked?	Н
I	Α.	Yes.	I
J	Q.	They can be ticked off for not say, for example, not	j J
K		performing their duties properly, all sorts of things?	K
L	Α.	That's correct.	L
M	Q.	Now, of course, then would the problem not be so much	
M	to	with the present set-up, with the framework, but more	M
N			N
0			0
P		do with perhaps the personalities involved, whether the	e P
		individual licensed plumbers do actually see are	
Q		properly trained, have sufficient training, have	Q
R		heightened their awareness of the important work that	R
S		they do; it's more to do with the implementation, as	S
T		well as how effective are the enforcement measures over	T T
U		that regulatory system.	U
V	Transcri	- 96 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. I would agree. The implementation is, to a great	C
D	extent it revolves around the licensed plumber.	D
E	Q. Yes. If the licensed plumbers had performed their	E
F	<pre>duties, had been diligent; right? A. Yes.</pre>	F
G	Q. Then this is a good system to have, wouldn't you say?	G
Н	A. I think it's an excellent system. I think there is	Н
I	a great deal to recommend it, a great deal to	I
J	recommend it.	J
K	Q. I apologise to the chairman if I was somehow seen to be	K
L	disagreeing with him $$ the way to address $$ if this is	L
M	a question of personality, a person not performing their	M
N	duties, perhaps it is not a question of changing the	N
0	system of licensed plumbers under the existing regime,	0
P	to shift the responsibility to either the architect, the	P
Q	BS engineer or some other person to replace the licensed	Q
R	plumber, but the proper address would be to ensure that	R
S	the licensed plumbers under the existing regime do	
3		S
T	perform their duties diligently?	T
U	A. Yes, and I have made some recommendations regarding	U
T 7		

- 97 -

Transcript by DTI Corporation Asia, Limited

V

V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	making sure that the licensed plumbers have intermittent	C
D	retraining, just perhaps one-day courses, et cetera, in	D
E	order to highlight that.	E
	The advantage I don't think you would be	
F	disagreeing with the chair. I don't disagree. I think	F
G	that having a senior engineer in place is important.	G
Н	What we have is that, with plumbing, it gets rather	Н
I	forgotten, bits of it because there is and you need	I
J	one person who's actually got responsibility and	J
K	knowledge around that particular area. It's	K
L	a specialist area.	L
L	Q. Exactly that. Especially we are not talking about	L
M	an individual piece of plumbing work in respect of	M
N	a house in the countryside of England. We are talking	N
0	about multi-storey building blocks which you find	0
P	impressive in Hong Kong.	P
Q	A. Yes. Absolutely.	Q
R	Q. So the more that we look at the situation more, we go	R
	for specialty, specialisation, in respect of different	
S	areas of work. For example, like fire services, we see	S
T	that there are dedicated I can't remember the term	T
U	used for these subcontractors	U
v	- 98 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	CHAIRMAN: Nominated.	C
D		D
E	MR HO: Nominated subcontractors they are dedicated, very	E
F	experienced, to do fire services work. We have	F
-	electricians who have to be licensed	r
G	A. Yes.	G
Н	Q to do electrical work, and so on and so forth. The	Н
I	list continues.	I
J	Now, as far as plumbing is concerned, this is in	J
K	a way, under the existing set-up, very much that, in	K
L	fact to ensure a specialist does the work, not just	L
L	general practitioners	L
M	A. Absolutely.	M
N	Q be it an architect or a building services engineer?	N
0	A. Yes. I agree. I think it is very important.	O
P	Q. The point really is here to strengthen the training,	P
Q	awareness and the monitoring sorry, and the	Q
R	regulatory monitoring of that work, of their	R
S	performance?	S
S	A. Yes, the regulatory oversight of the plumbers, yes.	3
T	Q. That's right. At the moment, we do have a regulatory	Т
U	framework for that. WSD has the ultimate power,	U
V	- 99 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	disciplinary power, over licensed plumbers. As we see,	C
D	the licensed plumbers involved in this case have been	D
E	taken off and removed from the list?	E
	A. Yes, absolutely. Yes.	
F	Q. So again, it's not a difficulty with the framework,	F
G		G
Н	is it?	Н
I	A. Well, I said in my report that I think the framework	Ι
J	Hong Kong has a very good framework in place. It's	J
K	making that framework work efficiently.	K
L	Q. Yes. So you engage other stakeholders, like for example	L
	the training VTC	
M	A. Yes.	M
N	Q the Construction Industry Council or whatever; you	N
0	engage other stakeholders to strengthen or implement	O
P	better what is already a good framework?	P
Q	A. Yes, absolutely. And this will start to move away from	Q
R	immediately water safety plans into a much broader area.	R
S	But yes, it is very important that we have that level of	S
		D
T	training and understanding, and that there has to be	Т
U	a structure in place where the professional pride and	U
V	- 100 - Transcript by DTI Corporation Asia Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	integrity is an important part of the process of being	C
D	a licensed plumber.	D
E	Q. Yes. Allow me to draw an analogy. Say, for example,	E
F	like lawyers, solicitors, barristers. Of course, there	F
r	are odd cases here and there we hear of that they fall	r
G	short of the duties expected by their own professional	G
Н	bodies. But then, if self-regulatory is considered	Н
I	a good thing, for the Law Society to regulate	I
J	solicitors, the Bar Council to regulate barristers,	J
K	still, in relation to individual cases, we just have to	K
L	make sure there is a regulatory mechanism to ensure that	L
M	if somebody doesn't act or perform up to standard, he	M
N	is	N
0	taken off the list?	0
P	A. Yes, that is correct, but it's more than that. There is	P
Q	a requirement to ensure that the licensed plumber is	Q
R	aware of responsibilities and aware of what is required	R
S	at all stages.	S
	Q. Yes. That may engage some suggestions of continuing	
T	education is probably the wrong word but continuing	Т
U	training, and so on?	U
V	- 101 -	\mathbf{v}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Yes, and I think that	C
D	Q. Where an occasion will be there to heighten the	D
E	awareness of where things may go wrong, look at it from	E
	the perspective of water quality?	
F	A. Absolutely, and I think it's important that such	F
G	training involves groups of licensed plumbers, because,	G
Н	as in all professionals, working together as a group	Н
I	helps to reinforce the quality of the professional.	I
J	Q. Yes.	J
K	CHAIRMAN: I'm not saying that the present licensed plumbers	K
L	cannot perform their job. When I expressed my	
L	statement, my worry at the time is that because of the	L
M	complexity of building structures in Hong Kong, if we	M
N	continue to use the existing licensed plumber system,	N
O	then it may go sort of beyond the ambit of, say,	0
P		P
Q	knowledge and experience of the existing licensed	Q
R	plumbers.	R
	So that's why I mention	
S	A. I think it does I agree with you. I think it needs	S
T	to be strengthened over what it is at the moment,	T
U	because I think the role, it does not come across as	U
V	- 102 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	being a professional role, and it should be	C
D	a professional role.	D
E	MR HO: Then it's to pull them up to meeting that	E
	professional expectation of them?	I.
F	A. And they should be treated in that way, because	F
G	I agree with the chairman that you need to have	G
Н	an overall services engineer, but the licensed plumber	Н
I	is an important link, and therefore would be seen as	I
J	very close in level.	J
K	Q. I would have reversed that order. In fact, they are the	K
L	pivotal person, rather than the building services	L
	engineer, who may have	L
M	A. I am thinking of the overall project, because if you	M
N	don't have the overall project, you don't have the	N
0	plumbing. The plumbing is a relatively small but	0
P	important part. But you need somebody who co-ordinates	P
Q	the whole of the project, because you can't just	Q
R	separate everything out. It doesn't I've been	R
C	involved in some of these things and it doesn't work	
S		S
T	very well like that.	T
U	So, yes, but I think that the licensed plumber is	U
V	- 103 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	pivotal for the installation of the plumbing and	C
D	ensuring the quality of that installation, and should	D
E	also have some training with regard to the design of	E
	plumbing systems, and should be consulted by architects,	
F	when they put together their plans. That's another	F
G	part.	G
Н	Q. I understand basically, your theory is that don't	Н
I	compartmentalise but engage another persons who may, to	I
J	a degree, be more or less involved in the system?	J
K	A. I have long thought I have had some involvement with	K
L	the International Association of Plumbing and I have	L
	long felt that this is a group who are very, very	
M	important, and without we are not using, in many	M
N	parts of the world, their expertise and their role to	N
0	its full, and we should be doing that. Hong Kong has	0
P	got the basis of a system. I think that system needs to	P
Q	be strengthened, and then I think Hong Kong will have	Q
R	effectively a world-leading system.	R
	Q. Good. Thank you.	
S	Now, may I tap on your experience of the UK	S
T	legislation.	T
U	A. Right.	U
V	- 104 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ission of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	I really would like your view on that.	C
D			D
E		If I understand correctly, I thought the legislation	F
E		here is the 1999 Water Supply (Water Fittings)	E
F		Regulations; I presume you are familiar with that?	F
G	Α.	Yes.	G
Н	Q.	Basically, if I understand correctly, this bit at the	Н
I		end of	I
J	Α.	It's not the only bit. There are two bits. There's the	J
K		Water Fittings Regulations and there's the DWI	K
L		Regulation, regulation 31.	L
L	Q.	But let me just focus if it helps, I have some copies	L
M		and maybe it's convenient just to distribute them.	M
N		I think the Benchmarking Study, we have also touched	N
O		on this, and we can always make reference to that as	O
P		well but what I am dishing out at the moment is	P
Q		really the regulations itself. (Handed).	Q
R		In particular, I am looking at regulations 6 and	R
G.		7 regulation 6.	_
S	Α.	Yes, I've got it.	S
T	Q.	It would seem to us under regulation 6 now, the	T
U	U	J.K.	U
V	Transca	- 105 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	deal with it this way:	C
D	"Where a water fitting is installed, altered,	D
${f E}$	connected or disconnected by a approved contractor, the	E
F	contractor shall upon completion of the work furnish	F
Г	a signed certificate stating whether the water fitting	r
G	complies with the requirements of these Regulations to	G
Н		Н
I	the person who commissioned the work."	I
J	Over the page, about penalty, in regulation 7:	J
K	"Subject to the following provisions of this	K
L	regulation, a person who	т
L	(a) contravenes"	L
M	Then it includes (6), which I have just read out,	M
N	and subregulation (2) you see:	N
О	"In any proceedings against an owner or occupier for	0
P	an offence under paragraph (1) which is based on the	P
Q	installation, alteration, repair, connection or	Q
R	disconnection of a water fitting, it shall be a defence	R
S	to prove	C
J	(a) that the work in question was carried out by or	S
T	under the direction of an approved contractor; and	T
U	(b) that the contractor certified to the person who	U
V	- 106 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	commissioned that work that the water fitting complied	C
D	with the requirements of these Regulations."	D
E	Do you see that?	E
	A. Yes.	
F	Q. In a nutshell, the UK regime again puts the	F
G	responsibility of what is called the approved	G
Н	contractor, and if I commission I as owner of	Н
I	a property fitting of plumbing work, I go to	I
J	an approved contractor. He, having done the work,	J
K	issued me with a certificate to certify that piece of	K
L	work was done in compliance with the regulations, then	L
M	he takes the responsibility. If he refuses to certify	M
	ne takes the responsibility. If he refuses to certify	
N	the work or issue a certificate, then he falls foul of	N
0	regulation 7, he may commit an offence. And if somehow	0
P	I am prosecuted, say some aspect of the works is not in	P
Q	compliance with running of pipes or use of materials or	Q
R	whatnot, if something goes wrong and I am prosecuted,	R
g	I can show that piece of certificate that is issued to	
S	me as a defence to my liability?	S
T	A. Absolutely.	Т
U	Q. That's the UK regime, it seems?	U
V	- 107 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Yes. When it comes to approved contractors, it's a bit	C
D	more vague.	D
E	Q. Yes. Of course, we don't necessarily have approved	E
F	contractors or whatever, but assuming transpose it to	F
	licensed plumbers?	
G	Troomson Frameore.	G
Н	A. That would be perfectly reasonable. In fact, I would	Н
I	say that the licensed plumber situation that you have in	I
J	Hong Kong, if it was strengthened, would be stronger and	J
K	more effective than the UK system, although the UK	K
L	system is gradually evolving to a system which would be,	L
M	I suspect, not so different from that in Hong Kong.	M
	Q. Right. So again it comes back to this point. Now, when	1.2
N	it comes to plumbing work of course, we are not	N
0	just let's lift our eyes away from applying solder,	0
P		P
Q	because plumbing work	Q
R	A. Yes. It's more than that.	R
S	Q. I think applying solder is probably a very small part of	S
T	the plumbing work that we are talking about, and really	T
U	you do need specialised people, like licensed	U
v	- 108 - Transcript by DTI Corporation Asia, Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	\mathbf{A}
В		Assion of Inquiry into Lead Found in Drinking Water Day 5	57 B
C		plumbers	C
D	Α.	Yes.	D
E	Q.	to undertake all that very sophisticated plumbing	E
		work in multi-storey buildings. Responsibility rests -	-
F		is pivotal to ensuring not just the performance, the	F
G		functional performance, but also to have an eye on th	G
Н		ball, being quality of the water?	Н
I	Α.	Absolutely. This is absolutely right. We have been	I
J		trying to strengthen this in countries all over the	J
K		world, because the people who are installing the	K
L		plumbing you can't see water quality normally, an	d L
		therefore it is doubly important. Whereas you can g	
M		and check wiring or whatever, electricity, it is not s	M
N		simple for plumbing, and therefore we would like to se	N
O		that strengthened.	0
P	Q.	That's right. Of course, I'm not being disingenuous	. Р
Q		If that is the case, by comparison, you don't reall	Q
R		want to put the onus on the property owner that much	, R
a		because we are not talking about large developers here	
S		Also, if we are looking at the regulatory regime, we ma	S Y
T			Т
U		be talking about very small individual owners, and w	e U
v		- 109 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	may come into difficulty if one were to say, "Then we	C
D	put some responsibility on the owners"?	D
E	A. Yes. The responsibility that falls on the owner is to	E
F	make sure that the work is done properly	F
C	Q. By a registered	
G	A preferably by	G
Н	Q. Yes, because if I engage somebody to do the piping of my	Н
I	flat, I wouldn't be able to supervise; I would have to	I
J	rely on him, being the expert, to do it properly?	J
K	A. Yes. There is a danger that we have some difficulty	K
L	here, because in Hong Kong, things are rather different	L
M	to in the UK, we have a lot of "do it yourself"	M
N	enthusiasts, and there are some difficulties there, in	N
0	controlling them, and also in applying liability. If	0
P	somebody pollutes their own supply, the government are	
	unlikely to prosecute them.	P
Q	Q. As you say, we are not in the DIY situation. In	Q
R	Hong Kong there is no DIY, because all plumbing works	R
S	should only be conducted done by the licensed	S
T	plumber, so in Hong Kong the situation is very	T
U	different.	U

