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<p>1 Monday, 21 January 2013 2 (10.00 am) 3 THE CHAIRMAN: Mr Beresford? 4 MR BERESFORD: Good morning, Mr Chairman. I say welcome 5 back to my learned friend Mr Shieh. 6 THE CHAIRMAN: Yes. 7 Before we go any further, on behalf of the 8 Commission, Mr Shieh, may we congratulate you on your 9 election as Chairman of the Bar. 10 MR SHIEH: Thank you. 11 MR BERESFORD: Before we start, my learned friend 12 Mr Grossman wishes to say something. 13 THE CHAIRMAN: Yes. 14 Mr Grossman. 15 MR GROSSMAN: Good morning, gentlemen. I see that Mr Tang 16 is listed as a witness today. 17 THE CHAIRMAN: For today? 18 MR GROSSMAN: Yes, for today. 19 THE CHAIRMAN: I understood he wasn't available until the 20 22nd. 21 MR GROSSMAN: That's true. That's correct. I simply ask 22 that if by chance we get to him today we put it off 23 until tomorrow. 24 THE CHAIRMAN: Yes. 25 MR GROSSMAN: Thank you very much.</p>	<p>1 plates as designed by Naval-Consult and approved by 2 Mardep? 3 A. Yes. 4 Q. You tell us that the aluminium plates were ordered from 5 a company in Florida, and you've given us your purchase 6 order, which is attachment 2 to your witness statement. 7 I'm afraid I don't have a page number in my copy. 8 It should be page 17 of the bundle. There we are. 9 THE CHAIRMAN: Perhaps we could scroll down to item 4. 10 MR BERESFORD: It's item 4, is it not, Mr Lo? 11 A. That's correct. 12 Q. So that provides for 5 mm by 72 inches by 288-inch 13 alloy, 5083-H116 plate, weighing 13.85 kg/square metre? 14 A. That's correct. 15 THE CHAIRMAN: Can you just help us with the number 16 identification. Do they signify the characteristics of 17 the aluminium, the 5083? 18 A. The 5083-H116, yes. 19 THE CHAIRMAN: What does that mean? 20 A. That is the grade of aluminium suitable for building the 21 ship. 22 THE CHAIRMAN: And does it have any more detail attached to 23 it? 24 A. No, but this is a very international standard. 25 THE CHAIRMAN: Marine-grade aluminium plate?</p>
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<p>1 You did ask about the fog light. According to my 2 learned friend Mr Zimmern, they've now obtained 3 everything that there is from Mardep or DoJ, I'm not 4 sure which. 5 THE CHAIRMAN: Very well. 6 MR ZIMMERN: Yes, that's correct. 7 THE CHAIRMAN: Thank you. 8 Mr Beresford? 9 MR BERESFORD: Sir, we continue with the evidence of Mr Lo. 10 THE CHAIRMAN: Yes. Just give me a moment. 11 MR LO NGOK-YANG (on former affirmation) 12 MR BERESFORD: Mr Lo, good morning to you. 13 A. Good morning. 14 THE CHAIRMAN: Before you resume your evidence, let me 15 remind you that you do so on the basis of the 16 affirmation that you affirmed at the outset. 17 A. Yes. 18 THE CHAIRMAN: Yes, Mr Beresford. 19 Examination by MR BERESFORD (continued) 20 MR BERESFORD: Thank you. 21 Mr Lo, we were just coming, I think, to the issue of 22 the thickness of hull plating which you come to at 23 paragraph 40 of your witness statement. You confirm, do 24 you not, that the side plating of the hull of the 25 Lamma IV was to be constructed with 5 mm aluminium</p>	<p>1 A. That's correct. 2 THE CHAIRMAN: Thank you. 3 MR BERESFORD: Mr Lo, 5083 is the grade of aluminium; is 4 that correct? 5 A. Yes. 6 Q. What do the other letters mean? 7 A. I really can't answer that. 8 Q. Okay. 9 THE CHAIRMAN: Was this company in Florida a company that 10 was a regular supplier of yours? 11 A. I do not know whether they're regular, but they're 12 a known supplier for aluminium material. 13 THE CHAIRMAN: Thank you. 14 MR BERESFORD: You say that three thicknesses of aluminium 15 plates were ordered for the Lamma IV: 4 mm, 5 mm and 16 6 mm? 17 A. Yes. 18 Q. The 12 pieces of 6 mm plates were for the hull bottom, 19 and the 26 pieces of 4 mm plates were for the main deck, 20 bulkheads and the bulwarks? 21 A. That's correct. 22 Q. You tell us that the materials were then shipped from 23 Hong Kong to Guangxi Wuzhou Shipyard, which was the 24 subcontractor, and you refer us to attachments 3, 4 25 and 5. Attachment 3 is a debit note/invoice, and</p>

<p style="text-align: right;">Page 5</p> <p>1 I think it's item 20, is it not, on sheet 3 of 4 --</p> <p>2 A. Yes.</p> <p>3 Q. -- that refers to "Aluminium plate -- 5 mm x 72 inches x</p> <p>4 288 inches alloy 5083-H116: 13 sheets"?</p> <p>5 A. Yes.</p> <p>6 Q. Attachment 4 is a packing list dated 20 April 1995, and</p> <p>7 this also refers to item 20, the same description.</p> <p>8 Attachment 5 is the bill of lading --</p> <p>9 THE CHAIRMAN: Just slow down if you would, Mr Beresford.</p> <p>10 MR BERESFORD: Yes, Mr Chairman.</p> <p>11 THE CHAIRMAN: So the packing list is dated 20 April 1995.</p> <p>12 What's the significance of that date, Mr Lo?</p> <p>13 A. Which date, 20 April?</p> <p>14 THE CHAIRMAN: 20 April 1995; page 23.</p> <p>15 A. That is when the items were packed and sent to Wuzhou.</p> <p>16 THE CHAIRMAN: From Hong Kong?</p> <p>17 A. From Hong Kong.</p> <p>18 THE CHAIRMAN: Thank you.</p> <p>19 Yes, Mr Beresford.</p> <p>20 MR BERESFORD: Well, in fact that would appear to be the</p> <p>21 date they were packed, I think, because we then come to</p> <p>22 a bill of lading at attachment 5, which is dated</p> <p>23 22 April 1995, and evidences the date they were loaded</p> <p>24 on board.</p> <p>25 Here we see just the description, "Aluminium plates,</p>	<p style="text-align: right;">Page 7</p> <p>1 "The materials were supplied with American Bureau of</p> <p>2 Shipping (ABS) certificates and these had been shown to</p> <p>3 the China Classification Society (CCS) surveyor,</p> <p>4 a mandatory requirement."</p> <p>5 THE CHAIRMAN: Yes, I have it now. Thank you.</p> <p>6 What is at page 216?</p> <p>7 MR BERESFORD: At page 216 there is the survey items list in</p> <p>8 a slightly different form to the one that we've seen</p> <p>9 previously. For your cross-reference, Mr Chairman, the</p> <p>10 one that we've seen previously, which was completed by</p> <p>11 the CCS surveyor, is at page 265, but the reference here</p> <p>12 is page 216.</p> <p>13 Can you help us, please, Mr Lo. What is the item on</p> <p>14 this that you are drawing our attention to?</p> <p>15 A. Item 2.</p> <p>16 Q. "Hull Plating Materials Test (Mill Sheet to be</p> <p>17 Submitted). So it's a reference to "mill sheet to be</p> <p>18 submitted"?</p> <p>19 A. Yes, and at the end it says "Certificate Accepted".</p> <p>20 Q. Yes. And "Certificate Accepted" has an asterisk by it</p> <p>21 which, according to the key at the bottom of the</p> <p>22 document, refers to organisations other than the Hong</p> <p>23 Kong Marine Department. Do you understand that to mean</p> <p>24 that it's CCS that is required to accept the</p> <p>25 certificate?</p>
<p style="text-align: right;">Page 6</p> <p>1 7 pallets, shipped to Wuzhou Shipyard". The consignee</p> <p>2 is Wuzhou Shipyard, and the consignor is Cheoy Lee.</p> <p>3 Then you tell us there's no record of Cheoy Lee ever</p> <p>4 ordering 4.5 mm plates for the Lamma IV.</p> <p>5 A. That's correct.</p> <p>6 Q. Thank you. You tell us then:</p> <p>7 "The materials were supplied with American Bureau of</p> <p>8 Shipping certificates and these had been shown to the</p> <p>9 China Classification Society surveyor, a mandatory</p> <p>10 requirement."</p> <p>11 And you referred to page 216 of marine bundle 2.</p> <p>12 THE CHAIRMAN: I'm sorry, where is the paragraph dealing</p> <p>13 with the supply of the certificates?</p> <p>14 MR BERESFORD: Paragraph 44, Mr Chairman.</p> <p>15 THE CHAIRMAN: Perhaps you'd be good enough to read out what</p> <p>16 it says.</p> <p>17 MR BERESFORD: I'm sorry, Mr Chairman, are we referring to</p> <p>18 the same document? I thought you were asking about the</p> <p>19 witness statement.</p> <p>20 THE CHAIRMAN: I'm trying to follow what it is you're</p> <p>21 leading the witness on, and one of the matters you've</p> <p>22 referred to is the supply of the American certificates</p> <p>23 to the China Classification Society.