- 110 -

Transcript by DTI Corporation Asia, Limited

V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	It is indeed.	C
D	Q.	If I engage a licensed plumber, then the responsibility	D
E		should not be on the owner?	E
F	Α.	That's correct, that the responsibility is that the	F
G		owner has taken the appropriate steps to ensure that the	G
Н		licensed person has the appropriate licence and is	Н
I		current.	I
J		And where it falls down is that there is perhaps lack	J
K		awareness on the part of the licensed plumber to know	K
L		that they have to do their job properly?	L
M	Α.	I think there's probably a lack of awareness right	M
N		through the chain, because that chain needs to be	N
0		strengthened, as the chairman has said.	0
P	Q.	Thank you. Given that regime I know lots of things	
r		ought to be tightened up to make that regime work but	P
Q		assuming we already have a framework, we already have	Q
R		a regime where the plumbing works are done by supposedly	R
S		a specialist, professional person?	S
T	Α.	Yes.	T
U	Q.	Then I note what you say, that other stakeholders would	U
V	Тиомоон	- 111 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	of course have to join in to make sure the whole thing	C
D	becomes effective. I understand you to be staying that;	D
E	I'm not misunderstanding you?	E
TC.	A. No, but you wouldn't necessarily you don't	_
F	necessarily have to have everybody as a licensed	F
G	plumber.	G
Н	Q. No.	Н
I	A. It could be that the licensed plumber is supervising	I
J		J
K	others who may not be at the level of a licensed plumber	K
L	but have demonstrable skills.	L
	Q. Yes. That points to perhaps a different question. But	L
M	what I am saying is, given the legislative set-up,	M
N	primarily pivotal to ensuring proper installation,	N
O	including the use of the right materials, falls on the	0
P	licensed plumber	P
Q	A. Yes.	Q
R	Q then, as far as you then say, well, other	R
g	stakeholders also have a role, that will be a role	a
S	subsidiary to the licensed plumber?	S
T	A. Subsidiary?	Т
U	Q. Ancillary.	U
V	- 112 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	Yes. That's a better word. Thank you.	C
D	Q.	Sorry. You are more a lawyer than I am! Right.	D
E		Given that that was the set-up now, if we had	T
£		good licensed plumbers I'm sure perhaps we have seen	E
F		some let-downs doubts but hopefully that is not	F
G		a phenomenon across the whole trade in Hong Kong	G
Н	А.	If you had universally very, very good, very	Н
I		knowledgeable, licensed plumbers, you wouldn't have had	I
J		the problem that you had.	J
	Q.	Exactly that.	
K		Then we look at the ancillary stakeholders' role, in	K
L		the light of assuming we have good licensed plumbers;	L
M			M
N		right? Then I am of course I don't know whether you	N
0		are aware that, for example, the main contractors engage	o
P		a subcontractor to do the plumbing work. They would	P
0		ensure that a licensed plumber is engaged for that	0
Q		purpose.	Q
R	А.	Yes, I am aware of that.	R
S	Q.	Invariably, because the main contractors obviously don't	S
T	×.·	want to get into trouble by engaging somebody who is not	Т
U		a licensed plumber to deal with these works.	U
v	Transcr	- 113 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	А.	No.	C
D	Q.	They are contractually required to ensure that the works	D
E		performed comply with the main contract; you are aware	15
L		of that?	E
F	А.	Yes.	F
G	Q.	So that's one level of a control there, would you say?	G
Н	А.	Yes, clearly.	Н
I	Q.	Then higher, there is a layer of the relationship of the	I
J		main contractor and then the developer?	J
K	Α.	Absolutely.	K
	Q.	And this is where another contract comes in.	
L	Α.	Yes.	L
M	Q.	The main contract, that the developer grants to the main	M
N		contractor, to build that estate?	N
0	А.	And each step up, the importance of the plumbing becomes	O
P		diluted, because you have a larger contract, and the	P
Q			Q
R		process, strictly speaking, should be designed to make	R
		sure that because you are using specialists for	
S		specialist tasks, that should prevent the problems	S
T		happening that did happen.	T
U	Q.	You say "diluted" meaning people more remote from the	U
V	T.	- 114 -	v

A	Annex: 1	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water	Day 57 B
C		licensed plumbers becomes less in touch with the	C
D		importance of the	D
E	Α.	No. They have a whole range of very important is	sues E
T.		that they have to deal with, right back to what I	
F		saying yesterday, making sure that the building doe	sn't
G		fall down. So they have a whole range of differe	nt G
Н		things, and equally they are very, very important.	But H
I		plumbing may not be seen because in the whole	I
J		relation to a project like that, it is a relative	ly J
K		small part, but it is a very important part. That's	s why
L		it is important to have specialists and a system	that L
		ensures that that is delivered properly, because	the
M		long-term impact can be quite significant.	М
N	Q.	Again, that's where your eyes on the ball becomes	N
0		important. Because it's a small part, it may be	0
P		overlooked, then somebody would have to draw everybo	dy's P
Q		eyeballs back to the ball?	Q
R	Α.	Absolutely.	R
	Q.	Then we go back to the whole philosophy about that	.t
S		paper, water safety plans, and all that comes in?	S
T			Т
U	Α.	Yes. Within a water safety plan, one of the part	s of ${f U}$
V	Transcri	- 115 - pt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	E
C	that would be that you must have an appropriately	C
D	qualified person who is aware of their requirements, and	Ι
E	so on. So that's	F
F	Q. Risk identification, hazard identification and all that	.
r	comes in?	I
G	A. Yes. To an extent, you have that already; it's just not	(
Н	laid out in that form, and would perhaps benefit from	I
I	being laid out in that form.	I
J	Q. Yes. One gets wise after the event. If we had the	J
K	water safety plans earlier, then perhaps]
L	A. That's what water safety plans partly are supposed to be]
M	about, learning from experience.	I
N	Q. Yes. I'm just trying to see whether you are aware of	I
o	some of the factual matters in this case. Now, it's not	(
D	the case I say "HA"; HA or HD, it doesn't matter	<u>-</u>
P	that the Housing Authority just say, "Okay, we have this	I
Q	provision in the contract and we wash our hands of it	(
R	already" it really is not that.]
S	A. I am aware of that, and I have discussed it with the	\$
T	Housing Department, senior people within the Housing	7
U	Department. It's not at all that. It's a matter of it	τ
V	- 116 -	•

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		gets lost in all the other stuff, and that's why having	C
D		in place the appropriate requirements, and understanding	D
E		from individuals of the importance of their particular	E
F		area, but also it has to be seen at a very high level,	F
G		at the higher supervisory level, the understanding that	G
Н		this is important, and when the person who's	Н
I		responsible, perhaps the licensed plumber, says, "This	I
J		is important, we have to do this", they take notice,	J
K		because they have some responsibility in this.	K
L	Q.	Yes. This is why I don't want anybody to misread your	L
M		report, especially paragraph 47, where you talk in terms	1.
IVI		of the HA responsibility and role; paragraph 78, you	N
N		again refer to HA's responsibility and role.	N
0	Α.	Yes.	O
P	Q.	I just want to put those two paragraphs in context of	P
Q		our discussion so far. The regulatory regime, the	Q
R		existing regime that we have we have the licensed	R
S		plumbers, we have WSD; these are the entities, shall we	
		say, who should have their eyes on the quality of the	S
T		water "should". Whether they did is probably	Т
U		a different question. "Should"; you would agree with	U
V		- 117 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		that?	C
D	Α.	Not necessarily, because it depends on the structure,	D
E		regulatory structure that you have in place.	E
	Q.	I've been through all that with you.	
F	Α.	You can't say that's why I'm not prepared to	F
G	Q.	No. I'm just I think I'm trying to give you the	G
Н		balanced approach.	Н
I			I
J	Α.	Okay.	J
K	Q.	It's not that nobody else should even look at it. I'm	K
L		not saying that for one moment.	L
_	Α.	No.	L
M	Q.	But primarily, the ones in a big project, complex	M
N		project like this I think you yesterday also said,	N
0		"Yes, these other people, quite rightly, their primary	0
P		priority was to make sure that the building that they	P
Q		have put up is not going to fall down, so they may have	Q
R		lost sight of water quality." That's your evidence	R
S		yesterday.	S
D	Α.	Yes.	3
T	Q.	So eyes on the ball.	T
U	Α.	Yes.	U
V	Transcr	- 118 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	And I'm saying, in this scheme of things, when you make	C
D	a	your comment in paragraphs 47 and 78, we have to look	D
E		the situation where, in a multi-faceted construction	E
F		project, when it is likely that other people have their	F
G		eyes on some other matters of priority to them, then if	G
Н		one has to introduce back into that monitoring system	Н
I		the monitoring of water quality, then the job is really	I
T		primarily on the experts.	
J	Α.	Yes, but there is a requirement at the higher level, at	J
K		the early stages of, let's say, the project that when	K
L		requirements are put into a contract, that the people	L
M			M
N		putting together the contract understand why those	N
0		requirements are there. It was very, very clear, from	O
P		the evidence given, that there was no understanding of	P
•		why there were requirements in that contract. So it	Г
Q		starts to crumble a little bit around the edges here.	Q
R	Q.	In order to make people understand, again, the need for	R
S		heightened awareness, you need to identify that as	S
T		something you should watch out for?	Т
U	Α.	I would argue with you that if you highlighted an item	U
v		- 119 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	within a contract, you, to an extent, should know that	C
D	that is important. If it's not important, why is it in	D
E	the contract specifically highlighted?	E
F	Q. I just want to draw attention to a few things, to see whether you have any comment. In the project	F
G	administration, in a project administration, for example	G
Н	like HA as developer of the project, they would	Н
I	require HA had a requirement that main contractors	I
J	A. Yes.	J
K	Q should manage their subcontractors. You are aware	K
L	of	L
M	that?	M
N	A. I am aware of that.Q. Of course, in this connection, managing subcontractors	N
0	to perform duties required under the main contract also	0
P	means monitoring use of correct materials; you are aware	P
Q	of that?	Q
R		R
S	A. It does. It does.	S
T	Q. Also, are you aware that the main contractors submit	T
U	A. Yes.Q the subcontractors', what is it, management plans	U
V	- 120 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	Yes.	C
D	Q.	to the HA, in which, on paper, they say they will	D
E		monitor the use of correct materials? Are you aware of	E
T.		that?	-
F	Α.	Yes, I am aware of that, and that's why I have made the	F
G		recommendation that in the contracts, before the	G
Н		contracts are let, it's very important that the HA make	Н
I		sure that there is a quality assurance train put in	I
J		place by the contractor, to make sure that things like	J
K		this are actually followed through. And that's in the	K
T		interests of the HA as letting the contract.	
L	Q.	Of course there is this process of the approval of the	L
M		use of materials, and you are aware of that?	M
N	Α.	Yes.	N
0	Q.	There is no suggestion in these proceedings at all that	0
P		an approval system has gone wrong. It's not the	P
Q		approval, because when it is submitted for approval,	Q
R		solder was submitted and was approved, and the substance	
K		that has been approved is FRY 99. So, in that aspect,	R
S		there is an approval system in place, and in this case	S
T		it's not because the approval system has gone wrong?	T
U			U
V	Transar	- 121 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Assion of Inquiry into Lead Found in Drinking Water Day 57	В
C		Are you aware of that?	C
D	Α.	Yes, I'm aware of that, and it's somewhere that I'm	D
E		not I have some difficulties with what you are	E
F		saying. I think the reason that the system has gone	F
•		wrong is because the approval is very much a case of	r
G		just looking at what the paper says, "We are going to	G
Н		use the right materials, this is the list of materials	Н
I		we are going to use". And again I would re-emphasise,	I
J		my recommendation is there is a quality assurance the	J
K		HA need to make sure there's a quality assurance process	K
L		in place before they let the contract, as part of the	L
3.6		contract requirements.	
M	Q.	Yes. This is	M
N	Α.	To make sure that all the way down	N
0	Q.	I understand that. But perhaps you can address my	0
P		question. In the quality assurance in the contract,	P
Q		there is a requirement that the main contractor will	Q
R		have to use approved materials; subcontractor will have	R
S		to use materials that comply with the main contract,	S
		which indirectly means they also have to use the correct	3
Т		materials.	Т
U		There is in place an approval system, and in this	U
\mathbf{v}		- 122 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	case the approval system has there is nothing to	C
D	suggest the approval system falls short in the sense of	D
E	wrongly approving leaded materials to go into the	E
F	plumbing works. The approval system has shown that only	F
G	prumbing works. The approvar system has shown that only	G
Ü	FRY 99C grade lead-free solder should be used.	G
Н	A. Will be used, yes.	Н
I	Q. So it's not to do with letting out the contract or the	I
J	approval system. These are control measures, would you	J
K	not say? According to the flowchart, these are control	K
L	measures that are properly in place?	L
	A. They are not presented in quite that way at this stage,	
M	because the importance of them as control measures is	M
N	clearly, from the evidence of senior staff in HD, not	N
0	understood. So there are some issues in the climate of	0
P	approval, perhaps that's a way of saying it. If you	P
Q	don't understand the reason why it's important, then the	Q
R	emphasis in the contract is perhaps not as strong as it	R
S	ought to be, or the application of the contract, shall	S
	I say.	
T	Q. I understand you. You are not saying somehow this	T
U	control measure itself is defective. It's people	U
V	- 123 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		involved in the control	C
D	Α.	Absolutely.	D
E	Q.	Again, it's a question of implementation people	E
		involved in this control you say should have	
F		a heightened awareness of why particular things are put	F
G		there as control?	G
Н	Α.	Yes, or in this case at least some awareness.	Н
I			I
J	Q.	Some awareness, yes. Well we heard that they had a	J
K		general awareness of the health effect of lead but	K
L		not	
L	Α.	Well, the chief architect said that he wasn't aware that	L
M		lead could be a problem.	M
N	Q.	But we had other evidence as well.	N
0	Α.	Yes.	0
P	Q.	Then the question really is that again, it's not the	P
Q		question of somehow this system is these monitoring	Q
R		measures or controls are wrongly placed. It's not.	R
		These are proper controls in the system?	
S	Α.	It has been throughout the implementation of the	S
T		controls.	Т
U	Q.	Exactly. Then it comes to implementation, of	U
V	T	- 124 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 5	57 B
C	course we are looking here not wholescale of	C
D	standards falling short, but then, on a very specifi	D
E	matter of the solder posing which is allowed to	E
F	leach, the wrong kind of use of the material with th	e F
-	result of lead leaching into the water	r
G	A. And also some of the figures.	G
Н	Q then it's a very specific risk, isn't it? It's no	t H
I	the wholescale of things breaking down, or your contro	ı I
J	breaking down?	J
K	A. That's one of the issues. It is very specific but it'	s K
L	very importantly specific, and also the use of the	L
M	low-lead copper alloy fittings; it's another area.	М
N	Understanding why that's important is key to	N
0	appropriate implementation.	0
P	Q. Yes. Now, I don't think we I believe	P
Q	A. I think we are saying the same thing.	Q
R	Q. We are stating more or less the same thing; it's jus	t R
S	a question of emphasis.	S
D	A. (Nodded head).	3
T	Q. Then ultimately I have to say, understanding of course	T ,
U	as you say, why people have taken their eyes off the	U
V	- 125 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	ball was because maybe for a long time nothing has gone	C
D	wrong, so people have lowered awareness?	D
E	A. That's what the water safety plan is supposed to fix.	E
	Q. Exactly.	2
F	A. By having processes in place and being renewed and	F
G	reviewed, that is supposed to take away the risk of	G
Н	<pre>people saying, "It's never happened so it's not going to</pre>	Н
I		I
J	happen again."	J
K	Q. Exactly. That was where all that risk management, risk identification, all of that comes back into the picture?	K
L	You agree?	L
_		L
M	A. Yes. Absolutely.	M
N	CHAIRMAN: But then when copper pipes were introduced in,	N
0	say, 2002 to 2005, the HA simply did not conduct or did	0
P	not identify any hazard in respect of lead at all?	n
1		P
Q	A. No.	Q
R	CHAIRMAN: And therefore there was simply no risk assessment	R
S	whatever?	S
T	A. Yes, from what I've seen, that was the assumption, but	T
U	it's more or less what you (indicating Mr Ho) are also	U
v	- 126 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	saying, that because there was a requirement in place	C
D	for low-lead solder at that time, it was just assumed	D
E	that you would not get any of the other hazards. There	E
	wasn't a proper hazard assessment and risk assessment,	
F	and the hazard assessment was, "Well, lead can come from	F
G	solder. We've put this process in place. Is it	G
Н	possible for lead solder to be used?"	Н
I	MR HO: Yes.	I
J	A. And the answer, quite clearly, has been "yes".	J
K	CHAIRMAN: Not only lead solder but, as we have looked at	K
L	the specifications, in fact save and except for a few	L
	items, almost all the materials within the plumbing	
M	systems have not been required or were not required for	M
N	QC or checking whatsoever.	N
0	A. That's right.	0
P	MR HO: Of course we will have to deal with that, but the	P
Q	question also is those people for example, the	Q
R	plumbers, WSD, who have or at least should have their	R
	eyes on the ball should actually raise if they see	
S	that that may be an instance where there might be	S
T		T
U	a risk, to raise it?	U
V	- 127 -	V

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A	
В		ommission of Inquiry into access Lead Found in Drinking Water Day 57		
C	Α.	Yes, and I think there is also an issue around as to the	C	
D		procedures that they have in place at that level on	D	
E		a day-to-day basis, to ensure that things don't go	E	
		wrong.		
F		When people let's say plumbers when the	F	
G		plumbers are under pressure to get work completed, if	G	
Н		you run out of unleaded solder, are you going to, if	Н	
I		particularly I don't know what the contract	I	
J		conditions are for them, but if you are not getting paid	J	
K		while you go off to find some unleaded solder, and you	K	
L		happen to have some leaded solder, there will be a very	L	
		strong temptation to use it.		
M	Q.	Yes. That comes back to the actual monitoring of	M	
N		materials delivered on site, and so on.	N	
0	Α.	And ensuring that the process of supply, et cetera, is	0	
P		appropriate for the circumstances.	P	
Q	Q.	To that extent, of course, you know it's the main	Q	
R		contractors I have already put it to you that in the	R	
		subcontractor's monitoring plan, it says they will make		
S		sure that the correct materials are being delivered to	S	
T		site.	T	
U	Α.	Yes, and there's been effectively a series of failures	U	
V	Transcri	- 128 - pt by DTI Corporation Asia, Limited	V	