</p> <p>24 MR BERESFORD: Yes. Paragraph 44 of the witness statement</p> <p>25 reads:</p>	<p style="text-align: right;">Page 8</p> <p>1 A. Yes, and also the ABS is listed, that's why we assume</p> <p>2 ABS certificates are also acceptable.</p> <p>3 Q. Yes, I see. Then if we turn to page 265 in that</p> <p>4 bundle --</p> <p>5 THE CHAIRMAN: Give me a moment, please.</p> <p>6 MR BERESFORD: This is just for your cross-reference,</p> <p>7 Mr Chairman and Mr Commissioner.</p> <p>8 THE CHAIRMAN: Yes. Thank you.</p> <p>9 MR BERESFORD: Mr Lo, you then say:</p> <p>10 "Apparently, upon receipt of the ABS certificates,</p> <p>11 it was noticed that the thickness of the 5.0 mm plates</p> <p>12 were supplied in the imperial management of 0.19 inches,</p> <p>13 which was equivalent to only 4.83 mm."</p> <p>14 A. Yes.</p> <p>15 Q. When you say "apparently", it was apparent from what?</p> <p>16 A. Because we have no record of the ABS certificate anymore</p> <p>17 in our file.</p> <p>18 THE CHAIRMAN: This is a certificate that had been provided</p> <p>19 to the --</p> <p>20 A. Issued by the supplier, yes.</p> <p>21 THE CHAIRMAN: In Florida?</p> <p>22 A. Exactly, which is required in the purchase order.</p> <p>23 THE CHAIRMAN: And provided by you to the Marine Department?</p> <p>24 A. To probably the CCS surveyor to verify, as required</p> <p>25 under item 2 of the survey form, which requires CCS can</p>

<p style="text-align: right;">Page 9</p> <p>1 identify the items on behalf of the Marine Department. 2 MR BERESFORD: So when you say the materials were supplied 3 with American Bureau of Shipping certificates, is it 4 correct to say that you are inferring this from the fact 5 that the China Classification Society surveyor has 6 filled out that form we just looked at? 7 A. Yes. That he has sighted the ABS certificates. 8 Q. But you haven't sighted them? 9 A. Not myself, no. 10 THE CHAIRMAN: What would be the route by which the 11 certificates would reach the final certification 12 surveyor? 13 A. Probably our staff will bring it when the plates arrived 14 in Wuzhou for the CCS surveyor to inspect. So normally 15 the surveyor will inspect the plates and the sections 16 together with the certificates, to identify that they 17 are the same. 18 THE CHAIRMAN: Thank you. 19 MR BERESFORD: Then you say that Cheoy Lee advised the 20 Marine Department of the discrepancy by its letter of 21 4 April 1995, and that's in the marine bundle at 22 page 206. 23 A. Yes. 24 Q. In that letter you said: 25 "We would also like to advise of the following</p>	<p style="text-align: right;">Page 11</p> <p>1 Q. In fact, the hull construction plans were never amended, 2 were they? 3 A. Not necessary. Not a usual practice. 4 Q. But they were approved showing 5 mm? 5 A. That's correct. 6 THE CHAIRMAN: Wasn't there a consequence that they weren't 7 amended? 8 A. No. As I said, this is within the tolerance of the 9 plate when it's manufactured, and this is approved by 10 all the classification. So as a usual practice, 11 drawings are never amended to show this type of 12 tolerance. 13 MR BERESFORD: In fact you go on in your witness statement 14 at paragraph 46 to say: 15 "It is customary practice accepted by all leading 16 marine classification societies to accept tolerance for 17 plate thickness and in this particular size of aluminium 18 plate, 0.2 mm is the acceptable limit." 19 You refer us to your attachment 6, which is -- this 20 is an extract, is it, from Lloyd's Register Rules and 21 Regulations? 22 A. That's correct. 23 Q. "Rules for the Manufacture, Testing and Certification of 24 Materials", July 2011. So this is not in fact the 25 version that was in force at the time.</p>