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		in that respect.	C
D	Q.	Right. Of course, then yesterday, I think counsel	D
E			E
F		for the Commission has canvassed with you certain	TC
r		aspects of the verification aspect, like the form 6210	F
G		of the HA. Now, are you aware that in fact that form is	G
Н		updated through a process, again, of assessing what are	Н
I		items that may go wrong and addressing the relevant	I
J		items?	J
K	А.	I'm not specifically aware of it. I would be surprised	K
т		if it wasn't updated at intervals because of	T
L	Q.	Yes, and that is the result of, I don't know whether you	L
M		are aware of the deputy director's evidence, when she	M
N		came along and gave evidence quite early on in these	N
0		proceedings. She said that updating the process depends	0
P		very much, for example, on whether or not in the past	P
Q		there's been a problem with certain materials?	Q
R	Α.	Yes, I was aware of that.	R
S	Q.	Again, that's a matter of risk assessment there?	e.
	А.	Well, it's also it's risk assessment and	S
T		understanding the hazards, both of those two, and if you	Т
U		don't understand the hazards, if you are not aware of	U
V		- 129 -	v

11	Аппех. 1	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into Lead Found in Drinking Water	Day 57 B
C		the hazards, then you are not aware of the risks.	C
D	Q.	Of course, you are not suggesting that because pe	eople D
E		in the position like a developer, like the HA in	this E
F		case perhaps it also applies to other private	F
		developers as well you know, they should 100 per	cent
G		check on materials delivered on site. I don't see	that
Н			Н
I		as your recommendation?	I
J	А.	No. I think they should be delegating there sh	nould ${f J}$
K		be a clear delegation, clear responsibilities, cl	.ear K
L		demarcation of responsibilities, and that has to	be L
		clear. I haven't seen the contracts themselves.	
M		I obviously wasn't here when the process was going	y on.
N		But having talked to a number of people who were	N
O		involved, fundamentally everybody is so busy, there	e was O
P		not the proper presentation or clarification of t	that P
Q		sort of	Q
R	Q.	But it wouldn't on a complex project like the	high R
c		building blocks we have, it wouldn't be an efficien	t use
S		of resources, if the developer were then to monitor	${f s}$ each
T		item of materials that come onto the site? It's	just
U		practically impossible.	U
v		- 130 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Right, but the process that's been suggested solves that	C
D	problem, that for some of these smaller items which are	D
E	difficult to identify, that there is central purchasing.	E
F	Q. Of course, this is what is being recommended. But I'm	F
	just saying, before these recommendations, and I see in	
G	your report you have actually endorsed these	G
Н	recommendations as being positive and constructive and	Н
I	I think you also used the word "appropriate" but even	I
J	before the introduction of these measures, you don't	J
K	expect the developer to have to devote the resources of	K
L		L
M	having to check on materials 100 per cent? It must be a sort of selective process?	M
N	A. Yes, and basically, what I would expect the developer	N
0	to	0
	do that the developer knows their responsibilities	Ü
P	and that they have overall responsibility. The	P
Q	contractor, for example	Q
R	Q. On the construction side of things.	R
S	A. Absolutely, and I would expect them to have in place	S
T	procedures that will ensure that their subcontractors	Т
U	and others will properly carry out the checks that are	U
V	- 131 - Transcript by DTI Corporation Asia Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		needed.	C
D	Q.	Yes. This is where I think counsel for the Commission	D
E		yesterday was also saying now, in contract	E
F		administration, it's not just developer, main	
Г		contractors, subcontractors.	F
G	Α.	No, no.	G
Н	Q.	But to avoid people taking their eyes off water quality,	Н
I		then WSD does have a role to play, even in the contract	I
J		administration, the project administration?	J
K		You have agreed with my learned friend there.	K
L	Α.	I think that they do have a role, but again it goes back	L
L		to consultation.	L
M	Q.	Engagement?	M
N	Α.	Yes.	N
0	Q.	Right. I understand "engagement", because you use	o
P			P
Q		"engagement" in a very special sense.	Q
R	Α.	Engagement is a two-way process and it's something that	R
		I believe is very important for Hong Kong, that	K
S		departments, groups, need to be prepared to engage a lot	S
T		more. It's not an erosion of their authority. It's	T
U		a reaffirmation of their authority.	U
v	Transor	- 132 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. And the engagement that we saw I apologise if I'm	C
D	repeating myself has been also that when copper pipes	D
E	were introduced, the WSD was specifically asked to	E
E	comment about the use of copper pipes. That's a form of	
F	engagement, isn't it?	F
G	CHAIRMAN: I think there are also constant, regular meetings	G
Н	between the WSD and the HD, regular meetings between	Н
I	them, to exchange different views on matters. So there	I
J	are the platforms, but exactly what they talk about,	J
K	that's another matter.	K
L	A. I would agree, Chairman. I was about to ask that: what	L
	do they actually cover and is it really important stuff?	
M	MR HO: The old chestnut: really, perhaps the ball has not	M
N	been particularly identified for the eyes to focus on?	N
О	A. Yes. I think that's a very good way of saying it.	O
P	I think now that we have had something that's gone	P
Q	wrong, there's nothing like something going wrong to	Q
R	focus minds on what they should be focusing on. As long	R
S	as it doesn't take them away from things that are	S
Tr.		
T	important that they have been dealing with.	T
U	CHAIRMAN: It's now 1 o'clock, and I think some of you do	U
V	- 133 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	have lunch engagements. Let's go to our engagements.	C
D	(1.00 pm)	D
T.	(The luncheon adjournment)	_
E	(2.30 pm)	E
F	CHAIRMAN: Yes.	F
G	MR HO: Professor, there are just a couple of perhaps	G
Н	smaller points that I want to discuss with you.	Н
I	Can I invite you to go to paragraph 94 of your	I
J	report, please, at page 123.	J
K	So understand your paragraph in a perhaps more	K
L	positive and constructive light, are you suggesting that	L
M	now that the incident has come to light, there should be	M
	a more co-ordinated effort? You here, in the fourth	
N	line of the paragraph, suggest a manual covering	N
0		0
P	installation of plumbing works in buildings Hong Kong.	P
Q	Do you see that?	Q
R	A. Yes.	R
•	Q. Is that the sort of water safety plans that you have in	K
S	mind in making that comment?	S
T	A. Yes, and it would be really taking the process and then	T
U	developing, using that to develop a document that would	U
V	- 134 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		help all parties, putting all of the information in one	C
D		place, and pulling the various points together, because	D
E			E
F		one of the things that is apparent is that information is quite diffuse.	F
G	Q.	Right. I see.	G
Н	Α.	It's an opportunity for the two departments to actually	Н
I		pull together the information and the requirements and	I
J		put them in one place so	J
K	Q.	No sorry.	K
L	Α.	No, no, that's	L
3.4	Q.	Because I notice that you seem to suggest that there	
M		should be a manual, you say "covering the installation	M
N		of plumbing in buildings in Hong Kong" now, you are	N
0		not confining yourself, for example, to public housing?	O
P		You are thinking of something larger; am I reading you	P
Q		correctly?	Q
R	Α.	Yes. I am thinking of something broader than just the	R
S		public housing.	S
	Q.	Broader.	ъ
T	Α.	Plumbing takes place plumbing goes into loads of	Т
U		buildings and it is not unreasonable that there should	U
V	Transcr	- 135 - ipt by DTI Corporation Asia, Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		be a document that guides everybody.	C
D	Q.	Indeed. You are not just thinking about the WSD or the	D
E		HA, who mainly deal with public housing; you are also	E
_		thinking about, for example, other government buildings	
F		it would be the ASD or the Buildings Department, or even	F
G		private developers or institutes of whatever?	G
Н			Н
I	Α.	Yes, I think they would have an input, and this is	I
J		a real opportunity for Hong Kong to deal with the	J
K		plumbing issue on a much broader basis, to ensure that	K
L		in the future problems are not going to arise, whether	L
L		they be in public buildings or private housing or in	L
M		public housing, and avoiding the problems for the future	M
N		would be good.	N
0		I think that the experience that the WSD and HD have	O
P		had over this incident puts them in a very, very good	P
Q		position to take the lead on something like this.	Q
R	Q.	Certainly. I read that as an invitation that there	R
G		should be co-ordinated efforts for not just the two	a
S		named departments there	S
T	Α.	Absolutely.	T
U	Q.	but, you know, on a broader scale including other	U
V	Transcr	- 136 - ript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	perhaps other stakeholders which perhaps have not been	C
D	expressly mentioned here?	D
E	A. Absolutely. I just left it as "stakeholders", because	E
_	that can include I don't know all of the different	
F	groups in Hong Kong. So that would include whoever is	F
G	appropriate.	G
Н	Q. Do you envisage a separate document for, say, water	Н
I	supply as opposed to drainage and sewage?	I
J	A. I think there are advantages in having one document with	J
K	three separate sections, or you could have one document.	K
L		L
M	It gives you the opportunity to start the process, and	M
IVI	having got one document then you can move on to others,	IVI
N	because I know how these things take time, and having	N
0	a model document is actually quite beneficial.	O
P	We have a situation here where this relates to	P
Q	public health directly, and plumbing is very important.	Q
R	In terms of water safety plans, you have there a reason	R
S	for dealing with it, and to an extent you could also	a
5	incorporate management procedures for such things	S
T	building management procedures of plumbing for such	T
U	things as Legionella control.	U
v	- 137 - Transcript by DTI Corporation Asia Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
С	Q.	Thank you.	C
D		There is just one minor point I would like to	D
E		discuss with you. That goes back to paragraph 18 in	E
.		your report, please, on page 95. In paragraph 18, the	
F		premise there is that the task force, in their report,	F
G		have looked at three houses, two from Kai Ching and one	G
Н		from Kwai Luen, and there they have done isotopic	Н
I		tests	I
J	Α.	Yes.	J
K	Q.	and so on, to find out whether in fact the lead is	K
		mostly contributed from the solder or maybe other parts	_
L		of the plumbing system.	L
M	Α.	Yes.	M
N	Q.	So that's the context. You say then, over the page, at	N
0			0
P		the top of page 96:	P
Q		" it is reasonable to make a worst case	Q
R		assumption that the findings of the report would apply	R
		to all of the developments"	
S		What I understand you there to be saying is that of	S
T		these 11 estates, even though the task force has looked	T
U		at two houses, two blocks from Kai Ching, one from	U
V	Transcr	- 138 - ipt by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Kwai Luen, but it is a reasonable assumption that the	C
D	same may apply to the other nine estates, and therefore	D
${f E}$	one can make a worst-case assumption they probably did;	E
F	that's the scenario that we are looking at?	F
	A. Yes. My view is that taking a worst-case assumption	•
G	from that is the best possible position. You are not	G
Н	making assumptions that all is well when it's not.	Н
I	Q. Right.	I
J	A. And in view of the fact that you needed to make some	J
K	progress, going back and sampling and going through the	K
	full process, all of the other buildings would take	
L	a long time.	L
M	Q. So you make an assumption that what you found in	M
N	Kai Ching and Kwai Luen may apply to the other nine	N
О	estates?	0
P	A. Yes, and then you can go back and do sampling as	P
Q	appropriate.	Q
R	Q. This is where I want your last sentence here, this is	R
S		S
T	where I want to draw your attention to. Of course, now,	T
U	I don't know whether you are aware that remedial	U
V	- 139 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	works you talk about remedial works in the last	C
D	sentence of that paragraph.	D
E	A. Yes.	E
_	Q. I don't know if you are aware, in fact remedial works	L
F	are being undertaken to replace the parts that may be	F
G	affected by the solder	G
Н	A. Yes. I have been made aware of that since I arrived in	Н
I	Hong Kong.	I
J	Q. So we are not going back to further testings, because	J
K	the worst-case assumption has in fact been adopted, and	K
L	then remedial works are being undertaken in all of the	L
	11 estates? You are aware of that?	
M	A. I am now aware of that, so that, to an extent, is	M
N	redundant as a recommendation.	N
0	MR HO: Thank you. Thank you very much, Professor. I am	O
P	very obliged for you to have put up with my questions.	P
Q	Thank you.	Q
R	Cross-examination by MR LEE	R
A.	MR LEE: Professor, you said that you would use two terms	K
S	interchangeably, "Housing Authority" and "Housing	S
T	Department"; is that right?	T
U	A. I have done that, yes.	U
V	- 140 - Transcript by DTI Corporation Asia Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	I think most of us have done that and will continue to	C
D			D
E		do that. Don't worry about it. But do you also use	E
		other two terms interchangeably, "Water Authority" and	
F		"Water Supplies Department"?	F
G	Α.	I have used Water Authority very rarely. It's mostly	G
Н		"Water Supplies Department".	Н
I	Q.	Because you are aware of the distinction?	I
J	Α.	There is a distinction, yes, but there is also	J
K		a blurring of the boundary between the two.	K
L	Q.	I can see that you are a little saddened by the fact	L
		that the two departments don't seem to be tangoing	L
M		together?	M
N	Α.	I am concerned this seems to be a situation that I have	N
O		seen in a number of circumstances in Hong Kong where	o
P		there is a lot of compartmentalisation, and	P
Q		compartmentalisation often leads to a lack of proper	Q
R		co-ordination between different groups.	R
	Q.	Even during this hearing, you see two different groups	K
S		of lawyers.	S
T	Α.	Yes.	Т
U	Q.	In a way, they are really two men in the same boat, and	U
V	Tuess	- 141 -	v

A	Annex: Realtin	ne English Transcription based on floor / Simultaneou.	s Interpretation	A
В	Commission of Excess Lead Fo	f Inquiry into ound in Drinking Water	Day 57	В
C	if	the boat sinks, they both get	into lead-infested	\mathbf{c}
D	wat	er?		D
E	A. Yes	Yes.		E
F	Q. You	have been asked questions on th	e framework of water	TC.
r	saf	ety.		F
G				G
Н	A. Yes	•		Н
I	Q. But	there is also a manual, isn't	there? I will give	Ι
J	you	just a few pages to look at an	d ask you just a few	J
K	que	stions on it.		K
L		The origin of this, this is a ph	notostat copy, one of	L
	my	juniors actually went to the we	eb and he has	
M	pho	tostatted it now. I'm sure you	have seen that	M
N	bef	ore? (Handed).		N
0	A. I a	m aware of this.		o
P	Q. I a	m sure you are familiar with i	t.	P
Q		If you start from the second p	page and turn to the	Q
R	bac	k page, you see a chart.		R
a	A. Yes	·-		
S	Q. Mos	t of the things there, of cours	e, are already to be	S
T	fou	nd in the framework?		T
U	A. Yes	•		U
V	To a constitute of the constit	- 142 -		V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. You see for instance at the top you have "Preparation",	C
D	and then in the left side you have "Feedback" and then	D
E	in the middle you have "System assessment, operational	E
T-2	monitoring", and then "Management and communication",	_
F	and on the right-hand side you have "Upgrade". I shan't	F
G	read the other words because I haven't read them before	G
Н	and I don't intend to read them now, but I assume it's	H
I	the same as the framework.	I
J	Then if you look at the contents, these are the	J
K		K
L	sorts of things that you would expect to find in any	L
	well-prepared water safety plan; right?	
M	A. Correct. There may be modifications. It is a guidance	M
N	and it is intended to be used with thought and care.	N
0	Q. Yes. But you have been looking at Hong Kong's own water	0
P	safety plan, different versions of it; right?	P
Q	A. Not so much the water safety plan but the layout of	Q
R	and indeed it's not	R
	Q. You don't consider that to be a plan?	
S	A. I don't consider that to be a water safety plan.	S
T	A water safety plan has got a lot more to it and you	T
U	cannot a water safety plan is not just a single	U
v	- 143 - Transcript by DTI Corporation Asia Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		document.	C
D	Q.	No. But the trouble is they call it a plan, a water	D
E		safety plan.	E
.	А.	That's because that tends to be shorthand. I don't want	
F		to get into areas where I suspect I may not be in	F
G		a position to answer, because I have not spent	G
Н		a significant amount of time with the department, in	Н
I		order to go through the process of the water safety	I
J		plan	J
K	Q.	But you have read that document?	K
·	Α.	I've read the document, yes.	
L	Q.	And from what you have said so far in answer to my	L
M		questions, I don't suppose you would consider it	M
N			N
0		actually to be a water safety plan as such?	0
P	Α.	It's the outline of the plan that's being put in place	P
Q		by the WSD.	Q
R	Q.	It's a skeleton, or not even a full skeleton?	
	Α.	A little bit more detail but basically it's a skeleton,	R
S		and of course they've got the complexity of the fact	S
T		that they've got a whole series of different sources,	T
U		different treatment plants, and so on. So they talk	U
V	T	- 144 -	v