<p style="text-align: right;">Page 10</p> <p>1 changes: 2 1. 0.19 inch (4.83 mm) plating in place of 5 mm 3 plating." 4 A. That's correct. 5 Q. You say that you received no objection from Mardep in 6 their reply of 27 April, which is the letter at page 215 7 of the bundle. 8 THE CHAIRMAN: As I recall, the subject is not even touched 9 on in the reply. 10 MR BERESFORD: That's right. It's just coming up on the 11 screen, Mr Chairman. 12 So they provide you with a copy of the survey items 13 list which is the survey items list that we just looked 14 that; is that right? 15 A. The blank one, yes. 16 Q. They say: 17 "... you may invite CCS's surveyors to carry out 18 surveys on those items marked [with an asterisk] however 19 surveys of other items marked 'HKMD' should be done by 20 surveyors/ship inspectors of [the Marine Department]." 21 A. Yes. 22 Q. Then they simply say: 23 "The hull construction plans are being examined. We 24 will notify you when they are ready for collection." 25 A. Yes.</p>	<p style="text-align: right;">Page 12</p> <p>1 You've produced the part relating to "Aluminium 2 Alloys -- Plates, bars and sections". 3 Then if we scroll down to 1.4, we can see the 4 heading "Dimensional tolerances": 5 "1.4.1. Underthickness tolerances for rolled 6 products for marine construction are given in 7 table 8.1.1." 8 In that table, we see for the "nominal thickness 9 range, mm", from 4 mm or more to 8 mm or less, three 10 tolerances, according to the size of the plate. Which 11 is the relevant one here, please? 12 A. The one in the middle. 13 Q. So that's -- 14 A. Greater than 1,500 and less than 2,000. 15 Q. So that shows 0.2 mm tolerance? 16 A. That's correct. 17 Q. So is it correct to say that what you're saying here is 18 not that the design was changed or amended, but that you 19 simply notified the Marine Department that it was within 20 the tolerance allowed by Lloyd's Register? 21 A. Yes. 22 THE CHAIRMAN: Mr Beresford, we asked to be provided with 23 the China Classification Society's rules and 24 regulations. Have we made any progress in that 25 direction?</p>

<p style="text-align: right;">Page 13</p> <p>1 MR BERESFORD: We haven't brought it to a conclusion, 2 Mr Chairman. 3 A. Mr Chairman, over the weekend I have obtained a CCS 4 tolerance of the same item, but it's in Chinese. You 5 are welcome to have somebody look at it or have the 6 person to translate it. 7 THE CHAIRMAN: Thank you very much. Can you tell us the 8 date of these applicable rules? 9 A. 2009. (Handed). 10 THE CHAIRMAN: Right. Perhaps you can just tell us what the 11 result was. 12 A. Exactly the same: 0.2 mm. 13 THE CHAIRMAN: Thank you very much. 14 Just give me a moment, please. 15 Perhaps we could have that copied and scanned now so 16 that everyone can follow it. 17 MR BERESFORD: But in summary we see there a table very 18 similar, in fact exactly the same in the material 19 respects, to that which we see in the Lloyd's Register? 20 A. That's correct. 21 Q. Can you please tell us, Mr Lo, if you know -- and if you 22 don't, then don't speculate -- whether the Lloyd's 23 Register Rules and the China Classification Society 24 Rules were the same in 1995? 25 A. I have no idea.</p>	<p style="text-align: right;">Page 15</p> <p>1 the purpose of carrying out a building survey to the 2 hull and main deck construction". 3 So this would be before the addition of the 4 superstructure, would it? 5 A. That's correct. 6 Q. He refers to the ship drawings No. NC-391, and Hong Kong 7 Marine Department-approved, giving their reference. He 8 says: 9 "The material of hull plate [and other materials] 10 have been inspected." 11 We see there the plate grade, 5083-H116, and another 12 grade -- presumably that relates to another part of the 13 vessel? 14 A. Yes, most likely the sections. 15 Q. Thank you. He notes that they are approved by the ABS, 16 the American Bureau of Shipping. 17 At paragraph 6, he says: 18 "The hull and main deck construction and their 19 dimensions have been inspected and found compliant with 20 request of the drawing." 21 A. Yes. 22 Q. At paragraph 8: 23 "The fore peak and the aft peak have been 24 flood-tested and found satisfactory." 25 A. Yes.</p>