A	Annex: 1	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Lead Found in Drinking Water Day 57	В
C		about how that's dealt with, and that's very important,	C
D		and I fully accept that and agree with that.	D
E	Q.	You mean you don't consider it to be a water safety plan	E
_		as such?	
F	Α.	That's not the water safety plan. A water safety plan	F
G		is not just a document. A water safety plan goes way	G
Н		beyond that, and it's got a whole range of different	Н
I		steps in for different treatment works. It's simply not	I
J		possible to put that into that document. There will be	J
K		a number of other supporting documents which are really	K
L		important for it.	L
L	Q.	Of course you cannot, in the context of this case, for	L
M		this public housing you cannot have a water safety	M
N		plan in relation to these houses or these blocks when	N
0		the water stops at the connection point?	O
P	Α.	That's not strictly true.	P
Q	Q.	You mean you can have a water safety plan when it stops	Q
R			R
S		at the connection point?	S
	Α.	We are in danger of going back to lists of chemicals and	٥
T		the guidelines, the guidelines and the guidelines and	T
U		the guidelines. They provide guidance. With a water	U
\mathbf{V}	T	- 145 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	safety plan, a water safety plan there isn't	C
D	a particular form of a water safety plan, but a water	D
E	safety plan should try and cover something about	E
.	internal plumbing systems and delivery to the tap. That	
F	may be, in some cases, may start off as being very, very	F
G	basic, but it can go on to eventually develop into	G
Н	something much more extensive. And the plan can take	Н
I	a number of different forms. There may be a range of	I
J	versions of what will be done in management within	J
K	buildings.	K
L	So, yes, it's possible, but it's not possible for	L
٢	WSD to do it on their own. That is not possible, and	L
M	they would need to work with other stakeholders in order	M
N	to do that. But it wouldn't necessarily be their first	N
0	priority. Their first priority would be to start the	O
P	process of the supply train.	P
Q	Q. Of course. I know you are a very charitable man. You	Q
R	are trying to be nice.	R
S	A. No, I'm being honest. Having worked with water safety	
8	plans and	S
T	Q. So that cannot be a water safety plan, can it?	T
U		U
V	- 146 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Yes, it	C
D	Q. They don't really care what happens to the water once it	D
E	passes beyond the connection point. They don't even	E
F	care anymore.	F
G	A. I don't think you can say that. In terms of a water	G
Н	safety plan, you go as far as you can and then you start	н
I	to develop beyond. They have dealt with much of what is	I
	directly under their control. There is a need for that	
J	to go further, and that development further will involve	J
K	a lot of other people.	K
L	Where my criticism lies is that in the initial	L
M	establishment of the process of water safety plans,	M
N	I think the level of engagement, to use the term again,	N
0	with other important stakeholders has not I do not	o
P	see that clearly in the information that I have been	D.
r	given and I've been able to see, and in the discussions.	P
Q	Q. So they haven't reached even base 1?	Q
R	A. Yes, they have reached base 1. They've done quite	R
S	a lot.	S
T	Q. Well, what is that?	T
U	A. And the water safety plan with regard to the treatment	U
v	- 147 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	works, certainly, and much of the catchment; I think	C
D	things can go further.	D
E	But a water safety plan must not be considered as	E
F	something which is prepared and that's it. That's not	F
G	how it works. It should work by you start off with what	G
Н	you've got available, you make sure that the processes	Н
I	you have in place are working properly and efficiently	I
J	at all times, and that is often a starting point. But	J
K	you certainly don't have, "That's your plan." It will	K
L	develop and it will continue to develop over time, and	L
M	I would hope and I would anticipate that WSD will	M
	continue to develop those plans, and following this	
N	Inquiry I'm sincerely expecting that they will be	N
0	working with the HD and other stakeholders to take the	0
P	plan over the next stages.	P
Q	Q. Professor, you are not only a charitable man, you are	Q
R	also a man of hope. You are hoping that they will	R
S	A. I have every reason I have seen every reason to	S
	believe that this is going to happen.	
T	Q. Yes, I also want that to happen, because I represent the	Т
U	people who have been somewhat affected by this; right?	U
V	- 148 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	But you see, the trouble is, the Water Supplies	C
D	Department want to go back, according to some questions	D
E	asked you of this morning you see, instead of "from	E
F	source to tap", it's no longer from source to tap, so	${f F}$
G	how can it be a safety plan? A. The safety plan has you are asking something	G
Н	different to a water safety plan. You are saying, in	Н
I	terms of the responsibilities and statutory	I
J		J
K	responsibilities, et cetera, should WSD have	K
L	responsibility right through	L
L	Q. No.	L
M	A. But that's exactly what you are implying, because in	M
N	a water safety plan, WHO recognised that there may not	N
0	be the authority available to deal with different bits.	0
P	So a water supplier may not it is recognised fully	P
Q	that they may not be able to fully engage in what	Q
R	happens within buildings, because it may be outside	R
S	their control, and so on.	S
T	There is an issue here and that is in terms of how	T
U	Hong Kong decides that it wants to determine the	U
V	- 149 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	responsibility, and regulatory responsibility. That is	C
D	not clear.	D
E	The problem that I have encountered is that it is	E
	not clear, and it is difficult for a department that's	L
F	already taken or it is agreed that a position is taken,	F
G	that then they say, "We are going to extend our	G
Н	authority beyond this point."	Н
I	It is what should have happened and this is where	I
J	I would agree I think WSD and the other stakeholders,	J
K	Housing Department, et cetera, in this particular case,	K
L	HD, should have been talking much more closely, and	L
L	understanding that there is a need to ensure that water	L
M	quality in buildings is covered.	M
N		N
0	And the point about the Legionella is a particularly	0
P	pertinent point, because that is something that many,	P
Q	many countries have approaches to managing and dealing	Q
R	with water in buildings, in order to manage to prevent	R
g	Legionella. It's not just in air-conditioning units.	
S	Q. No.	S
T	A. So what you are saying is really to take a position that	T
U	is pushing for me to say that they should have had	U
V	- 150 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	authority to a particular point, but I can say that many	C
D	other countries don't have that.	D
E	Q. I don't think you understand my question. You have	E
F	given me a very long answer. The question is very	F
	simple. I'm looking at it from the consumers' point of	
G	view, and when you talk about the safety of water, water	G
Н	safety, I suppose it includes drinking water?	Н
I	A. It does include drinking water.	I
J	Q. And I get my drinking water from the tap.	J
K	A. Yes.	K
L	Q. So if it is not even included in the grand plan, water	L
	safety plan, the water which comes to me in the tap is	
M	excluded, because the water stops at the connection	M
N	point, so how can it be a water safety plan?	N
0	A. Sorry, that's not how a water safety plan works. That	0
P	is not how a water safety plan works. And a water	P
Q	safety plan is not a replacement for regulation. It is	Q
R		R
S	an adjunct to regulation.	S
	Q. Yes, in case something goes wrong, then they know how	
T	to	T
U	react quickly?	U
V	- 151 - Transcript by DTI Corporation Asia Limited	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	And also they can it responds, and it develops, and	C
D		it builds over time.	D
E	Q.	Oh, yes. But the overall objective is to ensure that	E
		the quality of the water is good, the water which comes	
F		to the consumer?	F
G	Α.	Is safe.	G
Н	Q.	That's the whole object of it.	Н
I	Α.	The overall objective.	I
J	Q.	I know there may be all sorts of difficulties	J
K		encountered. I'm not accepting it, but even assume that	K
		the Water Supplies Department have no control over the	
L		water once it gets into the public housing even	L
M		assuming that; I'm not putting the blame on them yet	M
N		all I'm saying is if that is so, then the document they	N
0		have prepared cannot properly be called a water safety	0
P		plan?	P
Q	Α.	I'm sorry, but it can. The WHO does not see this as	Q
R		being you have to have something all the way from source	
		to tap to start with. It's something which is under the	R
S		control it starts off with the water supplier. It's	S
T		very important that they have control over the water	T
U		supply parts.	U
v	Transcer	- 152 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	Q. So does the WHO consider that a plan can be properly	D
E	called a water safety plan when the water stops at the	E
	connection point?	
F	A. Well, it doesn't stop. The water safety plan will go	F
\mathbf{G}	to	G
Н	whatever bit that you want to take it to.	Н
I	Q. So a water safety plan in this context, as far as the	I
_	Water Supplies Department is concerned, is their plan	
J	to	J
K	make sure that the water is safe when it reaches the	K
L	connection point?	L
M	CHAIRMAN: I think there are many different kinds of water	M
W	safety plans.	1 V1
N	A. Absolutely, yes.	N
0	CHAIRMAN: There are water safety plans for, say, the	0
P	reservoir, there are water safety plans for treatment,	P
Q	and there are water safety plans, say, in Hong Kong, for	Q
R	pumping stations or pumping substations, et cetera. So	R
S	these can be regarded as proper water safety plans.	S
T.	But what you are talking is a different species.	
T	You are putting all those that I have mentioned aside	T
U	and you are concentrating solely on the public housing	U
V	- 153 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	estates.	C
D	MR LEE: For this reason: because those plans have nothing	D
E	to do with the consumers. They may not have anything to	E
	do with Housing.	
F	CHAIRMAN: I understand that. So at present there is no	F
G		G
Н	such water safety plan for housing estates and there's	Н
I	no water safety plan for, say, even private	I
J	developments.	J
K	So I think the Professor definitely will accept	K
L	that. So when you are talking about a water safety plan	L
	you have to be specific in order to elicit what you	
M	want.	M
N	MR LEE: What I want is simply the water which reaches the	N
0	consumer, but if you tell me no, for the purpose of this	0
P	case, there is no such plan, then okay, I	P
Q	CHAIRMAN: There is no such plan after the connection point.	Q
R	MR LEE: Is that right?	R
	A. At the moment.	
S	Q. I don't know whether you have read this book, "Hong Kong	S
T	Water Supply Reducing Lead in Drinking Water" A1,	T
U	tab 21, published by the Government Logistics	\mathbf{U}
${f v}$	- 154 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Department, but obviously you can see the information	C
D	that has come from the Water Supplies Department. It's	D
E	a document like this, a little book.	E
F	A. Yes, and I've copy of this at home.	17
Г	Q. Have you read this before?	F
G	A. I have.	G
Н	Q. Then if you turn to page 1, it says, "Drinking water	Н
I	supply in Hong Kong":	I
J	"The Water Supplies Department (WSD) is committed to	J
K		K
L	providing quality drinking water 24 hours a day to the	L
M	public."	M
	Then it talks about "raw water from Dongjiang" and	
N	so on. Then right at the end, the last sentence:	N
0	"It is then routed through building's internal	0
P	plumbing system which includes a sump tank, a roof tank,	P
Q	pipes and fittings before reaching the customer's tap."	Q
R	Then if you turn over to the next page, you see	R
S	a plan you see the lot boundary, and so on; right?	S
S	This is page 2 and page 3. Then if you turn to page 4,	8
T	at the top you see, "Water quality conforms to	T
U	international standards", and then on both sides you	\mathbf{U}
V	- 155 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	have "100 per cent premium", with stars, and so on, and	C
D	then "Water Quality Conforms to International	D
E	Standards".	E
F	"The quality of drinking water supplied by the WSD fully conforms to the WHO Guidelines. A Water Safety	F
G	Plan in accordance with the WHO Guidelines has been in	G
Н	place since 2007 to further ensure a safe water supply	Н
I	to customers."	I
J	That is why I am asking you these questions; do you	J
K	understand? I took them to mean they already have	K
L	a water safety plan, in accordance with the WHO	L
M	Guidelines, since 2007, and so the consumers ought to	M
N	feel safe?	N
0	A. They have, but WHO, in its advice on water safety plans,	0
P	does indicate that if you don't have the control over	P
Q	the building, then you need to get in other stakeholders	Q
R	and there needs to be a different approach to the way	R
S	that that is delivered.	S
T	Q. Yes.	Т
1	A. Now, they are providing water, according to their	1
U	summary. Where I would say there is a problem here is	U
V	- 156 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		Ssion of Inquiry into Lead Found in Drinking Water Da	ny 57 B
C		where they call about lead, chromium, cadmium and nic	c c
D		et cetera. There I would say since the sampling fo	D D
E		that needs to be at the tap, one can argue that that	is E
		slightly misleading.	
F	Q.	The whole thing I think the whole concept is at	F
G		tap. The whole concept is at the tap, right from t	G Che
Н		beginning, page 1, "Reaching the customer's tap."	Н
I	Α.	It doesn't specifically say that, and the reason i	t I
J		doesn't specifically say that is that many of the	J
K		parameters that are in the guidelines and this	is K
L		a problem with just taking the guidelines many of	the L
		parameters that are in the guidelines are covered by	caw
M		water treatment and distribution, and they will no	M
N		change in the building. There are a limited number	of N
0		parameters that change in the building.	0
P	Q.	The point is, when a customer gets a booklet like the	is, P
Q		he reads it and he feels very happy; the water is sa	fe? Q
R			R
g	Α.	That's a completely different question, whether th	
S		booklet is helpful or misleading for consumers is	S
T		a completely different question and I'm not prepared	to
U		comment on it.	U
v		- 157 -	${f v}$