<p style="text-align: right;">Page 14</p> <p>1 Q. You then go on to say: 2 "China Classification Society was engaged by Cheoy 3 Lee through Guangxi Wuzhou Shipyard to ensure that the 4 hull was constructed to drawings approved by Mardep and 5 this procedure was approved in their letter of 6 27 April", which we've just seen. 7 A. Yes. 8 Q. "Upon completion of the requisite inspections of the 9 completed hull, CCS surveyor signed and stamped the 10 Mardep survey items list and issued a survey report 11 No. GZH95104 on 6 September 1995, confirming the hull 12 was constructed in accordance with the drawings approved 13 by Mardep." 14 And that's what we were just looking at at pages 265 15 to 267. Perhaps if we can just go back to that. 16 We see at page 265 the survey items list, and you've 17 already pointed out item 2, "Hull Plating Materials Test 18 (Mill Sheet to be Submitted)". We also have at item 8 19 "Hull Construction Survey (X-Ray Examination)". 20 A. Yes. 21 Q. In your understanding, who carried out the x-ray 22 examination? 23 A. CCS. 24 Q. Then we have the survey report over the page. This 25 reports that the surveyor attended on 18 May 1995 "for</p>	<p style="text-align: right;">Page 16</p> <p>1 Q. Do you know how they could have flood-tested the aft 2 peak when the aft peak wasn't watertight? 3 A. When it's flooded, you don't flood the whole 4 compartment, just the bottom of it to make sure the 5 bottom doesn't leak. 6 Q. In paragraph 9, the reference to ER, that's the engine 7 room, is it? 8 A. Yes. 9 Q. Then they talk about the welding and conclude: 10 "1. The hull, main deck calculation and fuel oil 11 tank and freshwater tank have been built by Wuzhou 12 Shipyard on 6 September 1995. 13 2. The survey items (1-4 & 8-11 and 13) in the 14 Hong Kong Marine Department survey items list have been 15 finished and signed by CCS surveyor." 16 A. Yes. 17 THE CHAIRMAN: Paragraph 6, page 266, is not, strictly 18 speaking, accurate, is it? Because there never was 19 a drawing that showed that there had been a change from 20 5 mm to 4.83 mm; is that right? 21 A. As I explained before, the plate tolerance will never be 22 changed on drawings. This is a usual practice for all 23 classification, Marine Department. So it is never 24 reflected that way. This is an allowed tolerance from 25 the plates.</p>

<p style="text-align: right;">Page 17</p> <p>1 THE CHAIRMAN: So a more accurate way to put what is set out 2 in paragraph 6 would be "within the tolerance of the 3 metals"?</p> <p>4 A. Which is allowed in all the rules, so maybe --</p> <p>5 THE CHAIRMAN: Yes.</p> <p>6 A. I mean, this is their usual practice of not identifying 7 it.</p> <p>8 THE CHAIRMAN: Thank you.</p> <p>9 MR BERESFORD: As we discussed earlier, Mr Lo, is it fair to 10 say that that was not a change as such, just within the 11 tolerance?</p> <p>12 A. Yes, that's right. I'm sorry, let me add that when we 13 bought the plates, they were 5 mm. So we didn't buy 14 4.83 mm plates.</p> <p>15 Q. Yes.</p> <p>16 A. That's why this is within the tolerance. So even us, we 17 cannot chase the supplier for this --</p> <p>18 Q. You ordered 5 mm plates?</p> <p>19 A. Yes, as in our purchase order.</p> <p>20 Q. You paid for 5 mm plates?</p> <p>21 A. Yes.</p> <p>22 Q. What counted as 5 mm plates included plates within 2 mm 23 of that thickness?</p> <p>24 A. Tolerance, yes. And most suppliers don't give you over 25 the plate thickness.</p>	<p style="text-align: right;">Page 19</p> <p>1 Q. Do you agree with that?</p> <p>2 A. Yes. But as I explained on Friday, if we intended to 3 put a watertight door there, it would have been done in 4 Wuzhou. That's just basic logic.</p> <p>5 Q. But you're telling me that that may be something you 6 might have asked the Wuzhou Shipyard to do, but they 7 were properly able to issue the survey report to say 8 that the hull had been completed in accordance with the 9 drawings.</p> <p>10 A. Yes, because the drawing shows an access opening in that 11 location.</p> <p>12 Q. It shows an access opening but it also shows 13 a watertight bulkhead, does it not?</p> <p>14 A. Yes. So whether CCS looked at it that way -- I mean, 15 that's how it's finished. As I explained, that portion 16 is completed, all right? And it was never meant to 17 install a door afterwards, because whatever is done will 18 be very hard. You'll probably have to cut it off, redo 19 it, before you can put a door on it.</p> <p>20 Q. If the plan had been marked, the Sections and Bulkheads 21 plan, "Watertight door" in the same manner as the 22 Eastern District No. 1, or whatever it was, then what 23 would you have expected to have happened? Would CCS 24 still have been able to sign off a survey report in 25 these terms, even if the door had not been there?</p>
<p style="text-align: right;">Page 18</p> <p>1 Q. Sorry, 0.2 mm.</p> <p>2 A. Sorry.</p> <p>3 THE CHAIRMAN: They gave you 0.19 inches?</p> <p>4 A. Yes, which is, to them, equivalent to 5 mm.</p> <p>5 THE CHAIRMAN: 0.2 inches would have been closer to the 6 5 mm, wouldn't it?</p> <p>7 A. It was probably over.</p> <p>8 THE CHAIRMAN: Yes, but they don't ever give you over?</p> <p>9 A. No.</p> <p>10 THE CHAIRMAN: Is that your point?</p> <p>11 MR BERESFORD: But where paragraph 6 is not accurate is in 12 relation to the aft peak watertight bulkhead?</p> <p>13 A. No. If you look at the drawings on that Sections and 14 Bulkheads, that access opening is finished. As 15 I explained on Friday, it's finished according to the 16 drawing, the whole dimensions, the radius and so on. So 17 according to CCS, that is completed.</p> <p>18 Q. So that confirms what Mr Lim said in an email, the 19 architect, the naval architect?</p> <p>20 A. Yes.</p> <p>21 Q. Which is that the affixing of watertight doors is the 22 shipbuilder's responsible?</p> <p>23 A. If it is necessary, yes.</p> <p>24 Q. If it is necessary?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 20</p> <p>1 A. No, definitely not.</p> <p>2 Q. You then go on to say that the vessel had been in 3 service for 14 years, and that there may have been 4 a reduction in thickness due to wear and tear on the 5 plating.</p> <p>6 A. Yes.</p> <p>7 Q. But isn't it right that on aluminium plating over 8 a period of 14 years, there wouldn't normally be much in 9 the way of wear and tear?</p> <p>10 A. It depends on whether there is any corrosion, erosion. 11 There's a lot of electrolysis. There could be.</p> <p>12 Q. But corrosion is something you associate normally with 13 steel, isn't it?</p> <p>14 A. No, no, no. There is. They're a dissimilar metal. 15 Aluminium is very sensitive to other materials, like 16 steel, for instance. If there is a steel in contact 17 with aluminium, the aluminium will be wasted first.</p> <p>18 Q. And is there any steel in contact with the aluminium in 19 this case?</p> <p>20 A. Well, not when we built it.</p> <p>21 THE CHAIRMAN: Hasn't Dr Armstrong made some observation 22 about that in his report?</p> <p>23 A. Must have. This is very common knowledge.</p> <p>24 MR BERESFORD: I think we can anticipate that Dr Armstrong 25 will say that he would not anticipate any substantial</p>

<p style="text-align: right;">Page 21</p> <p>1 reduction in the side plating assuming a 5083 grade of 2 aluminium was used. 3 A. I can only tell you that in all classification rules, 4 there is allowance for aluminium wastage. When we get 5 to the next paragraph, I will show you further rules 6 from ABS and from -- this one is from Bureau Veritas, 7 showing the same thing. So it is a problem. 8 Q. Actually, you say: 9 "I do not believe that I need to dwell further on 10 the subject normal wear and tear of a vessel." 11 But then you go on to refer to "Annex M of the Code 12 of Practice -- Safety Standards for Classes I, II 13 and III Vessels issued under section 8 of the Merchant 14 Shipping (Local Vessels) Ordinance, Cap 548 -- Guidance 15 on Machine and Hull Wear Down or Corrosion Tolerance 16 Limit and Other Inspection Items, a vessel will still be 17 considered seaworthy even if the plating of the 18 hull ..." 