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. I agree, but my question is that actually the water	C
D	people, the Water Supplies Department people, considered	D
E	that their document already is a water safety plan, in	E
-	accordance with WHO Guidelines. This is how they	
F	consider it, and they want the citizens of Hong Kong to	F
G	read it that way?	G
Н	A. And on this they point out that the waterworks and the	Н
I	Water Supplies Department finish at the lot boundary.	I
J	So, in actual fact, it is not clear it doesn't make	J
K	it as clear as it should be, but it is trying to make	K
L	out that the water safety plan is something that it is	L
	not.	
M	Q. Precisely.	M
N	A. No, you are trying to make out	N
0	Q. Sorry, I'm following their thinking. The chairman	0
P	correctly put to me that there were other plans and	P
Q	these other plans would stop at the connection point.	Q
R	But I am looking at their own document, which disavows	R
C	that. It says all the way to the tap.	~
S	CHAIRMAN: I don't think Prof Fawell can speak on behalf of	S
T	the WSD.	Т
U		U
V	- 158 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	MR LEE: All right.	C
D	CHAIRMAN: I think the witness for next week, one of the	D
E	witnesses is the deputy director. You should direct	E
_	your questions to the deputy director.	L
F	MR LEE: Yes, I will do.	F
G	CHAIRMAN: I understand what you are saying.	G
Н	A. I understand, Mr Chairman. I'm not prepared to answer	Н
I	but I understand.	I
J	MR LEE: Maybe I'm the only person who doesn't understand.	J
K	CHAIRMAN: So what you are saying, in effect, Mr Lee, is	K
L	that the first statement in fact is a half-true	L
_	statement?	L
M	MR LEE: Yes. But they all, from the customer's point of	M
N	view, they all want to see this water safety plan, but	N
0	there has to be a water safety plan in accordance with	0
P	the WHO Guidelines, and so far we haven't got it?	P
Q	A. With respect, I would say that what customers want is	Q
R	water that meets the standards.	R
a	Q. Of course. Of course.	_
S	A. That's slightly different.	S
T	Q. I know. We are all agreed on one thing, and that is the	T
U	water I drink has to be safe.	U
v	- 159 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
С	A. Yes.	C
D	Q. And so far I know it's safe because it's from inside	D
${f E}$	a bottle.	E
F	A. Do you know? And what is your basis for that?	F
G	Q. I opened it this morning	G
Н	A. You've been told it's in a bottle, you've been told that	Н
I	it's safe; you have no verification for that.	I
J	Q. Not even that, more than that, I found it in the bottle	J
K	and I had to open it like this (demonstrating), but	K
L	I agree with you, it could still have been tap water, it	L
M	could still be?	M
N	A. It could very easily be all sorts of water.	N
0	Q. Yes, yes. I also saw TV programmes to say that in fact	0
P	sometimes tap water is cleaner than bottled water?	
1	A. It can be, and one has to be very careful. What you are	P
Q	trying to do is really say, well, we need to have	Q
R	standards, we need to be able to demonstrate to the	R
S	public, to consumers, that their water is safe. There	S
T	has to be a way of doing it. Just having a water safety	T
U	plan is not necessarily going to demonstrate to	U
V	- 160 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation		A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		consumers that their water is safe.	C
D		Now, I understand the position, and I think it's	D
E		very important, because confidence in the public water	E
		supply is I believe absolutely paramount.	
F	Q.	The test of the water is in the drinking, not taking	F
G		a shower?	G
Н	Α.	No. I think in a lot of cases that's true. The taste	Н
I		will be very, very important, its appearance, its	I
J			J
K		temperature, and so on. But you can't see	K
_		contamination.	
L	Q.	That's the problem.	L
M	Α.	That therefore becomes important. I think that in	M
N		Hong Kong, the way that consumers have been I think	N
0		it's not unreasonable to say let down is that the	o
P		various processes that were in place, that were in	P
Q		place, to prevent the contamination occurring have	Q
R		broken down.	R
	Q.	Yes.	
S	Α.	And clearly that is partly what this Inquiry is about.	S
T		It's to address that.	T
U	Q.	Entirely, not partly.	U
V	Transcr	- 161 - ript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	It goes a little bit beyond that.	C
D	Q.	Of course the reason why we are looking into a water	D
E		safety plan at all is because we are all looking into	E
		the future; right? Of course, it wasn't there in the	£
F		past, so we hope they will come up with a good one, but	F
G		as you said, they have not even got the people together.	G
Н		That's the problem.	Н
I	Α.	I would agree that's a problem and we've had a lot of	I
J		discussion this morning, or a lot of exchange this	J
K		morning, about that particular issue. I have said that	K
		there should be much closer liaison between the various	
L		departments. There's got to be much more involvement of	L
M			M
N		different stakeholders. And that particularly becomes	N
0		important when you reach a situation where there is	0
P		a multiple involvement in the responsibility for	P
Q		delivering safe water, and within buildings you have	Q
R		multiple responsibilities. So it is really important	R
		that they get together.	
S		That is somewhere where I think that the consumers	S
T		in those affected buildings have been let down. You	T
U		can't expect them to know that they have contamination	U
V	T	- 162 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	in the water when you can't see it.	C
D	Q. Yes, of course. Of course the people who ought to be	D
E	there, the Customer Services Branch, won't even see you?	E
F	A. It wasn't that they wouldn't see me, it was just that	F
G	Q. It was just an accident?	G
Н	A. I was seeing a number of people. I had a day and	Н
I	a half, basically, in total. A lot of that time was	I
	spent with the task force, the task force members, and	
J	members people from HD, and I couldn't see them.	J
K	I agree that if they had really wanted to, they	K
L	could have asked to see me.	L
M	Q. They could even be lining up outside court to see you at	M
N	5 o'clock?	N
0	A. I hope not. I'm planning on going back.	O
P	DR WONG: Mr Chairman, we would be most happy with that.	P
Q	MR LEE: Good. That's good news.	Q
R		R
S	You mention rightly that our licensed plumbers'	S
Т	status is not perhaps as good as it should be?	Т
	A. That is my perception and my concern.	1
U	Q. Do you know how long it would take to train one of them	U
V	- 163 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	to be licensed?	C
D	A. I think it's about it's months rather than years, and	D
E	that is not unreasonable.	E
	Q. So I don't think, therefore, it is reasonable, at least	
F	for our purposes as to who should be responsible for the	F
G	quality of the drinking water, and so on, to look at	G
Н	them as if they were professional people, like doctors,	Н
I	engineers, architects or lawyers, in the context of	I
J	Hong Kong?	J
K	CHAIRMAN: I'm do sorry, what's your question?	K
	MR LEE: It won't be right to look at the status of these	
L	licensed plumbers and put them in the same status as	L
M	other professionals?	M
N	CHAIRMAN: Why not?	N
0	MR LEE: If they were trained in a few months.	O
P	CHAIRMAN: No, no. We know as a matter of fact that they	P
Q	now have to go through a three-year craft certificate.	Q
R	A. Yes, before they can	
K	CHAIRMAN: Before they practise, for another four years	R
S	no, incorrect. They can actually then go on to take	S
T	another course, to qualify themselves as a licensed	T
U		U
v	- 164 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	plumber.	C
D	So we are not talking about months. We are talking	D
E	about years, actually.	E
1 0	MR LEE: What about the older plumbers?	_
F	CHAIRMAN: For the older ones, there's no formal	F
G	qualification at all.	G
Н	MR LEE: And some of them are grandfathers.	Н
I	CHAIRMAN: Yes.	I
J	MR LEE: Do you know that they have no at least some of	J
K	them can't even decide what materials could be bought?	K
L	Sometimes, they are bought for them?	L
	CHAIRMAN: If you believe them.	
M	MR LEE: Yes, if you believe them.	M
N	A. Well, that is within what we have talked about and	N
O	what we know about the role of a licensed plumber, that	O
P	doesn't fit very well with their roles.	P
Q	But that isn't something that then becomes their	Q
R	responsibility. It means that others are not fulfilling	R
S	their responsibilities properly.	S
D	Q. Okay.	3
Т	CHAIRMAN: Can I ask you, Professor because you talk	Т
U	about skeleton WSD WSP. What exactly, because I have	U
V	- 165 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	read those WSPs myself too well, on the face of those	C
D	documents, it seems they are quite sort of comprehensive	D
E	to me.	E
F	A. The detail is very limited.	F
G	CHAIRMAN: Right.	G
Н	A. It's like so many things, the devil is in the detail,	Н
I	and one of the things you cannot put into a single	I
J	plan almost invariably, these things are living	J
K	documents, so you've got a framework, you've got the	K
L	skeleton that you can hang everything else on. That's	L
M	very important. The skeleton is interesting, but the detail, as	M
N	I have said in places in my statement, is not so	N
0	obvious. How they operate the distribution system is	O
P	not so clear from this, because that would involve	P
Q	a level of detail, explaining what processes are there	Q
R	to deal with planning out, have they got GIS maps of the	R
S	distribution system, how do they operate valves, do they	S
T	have records of whether valves are closed or open, all	T
	of these things. And you can't put everything onto the	
U	skeleton. The skeleton has a lot of flesh that's	U
V	- 166 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	different steps and different plans. You have operating	C
D	procedures. All of those are part of the water safety	D
E	plan.	E
F	MR LEE: Professor, you just mentioned about your experience	F
G	in Ireland, both you and your colleague, and it took six months. But did you have all the stakeholders together,	G
Н	working with you?	Н
I	A. We had not all of them at that stage. We hadn't been	I
J	through all of them. We had been through a number of	J
K	the stakeholders. And the water supplier it's	K
L	a publicly owned water supplier was still trying to	L
M		M
N	get to grips with the part of the plan that was going to	N
0	look at buildings, because there were a lot of different	0
P	stakeholders that needed to be involved. They knew some	P
Q	of the things and they had had dealings with their	Q
R	public the consumer department, who wanted to be	Q R
	trained. They were trained in what a water safety plan	
S	was about, so they knew about that. But they knew that a water safety plan would not be in the same form as the	S
T	water safety plan for the treatment works and the	T
U		U
V	- 168 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	distribution system. It's going to have various bits.	C
D	But the plan would involve a lot of different	D
E	stakeholders, and those stakeholders will vary,	E
	according to the circumstances that you are in. The	2
F	level of detail in the plan will depend on whether you	F
G	can access buildings, what sort of regulations are in	G
Н	place to support that.	Н
I	In Hong Kong, you have a number of those steps for	I
J	the water safety plan. The piece that's been missing is	J
K	that implementation, the level of that implementation.	K
L	It should have been very straightforward but, like in so	L
M	many things, when nothing has happened I'm reading	M
N	a book at the moment where they say, "We had a hurricane	N
0	in 1910 but we never have hurricanes here", and that	0
P	sort of reasoning, "It hasn't happened for ages so why	P
	would it happen again?" that sort of thinking is	
Q		Q
R	something that creeps in. It's not something that's	R
S	a conscious thought. It's an unconscious thought, and	S
T	it involves everybody.	T
U	Q. The hurricane is an act of God?	U
v	- 169 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day	57 B
C	A. No, I think it's an act of physical and meteorological	al C
D	conditions.	D
E	Q. People abusing the earth?	E
F	A. I don't think so. Hurricanes have been around for	
	rather long time.	F
G	Q. More so than before, I suppose?	G
Н	A. There's some doubt about that.	Н
I	Q. I don't want to enter into an argument with you, because	se I
J	you know about all these things; I don't.	J
K	But tell me this. So who should take the initiatis	ng K
L	step to get people together, so they can begin to loo	o k L
	at all these things with a view to coming up with a go	od
M	water safety plan?	M
N	A. My feeling is that it should be the WSD?	N
0	Q. The WSD?	O
P	A. Because they already know about water safety plans.	so P
Q	I would say that it is incumbent upon them to pull	Q
R	together the various groups.	R
g	Q. And the first one, who should be ready and nearby would	ld
S	be the Housing people, because it's in another	S
T	government department?	T
U		U
V	- 170 - Transcript by DTI Corporation Asia Timited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Yes.	C
D	Q. And it's the owner of so many public housing blocks,	D
E	housing more than 2 million people; do you know that?	E
	A. Yes, I knew that.	L
F	Q. Of course, when you come to individual owners of flats,	F
G	there may be more problems, but there's nothing to stop	G
Н	them from getting on first with this one; right?	Н
I	A. I've been saying this over the last two days: there is a	I
J	need for a building management manual, and that where	J
K	you would start with a building management manual is	K
L	with the public housing blocks, because the Housing	L
M	Department is effectively the landlord, and it is	M
N	therefore simpler to deal with that because you have	N
O	fewer stakeholders, and you can use that as a basis for	0
.	others.	
P	That should have happened. But again, that's 20/20	P
Q	hindsight. The reason that it will happen now is	Q
R	because there is now an increased sense of urgency	R
S	because it is now understood within Hong Kong that there	S
T	is this need, whereas it was not understood that there	Т
U	was a need for it because there were systems in place.	U
V	- 171 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	Yes.	C
D	Α.	And it was assumed that those systems that were in place	D
E		would actually deal with the problem.	E
F	Q.	And of course, looking back with hindsight, if there had	F
G		been a water safety plan and people had been looking at	G
Н		it and following it, so warning themselves of the	Н
I		possibility of this sort of thing happening, do you	I
J		think this could have been prevented?	J
K	Α.	I think it would have been considerably less likely,	K
L		because it focused the mind. I'm not going to say that	L
M		it couldn't possibly happen. You can't ever say that	M
N		something will always be prevented, because it depends	N
0		what goes wrong. But the process would have been	0
		highlighted, that a proper water safety plan of that	
P		type means you are taking it seriously; you have checks	P
Q		in there, you have processes that are about making sure	Q
R		what you have in place works. And we talked about	R
S		verification.	S
T	Q.	Yes.	T
U	Α.	Verification that the system is working properly and the	U
U		barriers are there.	U
V	Transcr	- 172 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation			
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57			
C	Q. And taking water samples?	C		
D	A. Not necessarily. Not necessarily. The illustration	D		
E	that I made earlier, for your colleague, was about	E		
	a well and you have animals accessing the well. That's			
F	a danger, that's a hazard, and so you fence it off and	F		
G	you check that the gate is closed, et cetera. So it can	G		
Н	be inspections, it can be making sure that certain	Н		
I	things have been done. It isn't necessarily all about	I		
J		J		
K	water samples.	K		
T	And water safety			
L	Q. You don't exclude it, though, do you?	L		
M	A. I don't exclude it but Water Safety Plans is not always	M		
N	about water samples. In fact, water safety plans is	N		
0	helping to get away from the thinking that is we take	0		
P	samples at the end of pipes, because the problem with	P		
Q	that sort of thinking is that you start to rely on	Q		
R	a very few samples to check whether something is there.	R		
	Now, this is not entirely desirable. You should be			
S	preventing it's after the event. The whole point	S		
T	about a water safety plan, it's not supposed to be	T		
U	checking things entirely after the this is a last	U		
v	- 173 -	v		

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	resort. So the water sampling really is a final,	C
D	last-resort check. You should have picked that up	D
E	before that point.	E
_	Q. Like what? By doing what?	
F	A. By making sure that the various procedures that you are	F
G	supposed to be following are actually being followed;	G
Н	that the correct solders are being provided; that the	Н
I	plumbers and the engineers, everybody, understands why	I
J	that's happening, and so on. So there's a lot of steps	J
K	before the water sampling.	K
L	As it turns out, I'm not convinced that the sampling	L
M	method would have helped particularly, except that there	M
172		IVI
N	were a number that came out above the then considered	N
0	WHO guideline value.	0
P	So you should be preventing that. The problem with	P
Q	finding out after the event is it's too late.	Q
R	Q. In other words, other stakeholders could have known	R
	about this, are you saying?	
S	A. Oh yes. I think there's a number of stakeholders	S
T	involved, and the problem was that, to an extent and	T
U	I said this yesterday it sort of fell between the	U
V	- 174 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	cracks.	C
D	Q. Again, for instance, if people were to go to the site,	D
E	the building site, and actually examine the materials,	E
10	solder, test it, see whether it contains lead or not	
F	now, if they do that, again they can only take samples,	F
G	in a way? You can't be there all the time?	G
Н	A. No, but you can take a series of steps that will	Н
I	emphasise that certain things should be used and that	I
J	certain things are there. The proposal, for example,	J
K	now is that there perhaps should be central purchasing	K
L	of items like solder. That means you have a store of	L
	them there. It's much more difficult to use the wrong	L
M	material.	M
N	The training side is very important.	N
0	Q. It's more expensive than the solder with lead?	O
P	A. It is more expensive. That's the problem we have had in	P
Q		Q
R	the UK, that it's more expensive. The DIY plumbers go	R
S	in and buy the cheapest and it's not the right way to	S
T	do	T
U	it. You have to work hard to make sure they use the	U
	correct materials and the level of training and	
V	- 175 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	supervision has to go all the way down to the people	C
D	actually doing the soldering itself.	D
E	Q. So are you suggesting then, Professor, that if all the	E
.	stakeholders were to be involved in this, under, for	
F	instance, a proper water safety plan, and they all did	F
G	their job, as it were	G
Н	A. Yes.	Н
I	Q then this sort of thing ought not to have happened?	I
J	A. I would argue it ought not to have happened anyway, but	J
K	yes, I would agree with that.	K
L	Q. I'm interested, why do you say "anyway"?	L
L	A. The procedures, the requirements were in place, and they	L
M	should have been followed, and if they had been	M
N	followed, this would not have happened.	N
0	Q. Yes. If the presumption is that people would do what	o
P	is	P
Q	expected of them all the time, then I suppose a lot of	Q
	civil servants would just be complacent and assume,	
R	therefore nothing would happen?	R
S	A. It's not just civil servants. I think this is	S
T	Q. Fair enough; including you and me too.	T
U	A. It is a fact of life. People tend to be like that, and	U
v	- 176 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation		
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57		В
C			C
D		unfortunately, unless you have a very clear	D
E		understanding of why you are doing things, then people	E
10		tend to forget how important small things are.	
F	Q.	But the trouble is, as you put it I mean, assuming	F
G		here we have very good document, or maybe a series of	G
Н		good documents, and if people don't read it and don't	Н
I		talk about and discuss it, then it's still no use?	I
J	Α.	That's correct, but then it's not a water safety plan	J
K		anymore. A water safety plan has got procedures and	K
.		requirements, and you have to have checks in that those	
L		procedures are being followed.	L
M	Q.	And meetings?	M
N	Α.	Well, meetings will be in there. There will be a whole	N
0		range of different things.	o
P		But it's not just a document. If nobody is reading	P
Q		it, it ain't a water safety plan.	Q
R	Q.	It requires good plan and a lot of people who always	
		warn themselves that anything can happen and therefore	R
S		you must be prepared?	S
T	Α.	Yes. That's what we try one of the things we try and	T
U		teach is to ask outrageous questions, "what if", and	U
v	Transer	- 177 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation		A
В	Commission of Inquiry into Excess Lead Found in Drinking Water	Day 57	В
C	sometimes we ask outrageous questions and the	e answer we	C
D	get is silence and then panic.		D
E	Q. And of course you ought to make sure there's	s a culture	E
F	among these people, all these stakeholders,	that	F
G			
G	whatever can go wrong will go wrong?		G
Н	A. Yes, and that's why you try and prevent it.	That is	Н
I	one of the points about water safety plan,	or water	I
J	safety planning as a principle is there is a s	gignificant	J
K	culture change within that, and it does dir	ect the	K
L	culture.		L
L	Q. That is the most difficult part, isn't it?		L
M	A. It is, and it takes time. It obviously tak	es time.	M
N	Q. This expression I got it from my learned	l friend	N
0	Mr Ho when you ask people to fix their e	yes on the	o
P	ball, and if you should fix your eyes or	the ball,	P
Q	even though it is put there at the corner, be	efore it is	Q
R	kicked, you should place your eye on the ball	l, not when	R
S	the ball comes near to you, and that's the d	lifficulty?	C
3	A. As a keen watcher of football, I can tell y	ou that	S
T	people take their eyes off the ball even when	it is very	T
U	close!		U
V	- 178 -		V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation			
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57			
C	Q. That's what I told my son, when you want to head the	C		
D	ball, you must watch the ball all the time.	D		
E	A. Absolutely, and it's the same with everything else.	E		
	With water, if you become complacent and start cutting	E		
F	corners, that's when things go horribly wrong, and there	F		
G	are lots and lots of examples that I'm not going to give	G		
Н	you here because we haven't got time.	Н		
I	Q. You are in a hurry to go home tomorrow?	I		
J		J		
K	A. I have to go home tomorrow evening, but it's quite late.	K		
	Q. Don't worry.			
L	A. It's delightful sitting here in the room, but	L		
M	Q. Don't make it more delightful for me, otherwise I may	M		
N	change my mind!	N		
0	Occasionally, when you have a particle with lead in	0		
P	it, which gets into the water, and then it's tested, and	P		
Q	then you see some abnormal rise; right? I mean, you	0		
	have seen this chart; I won't show this again to you.	Q		
R	Should the sample be discarded?	R		
S	A. No. It is a signal that something is wrong. You may	S		
T	want to go and re-take a sample. You may want to	T		
U	re-examine. But it shouldn't be just discarded.	\mathbf{U}		
V	- 179 - Transcript by DTI Corporation Asia, Limited	V		