19 I think you mean the "plating of the hull", do you 20 not? 21 A. Yes. 22 Q. "... has no more than 30 per cent corrosion. It means 23 that the hull of a vessel would only be cropped and 24 renewed if the thickness of the hull decreases by 30 per 25 cent from its original thickness ... Lamma IV would</p>	<p style="text-align: right;">Page 23</p> <p>1 I believe Dr Armstrong will say that this refers to 2 steel-hulled plating which corrodes easily and is not 3 suitable for marine-grade aluminium. He says that 4 because steel corrodes or rusts, the original 5 thicknesses for steel material are usually calculated by 6 classification societies with an additional thickness to 7 allow for corrosion, so that even with a 30 per cent 8 reduction in thickness over the years, the material 9 would still retain sufficient strength to absorb the 10 design loads. 11 A. Well, that is Dr Armstrong's view. 12 Q. Do you agree or disagree with it? 13 A. I have no comment on this. 14 Q. You've no comment? 15 A. No. As I said, this is his view. 16 THE CHAIRMAN: But you interpret this guidance as applying 17 to aluminium? 18 A. Yes. Because aluminium also, you know, can have 19 corrosion. 20 MR BERESFORD: Now, you wanted to refer to some other 21 classification society materials, I believe? 22 A. Yes. 23 THE CHAIRMAN: Are these additional documents? 24 A. Yes, they are. 25 THE CHAIRMAN: Just remind us from which organisations they</p>
<p style="text-align: right;">Page 22</p> <p>1 still be considered as seaworthy even if the plating of 2 its hull was 3.5 mm." 3 A. Yes. 4 Q. You refer us to attachment 7 to your statement, which is 5 an extract from the code of practice. Is it 6 paragraph 1.1 that you're referring to? 7 A. Yes. 8 Q. "The thickness reduction of hull plating and structural 9 members caused by corrosion should not be more than the 10 specified percentage of the original thickness as shown 11 in the following table ..." 12 For the "structural member" of shell, the corrosion 13 limit specified is 30 per cent; is that right? 14 A. Yes. 15 Q. But is this not a guidance document for steel hull 16 plating? 17 A. It does not say whether it's steel or aluminium, so it 18 is assumed that all material applies. That's why 19 I mentioned earlier, I do have other classification 20 rules in my hand, one from ABS dated 2004, and one from 21 ABS, 2013, plus Bureau Veritas, all talking about 22 aluminium wastage. 23 Q. Perhaps we can just come to those in a moment. 24 A. Yes. 25 Q. But just while we're on annex M to the code of practice,</p>	<p style="text-align: right;">Page 24</p> <p>1 come? 2 A. Two pages come from ABS, and another one -- I think two 3 pages -- come from Bureau Veritas, BV. 4 THE CHAIRMAN: Very well. We'll have them copied in the 5 first place, copied and scanned, and then we can deal 6 with them in due course. 7 MR BERESFORD: Just while that's being done -- 8 THE CHAIRMAN: Just let me address Mr Pao first of all. 9 It would assist, Mr Pao, in the smooth running of 10 the hearing, if material like this that is obtained 11 perhaps over the weekend or over an overnight 12 adjournment is provided in advance of the hearing so we 13 don't have to have these delays. 14 MR PAO: Yes, I appreciate that, but I haven't been in 15 contact with the witness over the weekend. I didn't 16 know there were going to be additional documents. 17 THE CHAIRMAN: Very well. That's for everyone's benefit. 18 MR PAO: I appreciate that. 19 MR BERESFORD: Mr Chairman, the China Classification table 20 has been scanned. Perhaps we can just take a look at 21 that while we have this hiatus. 22 Mr Lo, you referred us to the Lloyd's Register Rules 23 at attachment 6 to your statement, which contained 24 table 8.1.1, and you've now produced the China 25 Classification Society 2009 equivalent.</p>

<p style="text-align: right;">Page 25</p> <p>1 A. Yes. 2 Q. I think we've got that. It's coming, I think. 3 Technical problems, I'm afraid. 4 Mr Lo, you did say, I think, that there were no 5 materials present in the Lamma IV, at least as built, 6 that would cause the aluminium to corrode more easily. 7 If we look at attachment 4 to your statement, which 8 is the packing list, you've already drawn our attention 9 to the aluminium plate at item 20, which is in alloy 10 5083-H116. 11 A. Yes. 12 Q. I'm told that Dr Armstrong will say that this hull plate 13 was built with some 6061-T5 and -56 stiffeners, and 14 5083-H321 components. 