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	I was trying to pick that up before, and one of the	C
D	key mantras that I certainly have and I try and bring to	D
E	water suppliers is, if you are taking samples and you	E
F	are going to disregard the results, what's the point of	F
G	taking samples.	G
Н	Q. Exactly.	Н
I	A. So you need to consider it.	I
_	Q. If you are working for the Waterworks Department, then	
J	you don't like the sample, that doesn't mean you can	J
K	just	K
L	A. That's one reason I suggested that having a water	L
M	quality manager would be a benefit, because it takes	M
N		N
0	that person out from the pressures, and I know that	O
P	there are significant pressures on the operational	P
Q	people. Running a water supply of any size is not	0
Ų	an easy thing to do, and it requires a great deal of	Q
R	skill and dedication. So there will be pressures, and	R
S	having somebody who's outside that, who will say,	S
T	"I don't care whether you think that is a problem with	T
U	the laboratory, we are not going to ignore it, we are	U
V	- 180 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	going to check it out, we are going to do something	C
D	about it."	D
E	Q. So you want an independent person to do it?	E
F	A. Yes. It's helpful, within the organisation, not	F
	an external regulator, but somebody within the	
G	organisation who doesn't have the same operational	G
Н	pressures.	Н
I	Q. Okay. Is there any way to find out where a particle of	I
J	that type might have come from? Can you use this	J
K	method, isotopic method, to find out?	K
L	A. No, it's very difficult. It will tell you that it could	L
	have come from originally the lead, if we are looking	
M	at	M
N	lead. It could tell you that the lead has probably	N
0	originated from solder, but you would need to have	0
P	enough of a sample, and a single particle is going to be	P
Q	too small an amount.	Q
R	With particles, particles are quite a common	R
S		S
	phenomenon with regard to lead in water, and they create	
T	a certain amount of concern, particularly amongst	Т
U	consumers. But it's the average exposure over a period.	U
V	- 181 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	So the original provisional tolerable weekly intake	C
D	and I know that we don't have a health-based standard	D
E	anymore but the idea was that instead of having	E
	a tolerable daily intake, the provisional tolerable	L
F	weekly intake actually indicated more clearly that it	F
G	was exposure it would even out over a period. It's	G
Н	not the peaks like that (demonstrating), it's the	Н
I	average exposure over a period of time that becomes	I
J	important.	J
K	So, in terms of particles, if you are picking those	K
L	up, then in exposure terms it's still going to be the	T
L	average over time. So it's not something that	L
M	necessarily requires that you should be any more	M
N	concerned about, but it does require that the water	N
0	whoever is responsible for that plumbing system is aware	O
P	of the presence of those particles, and the approach	P
Q	that you take to ameliorating the problem, that should	Q
R	be taken into account when you are doing that.	R
	Q. I take it that there is no longer, as far as the WHO is	
S	concerned, a health-based level, is there?	S
T	A. That's correct.	T
U	Q. And the 10 micrograms per litre is a decision-based	U
v	- 182 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation		
В		of Inquiry into Found in Drinking Water Day	57 B
C			C
D	gu	ideline I think yesterday you said that, or	D
E	an	intervention action level?	E
F	A. Ye	s. It's a level below which you are trying to	F
r	acl	hieve. You should be trying to achieve to get as lo	
G	as	possible. 10 micrograms is what we know with	G
Н	ex.	tensive systems, where there's lots of lead, we know	H wc
I	уот	u can get down to 10 fairly readily, using a treatme	nt I
J	wi	th orthophosphate.	J
K	Q. An	d you said for Hong Kong it could be half?	K
L	A. I	think for Hong Kong you ought to be aiming at a low	er L
L	va	lue, simply because you do not have that basis of	L
M	CO	nsiderable levels of lead, service connections, lea	M
N	pi	ping, and so on.	N
0	Q. In	deed, the water in our mains has practically no lead	d? O
P	A. Th	at's correct.	P
Q	Q. Do	you know how low it is?	Q
R	A. It	's less than a microgram. Most of the time it's belo	ow R
S	de ⁻	tection.	S
	Q. Be	low detection. So in theory, then, if I turn on I	
T	taj	p and have my water tested, and if it has 2 microgram	T ns
U	pe	r litre, then already there's something wrong with t	u U
V	Transcript by	- 183 - DTI Corporation Asia, Limited	V

A	Annex: Re	ealtime English Transcription based on floor / Simultaneous Interpretation	A
В		ion of Inquiry into ead Found in Drinking Water Day 57	В
C		internal system?	C
D	Α.	Not necessarily. We don't have a very good background,	D
E		and that's something that needs to be looked at, as to	E
		what the contribution will be. There will be a small	
F			F
G		contribution from fittings that do meet the British	G
Н		Standard, because there will be some lead there.	Н
I	Q.	It would be very low, wouldn't it?	I
J	Α.	It will be very low. It may well be below detection,	J
K	:	but I would like to see some data. It indicates that	K
L	be	certainly at 5, that would allow you to say it may	L
M		that Hong Kong, with the data that it can generate as	M
N		a consequence of this incident, will be able to say, "We	N
0		are going to set our standard at 2".	0
	Q.	That's exactly what I want you to say.	
P	Α.	It's up then to Hong Kong, and they should set standards	P
Q	:	based on their particular circumstances, and if your	Q
R		circumstances are that you can maintain a very low	R
S		concentration and it's not a problem, then you should	S
T		set your standard at that lower level, because you	Т
U		shouldn't be allowing the water supply to deteriorate	U
v	Transcript	- 184 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		unnecessarily.	C
D	Q.	And there is no reason for Hong Kong, because our water	D
E		from the mains is so low as far as lead content is	10
Ľ		concerned, not really to set it low?	E
F	А.	And more than that, you don't have lead service	F
G		connections, you don't have unplasticised PVC pipe	G
Н		that's got lead stabiliser. All of these things are in	Н
I		place that you don't have. Therefore, you could have	I
J		a very low standard.	J
K			K
		It would have to be above detection, clearly,	
L		because sometimes you are going to find traces of lead.	L
M		It's not a consideration particularly.	M
N	Q.	After all, it is a standard set by the government to	N
0		aspire to, really?	o
P	Α.	I'm not so keen on setting standards to aspire to. I'm	P
Q		more keen on saying that these are standards that we can	Q
		achieve, and if we can achieve it, a good standard, then	
R		we should have that, and we are not going to allow the	R
S		water to deteriorate, to make it worse.	S
T	Q.	Okay.	Т
U	А.	For aspiration, the way that it's been done in a number	U
V	T.	- 185 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	of places is that you have a particular standard and you	C
D	say, "The standard is 25 micrograms per litre now; in	D
E	10 years' time it will be 10 micrograms per litre", and	E
10	that then provides a target.	
F	It needs to be more than aspirational. There are	F
G	aspirational targets for other substances in some other	G
Н	countries, and the trouble is that they are effectively	Н
I	political, and then when you get an exceedance of that	I
J	particular standard, you have a problem, because the	J
K	interpretation becomes very difficult.	K
L	Q. I stand corrected on having used the word "aspired to",	L
L	because Hong Kong doesn't have to aspire to 5.	L
M	A. It's already got it.	M
N		N
0	Q. It's already there. That's why, why don't we bring it	O
P	down?	P
Q	A. You don't have a standard. That's the point. You don't	Q
R	have any standards.	R
	Q. At the moment our water people are using 10.	
S	A. Because they work to the WHO Guidelines. My point with	S
T	my report is that the guidelines are not supposed to be	T
U	used that way. Therefore, it would be helpful to the	U
V	- 186 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Water Supplies Department, and everybody else, if you	C
D	had Hong Kong standards. It wouldn't be the long list	D
E	of guidelines that they have, it would be smaller than	E
-	that and it would be relevant ones, but you could set	
F	the standard at what would be appropriate, and it could	F
G	be 2.	G
Н	Q. It could be 2?	Н
I	A. For lead, it could be 2. It could be.	I
J	Q. That's the answer I wanted, because we have already got	J
K	it, actually.	K
	A. Absolutely. I have no problem with that. It's just	
L	logical that that would be the way forward.	L
M	Q. I will move on to another point. You gave some evidence	M
N	on orthophosphate dosing.	N
О	CHAIRMAN: Before you ask your next question, I think there	0
P	is a problem with the LiveNote. I think they have to	P
Q	fix the LiveNote, so let us, say, adjourn for	Q
R		R
	a ten-minute coffee break.	
S	MR LEE: I won't be too long.	S
T		Т
	(3.39 pm)	_
U	(A short adjournment)	U
V	- 187 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	(3.52 pm)	C
D	MR LEE: Mr Chairman.	D
E	Professor, I think you can fly away tonight, unless	E
	something terrible happens.	
F	A. I'm not flying tonight. I'm flying tomorrow night.	F
G	I may be frying tonight.	G
Н	Q. So would you rather that I give you until tomorrow	Н
I	morning? I shan't be long.	I
J	Professor, you mentioned something about	J
K	orthophosphate dosing.	K
L	A. Yes.	L
	Q. You said that if you put it into water, in the mains,	
M	you don't think you could bring down the lead content	M
N	to	N
O	10 micrograms per litre?	0
T.	A. In a normal system that we have in the UK and elsewhere,	_
P	where there are extensive lead pipes, it is difficult	P
Q	to	Q
R	get universally below 10 micrograms per litre, with	R
S	dosing with orthophosphate, without removal of lead	S
	pipe.	
T	Q. Okay, so you have to remove the lead pipe, ultimately?	Т
U	A. Yes, that's the objective.	U
V	- 188 -	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C			C
D		In the situation in Hong Kong I'm a bit nervous	D
E		about proposing remedial measures clearly, remedial	E
F		measures are in place, in that the lead is being removed	Б
r		and replaced. But one way, under other circumstances,	F
G		if you had had a lot of old lead in the system, in	G
Н		a similar way, so that the lead solder or lead	Н
I		connections had been put in place a long time ago, one	I
J		way might be to dose orthophosphate at the entry to the	J
K		buildings, because once you start dosing with it, you've	K
L		got to keep on dosing.	L
L		So that would be one way to reduce lead problems.	L
M		You have an alternative, and the alternative is in	M
N		many respects a lot better, because it's actually	N
0		removal of the lead. Then you've just got to make sure	o
P		that when there are repairs, you don't put any more	P
Q		back in.	Q
R	Q.	But using orthophosphate dosing, it could produce	R
g		normally also produces the effect of forming, inside the	
S		pipe, an inner tube?	S
T	Α.	How do you mean?	Т
U	Q.	There's a coating. Do you know about that technique?	U
v		- 189 -	\mathbf{v}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. Yes. A coating? It's a chemical reaction takes	C
D	place between the lead and the phosphate, to form lead	D
E	phosphate, which is highly insoluble. When you get that	E
F	layer as the lead is coming out, as it is dissolving	F
G	in the water, it reacts with the phosphate, it forms	G
Н	lead phosphate, which is insoluble, and that deposits	Н
I	as a layer over the surface and reduces the potential for	I
J	further it doesn't entirely stop it, but it reduces	J
K	the leaching of lead.	K
L	Q. Does it mean that you don't need to replace the pipes,	L
M	because then the inner coating would protect the water	M
N	from the lead?	N
0	A. That is what is used to get the lead level down to about	0
P	10 micrograms per litre. You don't replace the pipes under those circumstances, but you have to keep on	P
Q	dosing the orthophosphate. It's not something you dose	Q
R	it and then you stop, because if you stop dosing then	R
S	that layer starts to break away.	S
T	Q. I see.	Т
U	A. So once you start, that's it.	U
V	- 190 -	\mathbf{v}

A	Annex: Red	altime English Transcription based on floor / Simultaneous Interpretation	A
В		on of Inquiry into ad Found in Drinking Water	Day 57 B
C	Q. I	I could be wrong, but I'm told that this sort of	c
D	t	technique is used pretty a lot in Germany, for	D D
E	€	example; are you aware of that?	E
TC.	Α. Σ	You are coming to a particular brand.	
F	Q.	I won't mention it.	F
G	Α.	I've had emails from the people concerned.	G
Н	C	Orthophosphate dosing is used widely across the wo	orld. H
I	I	It's not just Germany. This is not a German invent	zion. I
J	1	It has been used very widely, it is very commonly	used J
K			K
L	ć	and it is well-established.	L
	Q. S	So it's used in the States, and in England too?	Ž.
M	A. 3	Yes, extensively, and in Scotland, Wales, all of t	Mehese
N	F	olaces. It's used in different parts of Europe w	here N
0	t	they have lead problems. So it is a well-estable	shed 0
P	t	cechnique.	P
Q	Q	Thank you. I haven't mentioned the brand name.	You
R	ŀ	naven't either.	R
~	A. 1	No. I did have an email from them.	
S	Q. N	Me too!	S
T		Now I'm going to ask you some questions about B	T EN.
U	C	Could you please tell us what EN European norm	u, is
V	Transcript	- 191 - by DTI Corporation Asia Limited	v

A	Annex: I	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		sion of Inquiry into Lead Found in Drinking Water Day 57	В
C		it?	C
D	Α.	Yes.	D
E	Q.	How is it related to BS standards?	E
T.	А.	There are a whole range of standards organisations, and	
F		there's a certain amount of co-ordination between those	F
G		standards organisations, so some will adopt other	G
Н		standards.	Н
I		My suggestion for Hong Kong is that they don't	I
J		completely restrict themselves to the British Standards;	J
K		that they accept materials of equivalent standards,	K
L		equivalent approvals. So that would provide a little	L
L		bit of flexibility.	L
M		So there are a range of different standards,	M
N			N
0		different approval schemes, that in many respects are	0
P		very similar, and to an extent they are interchangeable.	P
Q		There may be details of difference. In Europe, we have	Q
R		current discussions going on in developing	R
		a European-wide materials testing and acceptance scheme.	
S		That has never happened, which is rather odd, in	S
T		a market what's supposed to be a market like that.	T
U		The stumbling point has been, for a number of years,	U
V	Transcri	- 192 - pt by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		details in the different schemes that are available.	C
D		There are four main schemes, four main countries.	D
E	Q.	The four member states, you are talking about?	E
T.	Α.	There's four of the member states have very good	
F		systems, and there's equivalence between them. So all	F
G		of these, and with the different standards there	G
Н		could be a whole range of equivalent standards.	Н
I	Q.	You see, in the laws of Hong Kong, the British Standards	I
J		are adopted.	J
K	Α.	I know.	K
L	Q.	But sometimes we get BS EN and then a number, sometimes	L
L		just BS and a number. What is the difference between	L
M		these?	M
N	Α.	There isn't much difference between them.	N
0	Q.	No difference?	0
P	Α.	I'm not familiar with the detail of the difference	P
Q		between them. I don't get involved in that, if I can	Q
R			R
S		avoid it.	S
S	Q.	But the four MS is Great Britain, France, Germany and	3
T		the Netherlands?	Т
U	Α.	Yes.	U
V	T	- 193 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Q. And what's happening?	C
D	A. There was a meeting	D
E	Q. I know you were involved.	E
E	A. Yes. There was a meeting held in May of last year,	£
F	a two-day meeting there have been various attempts	F
G	to	\mathbf{G}
Н	get this adopted by the European Commission there was	Н
I	a two-day meeting at which I gave the keynote lecture	I
	and then chaired the second day and gave a summary at	-
J	the end. The Commission have agreed, under a certain	J
K	amount of pressure, to start talking about it again,	K
L	which I'm rather disappointed about and so are the	L
M	member states.	M
N	In the meantime, those four members states have been	N
0	negotiating and have come up with what is basically	0
	a common approach between them. That common approach,	
P	it is anticipated, would form the basis of the European	P
Q	acceptance scheme.	Q
R	Q. So the four member states, as far as they are concerned,	R
S	they have agreed already?	S
T	A. Yes.	Т
	Q. I'm asking you this because, you know, there are various	-
U	2. I m doning jou only seedade, jou mon, energ are various	U
T 7		

- 194 -

V

 \mathbf{V}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	groups of people working with us, and they like this.	D
E	<pre>It's a forward step, isn't it?</pre>	E
L	A. That's the idea, that it will become formalised. At the	Ŀ
F	moment, it is informal between the four.	F
G	I've got to be a little bit careful here I have	G
Н	been publicly very critical of the Commission for not	Н
I	doing it. It is because funnily enough, you should	I
J	be familiar with that here one department wants the	J
K	responsibility, but won't do anything; the other	K
L	department wants to do something but doesn't have the	L
L	responsibility, and the consequence is that we have	L
M	stalemate, or have had. It would be of benefit for	M
N	Hong Kong if that happened, because I think it would be	N
0	much more widely adopted around the world, and it	O
P	provides an opportunity for much more flexibility in	P
Q	where you can source materials, and so on, from.	Q
R	Q. So, since this saga has woken people up, and I think	R
C	I understand your evidence is this is a good	g
S	opportunity, therefore, for us to get together?	S
T	A. Absolutely.	Т
U	Q. And to go forward from here?	U
v	- 195 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. This has got to be the best opportunity that you could	C
D	have. Everybody's awake, everybody is aware, and it	D
E	will be a case of putting aside departmental	E
F	differences, trying to keep the politicians out.	F
G	Q. What about lawyers?	G
Н	A. And deliver something that's really constructive and	Н
I	based on good sound practice and good sound science.	I
J	Q. You will keep the lawyers? We certainly need one judge.	J
K	A. The judges are first rate. The lawyers can be a little	K
L	dodgy!	L
M	Q. We want one judge. We don't want the Court of Appeal!	M
N	Okay. What about legislation? You are familiar with the	N
0	legal framework in Hong Kong?	0
P	A. Yes.	P
Q	Q. And it's pretty old-fashioned stuff	Q
R	A. Indeed.	R
S	Q and it needs a lot of updating, do you think?	S
Т	A. I think that's exactly right and I've made some	Т
	recommendations in that respect. I think there needs to	_
U	be much clearer delineation of the responsibilities of	U
V	- 196 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	the different departments. I've said time and time	C
D	again, I think there should be standards and	D
E	a regulator. I'm a great believer in an independent	E
F	regulator, and WHO are very keen and we mention it in	F
G	many places within the guidelines that an independent	G
Н	regulator and standards that are tailored to the	Н
I	particular country are a beneficial way of going	I
J	forward.	J
K	An independent regulator, because that removes a lot	K
L	of the potential pressures.	L
M	And for standards, because you have to think about	M
N	them, and thinking about things is really a very	N
0	important exercise. Understanding which of the	O
P	contaminants, apart from microbiology the pathogens	P
Q	are always important but amongst the chemicals,	0
Q	understanding which ones are really important, which	Q
R	ones need to be monitored at what rate, how you monitor	R
S	them, how regularly you monitor them, how often you have	S
T	to do checks.	T
U	We have introduced risk-based monitoring in Europe	U
v	- 197 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	now. We modified annex 2 of the Directive. That allows	C
D	member states who introduce water safety plans that	D
E	gives them a basis, because they have hazard assessment	E
F	and risk assessment, to be able to say, "We have got	F
C	a supply here, we've got two or three contaminants here	
G	that are in the Directive but which we don't see at	G
Н	anywhere near the standard levels; we don't need to	Н
I	monitor these as regularly as laid down in the	I
J	Directive." So they can justify infrequent monitoring.	J
K	That focuses the resources on the things that are	K
L	important. The advantage of focusing resources on	L
M	things that are important is that you don't get lots and	
M	lots and lots of zeros. When you get masses of zeros,	M
N		N
0	it's easy to lose what's important in that. And it gets	0
P	away from a practice which is unfortunately very common	P
Q	in many parts of the world, partly introduced by some of	Q
R	the analytical results recording systems, where it only	R
S	reports a result, flags it up, when there's a failure,	S
T	and I can't see the point of doing monitoring only to	T
U	measure failure. You should be using all of the data.	U
V	- 198 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	There's a huge investment, and using all of that data	C
D	and understanding the trends, et cetera, is an important	D
E	part of the process.	E
F	This is an opportunity for Hong Kong. You've come	10
r	to a point where this can be introduced into the	F
G	regulation, improving the regulation, looking to the	G
Н	future, and the future is going to get tougher and	Н
I	tougher for everybody in terms of water and water supply	I
J	and water resources, et cetera. Populations are going	J
K	up. Resources need to be conserved. So we need to be	K
L	much more focused. And this is a real opportunity,	L
	I think, for Hong Kong to look to the future, put in	
M	place a legislative and regulatory framework that will	M
N	help them to be able to focus on the important things	N
0	and deliver first-class water.	0
P	Q. Does it help to have water safety legislation? A lot of	P
Q	countries have it.	Q
R	A. I think that's really important. I think that's really	R
S		S
T	important. How complex that legislation is I think is	Т
U	something to be discussed. I'm in favour of as simple	U
v	- 199 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	as possible. That's a good thing.	C
D	Q. Which model is simple and good?	D
E	A. That's a very big question.	10
E	Q. No, a very short question.	E
F	A. I'm not quite sure what I would recommend. I wouldn't	F
G	necessarily recommend going down the route that we've	G
Н	gone in the UK. I think that's very complex, and	Н
I	there's reasons for it.	I
J	I think that Hong Kong is well capable of looking at	J
K	its own requirements, what it needs, and developing its	K
	own regulations, and regulatory framework and	K
L	legislative framework to go with that.	L
M	Q. Am I right that the sort of problem that you have been	M
N	looking into also takes place in drinking water coming	N
O	from hot water dispensers, so people can turn on the	o
P	a huge tank of hot water, in some Chinese restaurants,	P
Q	that sort of thing?	Q
	A. Well, there can be issues. It therefore needs to be	
R	considered under regulation. But any water dispenser	R
S	needs to be considered appropriately.	S
T	In fact, we do mention this in the guidelines, in	T
U	chapter 6, that there are a whole range of things. We	U
V	- 200 -	V
	Transcript by DTI Corporation Asia Limited	

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	don't cover everything, because the hot water dispensers	C
D		D
E	are something that tends to be uniquely associated with	E
F	Chinese culture. But there are lots of other things	F
	where there are problems there are places where the	
G	water is delivered in tankers, in streets, and so on,	G
Н	and all of that needs to be considered.	Н
I	I think in Hong Kong, covering water in containers	I
J	of various types, it makes sense to have some	J
K	regulation, in order that that's not exploited. We've	K
L	seen that happen elsewhere, where very poor-quality	L
	water has been delivered.	
M	I was involved in a case, actually in the UK, where	M
N	a company, prior to the current regulations, were	N
0	bottling a water and really not very well, and they were	О
P	storing it in conditions which were inappropriate. It	P
Q	was very warm, and so on. And the microbiology count	Q
R	was equivalent to raw Thames water, and I wouldn't	R
a	recommend drinking it. It may not do you any harm, but	
S	I don't think I would want to try it.	S
T	So I think any of these need to be properly	T
U	regulated and thought about. There may be difficulties	U
V	- 201 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	because sometimes you run into cultural norms that might	C
D	not want to change, and so on. But it needs to be	D
E	addressed, because public safety of drinking water, any	E
Т	form of drinking water, is important.	_
F	Q. When we talk about legislation, I suppose there ought	F
G		G
Н		Н
T	be criminal sanctions for offenders?	_
Ι	A. Not necessarily.	I
J	Q. What about fines?	J
K	A. Could be. It just depends. It depends what suits	K
L	Hong Kong. In the UK, we have criminal sanctions	L
M	Q. But not imprisonment? I don't think it's imprisonment.	M
N	Just fines, isn't it?	N
O	A. Potentially, under certain circumstances, it's possible.	0
P	It's never happened. But there is the potential for	P
Q	that, for a water company. If a water company boss is	Q
R	negligent in delivering water, they could effectively go	R
S	to prison. It's unlikely to happen, partly because it	S
T	certainly focuses the mind if you think that you might	T
U	get that sort of sanction. But whether it's criminal or	U
V	- 202 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	whether it's civil or whatever, I think it's whatever	C
D	suits the jurisdiction that you are dealing with.	D
E	They don't have criminal sanctions in most of the	E
	European countries. It's a different regulatory system.	E
F	I don't recommend one way or another. I think it's	F
G	got to be what suits Hong Kong.	G
Н	Q. I'm going to ask you just a very few questions on	Н
I	a topic on which you have been asked a lot of questions	I
J	on already, and that's water samples, taking water	J
K	samples.	K
	I have read your preliminary report as well as your	
L		L
M	own report. I think it's pretty obvious that you do not	M
N	agree that first samples or overnight samples should not	N
0	be taken?	O
P	A. That's right.	P
Q	Q. Because, according to the WHO, the ISO 5667, it depends	Q
R	on the purpose of testing the water?	R
	A. Yes. I have to say, I do get concerned that in	
S	Hong Kong everybody seems to look outside at various	S
T	international standards, et cetera, when actually	T
U	a little bit of thought, instead of looking at those	U
v	- 203 -	\mathbf{v}

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	standards, would be rather better. It's quite clear	C
D	that you are right you define the purpose of the	D
E	sampling, and then you design the sampling to achieve	E
	that purpose.	
F	In the case of looking at the impact of metals in	F
G	this case we are talking particularly metals, it doesn't	G
Н	have to be metals, it can be materials from plastic or	Н
I	whatever coming from the distribution system, the	Ι
J	best way at the moment seems to be to take samples,	J
K	either first draw in the morning, or the other	K
L	alternative is to take random samples. If it's a new	L
	property, then it's no problem in setting it up to take	
M	a first-draw sample that's been in contact overnight.	M
N	That's not a problem. If you have lots and lots of	N
0	apartments that are full of people, it becomes a lot	0
P		P
Q	more onerous and more difficult for all those people.	Q
R	So random daytime sampling may be more appropriate. And	R
	that is to identify the presence of those metals.	
S	Q. So your opinion on this you are quite firm on this,	S
T	first draw should be taken, for our purposes?	T
U	A. I think on the new buildings, on the new flats, that if	U
V	- 204 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	you are sampling to see if there is this is your	c
D	verification that lead has not been used then yes,	D
E	I think it should be after an overnight stagnation	E
F	period, then first-draw it depends how much you are	
r	going to take. One of the reasons that Prof Lee did	F
G	what he did was because that helps to inform how big	G
Н	a sample would be necessary to get the information.	Н
I	I was a little concerned that there was a lot of	I
J	discussion with him, missing the purpose of what we did.	J
K	We did not do it to assess risk or anything like that.	K
L	What we wanted to do was to do some checks on the levels	L
3.4	that had been seen, and also to help it inform the	
M	design of an appropriate sampling method for Hong Kong.	M
N	And we have that, and it would imply that a 1-litre	N
0	sample taken after overnight standing would fulfil the	O
P	purpose in the new flats or in any new flats, as	P
Q	a verification.	Q
R	Q. The model that Prof Lee worked on, I think, after	R
S	discussing with you, was to have five samples, 0 seconds	S
		-
T	and then 20, 40	T
U	A. No. That's not the proposal for the overall sampling.	U
V	- 205 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	That was the way that we did it, in order to make sure	C
D	we caught the peak. That could be just by taking a full	D
E	1-litre sample. We demonstrated that the 1-litre sample	E
_	would probably capture what we needed.	
F	Q. I think the result of all this testing, and so on, will	F
G	I think satisfy you that in fact it's not necessarily	G
Н	the first 20 seconds, from 0 to 20; more often than not,	Н
I	it's the next one where you find the maximum?	I
J	A. When you look at the structure, you will see that the	J
K	leaded solder joints are actually further up. If you	K
L	are looking at another metal, antimony springs to mind,	L
	then you would want that very first sample, because the	_
M	antimony is coming from the tap, and if you were looking	M
N	at chromium, although you tend not to see chromium very	N
0	much, chromium would also be coming from the chromium	0
P	plating on the tap. So that would be the first that	P
Q	very short period.	Q
R	That helps in terms of also looking at how people	R
	use it. Asking somebody to turn the tap on for 5 or 10	
S	seconds makes life a lot easier than asking them to	S
T	flush it for five minutes.	T
U	Q. Even two minutes is a long time.	U
V	- 206 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A	
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57			
C	Α.	Yes. I did this at home the other day, and two	C	
D			D	
E		minutes and when you are standing waiting for it, it	E	
F		seems a lot longer as well. My fear about the	F	
		flushing it's dealt with, so it's not a problem. If	г	
G		it was a long-term solution, my concern would be that	G	
Н		people would start to revert to taking first-draw water	Н	
I		because it's inconvenient.	I	
J	Q.	Now that you've got experience of the results of the	J	
K		five samples, in fact do you agree that if there were	K	
L		two just take the first two then I think a lot of	L	
		lead would have gone by then; right?	L	
M	Α.	Well, if you flush it for any length of time, and you	M	
N		are pulling through the water that's in the down pipe,	N	
О		then because the contact time between that water and the	0	
P		lead is so short, you would not expect to see	P	
Q		significant concentrations of lead.	Q	
R	Q.	After the first two	R	
C	Α.	Well, after the first two to whatever minutes. It will	C.	
S		depend on the apartment.	S	
T	Q.	So I suppose you would like the Water Supplies	T	
U		Department from now on, if they have come up with	U	
V		- 207 -	V	

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	another similar thing, then they should test first draw,	C
D	they must test first draw?	D
E	A. It depends what they are going to be doing, but if they	E
F	are looking for lead in the plumbing, then that would be	F
G	the appropriate way forward, but they would need to	G
Н		Н
I	think very carefully because they are looking at	I
J	antimony and chromium and other things as well. But if	J
K	they take first draw, it's not an unreasonable position to be in.	K
L	Q. I will end with my last question: do you drink water	L
M	from the tap?	M
N	A. Of course, and in Hong Kong.	N
0	Q. And in Hong Kong. But back home?	0
P	A. Yes, all the time.	P
Q	Q. Thank you.	Q
R	A. I can't afford all that bottled water you have got.	R
S	Re-examination by MR SHIEH (All questions in English)	S
T	MR SHIEH: Just a few clarification questions. The first	T
U	question is really a point of correction. Can I ask you	U
v	202	
•	- 208 - Transcript by DTI Corporation Asia, Limited	V

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C		to look at your report at paragraph 6?	C
D	Α.	Yes.	D
E	Q.	Six lines from the top, you mention "new properties in	E
		Wales".	
F	Α.	Yes.	F
G	Q.	The year you stated there is 2001. It should be 2007.	G
Н	Α.	Yes.	Н
I	Q.	So you would change that to 2007?	I
J	Α.	Yes.	J
K	Q.	Next, during your questioning, and I think it permeates	K
L			L
M		the entirety of your evidence, the system in place in	M
141		many other jurisdictions	IVI
N	Α.	Regulatory?	N
O	Q.	The regulatory system in place, or the background in	0
P		a lot of overseas jurisdictions is that they still have	P
Q		leaded water pipes, and so it is impractical to replace	Q
R		those types wholesale?	R
	Α.	That's right.	
S	Q.	So the remedial measure of using orthophosphate had to	S
T		be resorted to?	T
U	Α.	Yes.	U
V	Transcr	- 209 - int by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcript	tion based on floor / Simultaneous Interpretation	Α
В	Commission of Inquiry into Excess Lead Found in Drinking Wa	ater	Day 57 B
C	Q. A document was p	produced by Mr Chan Kin Man ir	\mathbf{c}
D	of his evidence	e. Could I ask you to look a	t it. It's D
E	bundle C21, pag	ge 19045, tab 182.	E
	A. Yes.		
F	Q. It is a Journal	l of Water and Health; you h	${f F}$ ave heard
G	of it?		G
Н	A. Yes, I am famil	liar with this.	Н
I	Q. The authors of	this article	I
J	A. I am familiar w	with the authors.	J
K	Q. You are familia	ar with the authors? Yes.	K
L	At page 1904	46, over the page, the second	l column, it
2	says:		L
M	"Lead pipes	are considered to be the major	or source of
N	lead in drinkin	ng water in the UK (although	lead from ${f N}$
0			0
P	other sources i	is possible, notably lead le	aching from ${f P}$
Q	brass and solde	er containing lead) and lead	pipes have Q
R	been the focus	of corrective action. This	contrasts R
	with the view o	of the WHO in their recent b	ooklet"
S	Et cetera.		S
T	That's the	background. The sentence I	want to
U	direct your att	tention to is the next one:	U
V	Transcript by DTI Corporation Asia	- 210 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	"Whilst the removal of all lead pipes is the	C
D	ultimate goal, the very high cost (about [GPB]10 billion	D
E	in the UK), problems with split ownership, likely long	E
TC.	time scales prompted a national strategy for	_
F	corrective action by water treatment measures as the	F
G	logical first step to take."	G
Н	Does that really reflect or encapsulate the message	Н
I	that you have been	I
J	A. Yes, absolutely, and it's a very similar situation in	J
K	the United States.	K
L	Q. Thank you. Then I have a series of questions which we	Ŧ
L	would like to seek your clarification on. It arises	L
M	the series of questions arises out of answers you have	M
N	given this morning.	N
0	Could I ask you to look at the transcript for this	0
P	morning, [draft] pages 54 to 55, so just scroll back up.	P
Q	A. I'm still on the paper.	Q
R	CHAIRMAN: He can't see.	R
S		S
	MR SHIEH: You have it?	
T	At the bottom of [draft] page 54, there's an answer	T
U	at line 18 well, it starts at [draft] line 10, where	U
V	- 211 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	I think it was Mr Ho asked you:	C
D	"But then the question is, first, why was this not	D
E	done before the incident came to surface; or, if it	E
F	wasn't done, should it have been done before 2015", et cetera.	F
G	Do you see that series of questions? Then you	G
Н	mention, "It is very easy to use 20/20 hindsight".	Н
I	Have you found it?	I
J	CHAIRMAN: He can't see.	J
K	MR SHIEH: You cannot see? You mean it has disconnected?	K
L	[Draft] Pages 54 to 55.	L
M	[Draft] Page 54, at the bottom, around about near line number 10, you can see the question:	M
N	"But then the question is, first, why was this not	N
0	done"	0
P	Can you see that question?	P
Q	A. Yes.	Q
R	Q. "But then the question is, first, why was this not done	R
S	before the incident came to surface; or, if it wasn't	S
T	done, should it have been done before 2015", et cetera.	Т
U	Then the answer you gave was:	U
v	- 212 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	"It's very easy to use 20/20 hindsight	D
E	Question: Absolutely.	T-2
E	Answer: and say that this should have happened.	E
F	In discussion between both HD and WSD, it was clear	F
G	that they believed that the procedures that they had put	G
Н	in place to prevent the use of lead were working	Н
I	efficiently, therefore suggesting that there would be	I
J	additional and quite complicated steps at that time,	J
K	without having the knowledge of what's happened since,	K
L	I think would have been showing a level of foresight	L
L	that might be regarded as quite spectacularly good.	L
M	Question: Sorry, you say, if one were to require,	M
N	I say WSD first, to actually have that degree of	N
0	foresight, in fact you say it's spectacular?	O
P	Answer: Barriers have been put in place to prevent	P
Q	the use of lead, and to suggest that WSD should have	Q
R	recognised the fact that there was a good chance that	R
a	Housing Department would not enforce the conditions or	_
S	were not able to enforce the conditions of the contract	S
T	is asking a lot, I would say.	T
U	Since it has happened, clearly there are	U
v	- 213 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	1
3	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57]
C	circumstances that both departments have been feel	
)	that they have been caught out and let down. There were	
E	other parties who clearly did not fulfil their part in	
,	the process. So I think at that time it would have been	
·		
	unreasonable to expect that they would have then gone	
	and checked. It would have been, to an extent, saying	
	that another department is incompetent and therefore we	
	are going to double-check on them, and that's not easy	
	to do."	
	You see that series of questions and answers?	
	A. And that garbled response from me, yes.	
	Q. We get the feel of what you were saying. When you refer	
	to, "Barriers have been put in place to prevent the use	
	of lead", I take it you are referring to at least the	
	legal, the contractual requirement?	
	A. Yes.	
	Q. Both in the Housing Authority context and the building	
	context. In the water context, we have the Waterworks	
	Regulations requiring adherence to British Standards;	
	these are the barriers you refer to, right?	
	enese are one parriers you refer to, right:	
	- 214 -	

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Α.	Absolutely.	C
D	Q.	When you say they have been let down, or "there were	D
E		other parties who clearly did not fulfil their part in	E
		the process", you are referring to people like licensed	L
F		plumbers who you suggest the primary responsibility	F
G		should fall?	G
Н	А.	Yes.	Н
I	Q.	I suppose you would also include people like plumbing	I
J		contractors	J
K			K
K	Α.	Yes.	K
L	Q.	to a lesser extent, although they are labourers and	L
M		you would count mostly the licensed plumber?	M
N	Α.	That's right.	N
0	Q.	The Commission obviously does not set out to condemn or	o
P		criticise for the sake of criticising. The Commission	P
Q		has wide-ranging terms of reference. We are both	Q
		forward-looking and at the same time backward-looking.	
R		We know factually probably what happened. In terms of	R
S		attributing blame, not that blame must be attributed,	S
T		and this is something that we seek your assistance.	T
U		Reasonableness would be an objective test. The	U
V		- 215 -	v
	Т	- 213 -	•

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Commissioners will obviously take their own view. You	C
D	mention it would be unreasonable to expect them to have	D
E	gone and checked, because it would be really for one	E
F	department to say, "I don't trust that your department	F
	have done your job"?	
G	A. The checking we were talking about was actually doing	G
Н	water sampling.	Н
I	Q. I see.	I
J	A. So, at that time, the water the WSD and to an extent	J
K	HD had put in place reasonable barriers, as you would	K
L	under water safety plans, put in those barriers and if	L
	those barriers operated, you simply wouldn't have	
M	a problem.	M
N		N
0	So doing verification monitoring at the tap would be	0
P	an additional step which, at that stage, they might not	P
Q	reasonably have expected was necessary.	Q
R	Q. I see. So when you say that is the point I wish to	R
S	seek your clarification on, because when you say "it	S
	would have been unreasonable to expect that they would	~
T	have then gone and checked", the "gone and checked"	T
U	A. Was taking water samples.	U
V	- 216 -	v

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	You mean taking sampling at the ultimate stop?	C
D	Α.	Yes. At that time, they had put in place appropriate	D
E		barriers, and they could if those barriers were	T
£		working and the checks that were supposed to be in place	E
F		with plumbers showing which materials they were going	F
G	t		G
Н		use, et cetera, et cetera, if that had been followed	Н
I		through, then there would have been no need for further	I
		verification monitoring by taking water samples.	•
J	Q.	So, in a way, I don't want to put words into your	J
K		mouth not that you are likely to have words put into	K
L		your mouth but if any fault is to be attributed, you	L
M		would not regard the lack of testing at the tap as the	M
N		ultimate point	N
0	Α.	No.	0
O .	Q.	the something that you would regard as unreasonable?	O
P	А.	I think to say that that was to blame is unreasonable,	P
Q		because the whole process is designed or should be	Q
R			R
S		designed to prevent this occurring in the first place.	S
T		If you find it at the tap, it's too late; you have	T
U		a problem.	U

V

 \mathbf{V}

A	Annex:	Realtime English Transcription based on floor / Simultaneous Interpretation	A
В		ssion of Inquiry into Lead Found in Drinking Water Day 57	В
C	Q.	Whether any omission at an earlier point in time to do	C
D		any checking is blameworthy is another matter?	D
E	Α.	That's totally separate.	E
L	Q.	You have expressed your views and can I just I won't	£
F		read it out in detail again, but can I ask you to look,	F
G		for example, at your paragraph 47. I won't use the word	\mathbf{G}
Н		"blame" but deserving of comment, let me put it in	Н
I		a neutral way. Whether one would elevate it to	I
J		a question of blame would obviously be a matter of	J
K		submissions to the Commission.	K
Ŧ		In terms of comment on various omissions at various	_
L		stages, your paragraph 47 and 48 respectively commented	L
M		from the perspective of WSD and also the Housing	M
N		Authority. Your paragraph 47 commented on for	N
0		example, two-thirds down the paragraph, there's	O
P		a sentence about "none of the responsible parties	P
Q		carried out the basic checks". These are all commenting	Q
R		on the stage prior to the final testing of the tap which	R
g		didn't take place?	a
S	Α.	Absolutely.	S
T	Q.	These are checks which could, arguably should, have been	Т
U		done, let's say by licensed plumbers or at the	U
V	T	- 218 -	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	contractual stage by Housing people, et cetera. I won't	D
E	go through them in detail.	E
	A. Yes.	
F	Q. That's correct, right? At paragraphs 47 and 48, you are	F
G	commenting on various chances before the final stage of	G
Н	connecting the pipes?	Н
I	A. There are whole stages of opportunities to prevent what	I
J	happened.	J
K	Q. Thank you. I have got that clear now.	K
L	It then leads to paragraph 66. Again, a comment on	L
L	missed opportunity, "the clearly stated requirement that	L
M	only unleaded solder must be used should have raised	M
N	questions", et cetera. Again, that is a comment you	N
0	make about missed opportunity?	o
P	A. Absolutely.	P
Q	Q. There is one point it may not be a big point on	Q
R	which I would like to seek your clarification. It has	R
g.	been raised by others, WSD's responsibility for water	_
S	quality ending at the point at which water enters the	S
T	building.	T
U	Now, whether or not in future there should be some	U
V	- 219 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	kind of a mandatory scheme or system, as a safety valve,	C
D	to check the tap upon completion of a building, or even	D
E	routine checks at taps after tenants have moved in is	E
F	a matter for debate.	F
G	A. Yes.	G
Н	Q. But at the moment, in Hong Kong, there are constraints,	Н
I	because the current statutory regime doesn't actually	I
J	allow the Water Supplies Department to randomly say to	J
K	a tenant, "Can I come in and test your tap?"	K
L	A. Yes. It's purely a voluntary system.	L
M	Q. That is the difference between Hong Kong and some other	M
N	systems that you have seen? A. Yes. It varies. There are similarities. There are	N
0	countries in Europe who don't have the same right of	0
P	access.	P
Q	Q. Some systems do legislate for	Q
R	A. Oh, yes.	R
S	Q coercive entry?	S
T	A. I wouldn't use the word "coercive" but they have a right	T
U	of entry to take samples. Q. Right of entry for the purpose of testing, yes.	U
v	- 220 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	A. It doesn't mean that they can turn around and say, "You	C
D	need to be in when we call". Far from it. It's	D
E	arranged. But there are other countries, France for	E
F	example, where socially it is not very acceptable, and so that will not happen.	F
G	Q. But all you need, if the will is there to provide for	G
Н	or	Н
I	to introduce a scheme whereby the authorities could have	I
J	a right to enter for the purpose of testing would simply	J
K	be some legislative amendment?	K
L	A. That's correct, and that can be put in various ways so	L
M	that it's not seen as particularly coercive.	M
N	Q. Thank you. Let me just check.	N
0	One last point. Paragraph 47. I think it's a point	0
P	that Mr Ho raised with you. There is a sentence which	P
Q	says:	Q
R	"If staff in the HA are unaware or unsure why a	R
S	contractual requirement is included then this should be rectified before the contract is let."	S
T	A. Yes.	T
U	Q. By "rectified", I think what do you mean by	U
v		
V	- 221 - Transcript by DTI Corporation Asia Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	"rectified"?	C
D	A. I mean they should understand why and they should go out	D
E	of their way to find out why.	E
	Q. The reason they need to know why before the contract is	
F	let well, to let the contract simply means to	F
G	conclude a contract, to grant a contract to a particular	G
Н	contractor?	Н
I	A. Absolutely.	I
J	Q. The reason is because if you don't know the rationale	J
K	behind a clause, you can't actually design schemes to	K
L	monitor compliance with that particular clause, to	L
L	prioritise monitoring?	L
M	A. That's right, and you are not in a position to be able	M
N		N
0	to ensure that the contractor himself, itself, has in	O
P	place the appropriate steps.	P
Q	MR SHIEH: Thank you very much, Prof Fawell. I have no more	Q
R	questions for you. You can relax and sit back and	R
	return home. As an avid football watcher, I wish your	
S	team good luck, except for 2 April this year.	S
T	WITNESS: I realise that.	Т
U	CHAIRMAN: Prof Fawell, on behalf of the people of	U
v	- 222 -	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Hong Kong, may I express our sincere thanks to you for	C
D	your assistance in this Inquiry, both in terms of	D
E	preparation of the two reports and also in testifying in	E
F	these proceedings.	F
G	With the co-operation of our politicians, hopefully	G
Н	on your next visit to Hong Kong you can see some of your	Н
I	recommendations being adopted and implemented here, and	I
T	that we have better and safer drinking water.	
J	Thank you very much.	J
K	WITNESS: Thank you very much indeed.	K
L	CHAIRMAN: Do you wish to say something, Mr Lee?	L
M	No. He is no longer a politician; he becomes	M
N	a dodgy lawyer!	N
0	Thank you.	O
P	MR SHIEH: (Via interpreter) Mr Chairman, may I report	P
	something to you? For tomorrow, the WSD has informed us	
Q	that they are going to call their expert witness,	Q
R		R
S	Mr Kan. After that, the WSD is not going to call	S
T	another witness. Their expert has submitted	T
U	a preliminary expert witness report.	U
V	- 223 - Transcript by DTI Corporation Asia, Limited	V

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C	Then we will go back to the witnesses of fact from	C
D	the WSD. We are going to issue a formal timetable in	D
E	relation to the order, including Mr Wong Chung Leung and	E
F	Mr Leung Wing Lim; in other words, those that we have	Б
r	scheduled earlier on. So they will follow Mr Kan, the	F
G	expert, on Monday.	G
Н	CHAIRMAN: (Via interpreter) So, for tomorrow, would you	Н
I	want to have it at 9.30 or 10 o'clock?	I
J	DR WONG: (Via interpreter) It depends on how much time	J
K	Mr Paul Shieh needs.	K
Ŧ	MR SHIEH: (Via interpreter) It won't be long.	_
L	DR WONG: (Via interpreter) Then 10.00.	L
M	MR LEE: (Via interpreter) If we can finish in the morning,	M
N	9.30 for me.	N
O	CHAIRMAN: (Via interpreter) All right. Make it 9.30.	0
P	For next Monday, we start at 11 o'clock, because of	P
Q	some personal engagement.	Q
R	All right. See you tomorrow. Thank you.	R
	(4.41 pm)	
S	(The hearing adjourned until 9.30 am the following day)	S
T		T
U		U
V	- 224 - Transcript by DTI Corporation Asia, Limited	v

A	Annex: Realtime English Transcription based on floor / Simultaneous Interpretation	A
В	Commission of Inquiry into Excess Lead Found in Drinking Water Day 57	В
C		C
D	INDEX	D
E	PAGE	E
F	PROF JOHN FAWELL (on former affirmation)1	
Г	Cross-examination by DR WONG (continued)1	F
G	Cross-examination by MR HO10	G
Н	Cross-examination by MR LEE117	Н
I	Re-examination by MR SHIEH174	I
J		J
K		K
L		L
M		M
N		N
0		О
P		P
Q		Q
R		R
S		S
T		Т
U		U
V	- 225 - Transcript by DTI Corporation Asia, Limited	v