15 A. Yes. 16 Q. Do you agree with that? 17 A. Yes. 18 Q. He will say that these are all acceptable marine-grade 19 aluminium materials which in combination should not 20 corrode. 21 A. That definitely would not corrode. This is all 22 aluminium. 23 Q. You agree with that? 24 A. Yes. 25 THE CHAIRMAN: The corrosion problem comes about, as</p>	<p style="text-align: right;">Page 27</p> <p>1 Q. And that's when the Marine Department survey is carried 2 out? 3 A. Yes. 4 Q. That would be carried out in -- 5 A. But whether that is for the hull, for other parts -- 6 I mean, it's only every two years that is a major 7 overhaul of the machinery and so on. 8 Q. Yes. But that would be carried out at your shipyard; is 9 that right? 10 A. That's correct. 11 Q. You would expect something like that to be picked up 12 during the course of those inspections, would you not? 13 A. The thickness of the hull, no, because it's only -- 14 Q. No, I'm talking about the presence of -- 15 A. Oh, corrosion and so on? Yes. 16 Q. Yes. 17 I gather we've run into an unanticipated difficulty, 18 so we'll just carry on for the time being. 19 A. Okay. 20 Q. Then you go on in paragraph 52 of your statement to say: 21 "The reduction in thickness of the plating of a 22 vessel can be caused by the ultrasound test that is 23 conducted to check its thickness. For such a test to be 24 performed, paint will have to be removed from various 25 spots of the hull plating and each spot will have to be</p>
<p style="text-align: right;">Page 26</p> <p>1 I understand your evidence, when you have two different 2 metals that are in contact? 3 A. There are other issues. No doubt seawater -- there are 4 a lot of factors affecting a ship's hull. 5 THE CHAIRMAN: Yes, but one of them is two different metals 6 in proximity? 7 A. That is the worst, yes. 8 THE CHAIRMAN: Yes. 9 A. I mean, for instance if you have a steel nut in the 10 bilge of your ship and nobody recognises it, they will 11 put a hole into the hull eventually. 12 THE CHAIRMAN: Yes. 13 MR BERESFORD: But Cheoy Lee had been maintaining this ship 14 since 2003, I believe; is that right? 15 A. Servicing them, yes. 16 Q. Servicing them? 17 A. We have the service contract, yes. 18 Q. You wouldn't have allowed that to happen, would you, 19 Mr Lo? 20 A. But as I say in my statement, we're only doing items 21 requested by Hongkong Electric. We don't inspect the 22 whole ship for them. 23 Q. It comes out of the water once a year though, doesn't 24 it? 25 A. Normally, yes.</p>	<p style="text-align: right;">Page 28</p> <p>1 flat so as to give the touch pad of the ultrasonic 2 device a proper contact. Otherwise, an erroneous 3 reading will be recorded. It is this paint removal and 4 mild sanding-down process that will also reduce the 5 thickness of the plating slightly." 6 A. Yes. 7 Q. But I suggest to you that sanding down the paint and 8 then removing the oxide layer on the aluminium should 9 only remove hundredths of a millimetre, which is not 10 significant. 11 A. That could be a case, yes. 12 Q. And you agree -- 13 A. Probably not significant if you are careful, yes. 14 Q. Yes. Now we've got the China Classification table, so 15 if we can just quickly look at that before moving on to 16 the next topic. 17 This is the table that you were referring to; is 18 that right? 19 A. Yes. 20 Q. We can see that that looks very similar, in the numbers 21 at any rate, to the table in the Lloyd's Register Rules 22 and Regulations table 8.1.1. 23 A. Yes. 24 Q. Is that your arrow to the left? 25 A. That's correct.</p>

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<p>1 Q. That's identifying the 4 mm to 8 or less. Is that the 2 correct way of reading that? 3 A. Yes. 4 Q. Then the middle column specifies 0.2 mm? 5 A. That's right. 6 Q. Thank you. 7 We then come on to the issue of damage stability 8 calculations. 9 A. Yes. 10 Q. You tell us that these were carried out by the design 11 office of Cheoy Lee using computer software from the 12 Wolfson Unit of the University of Southampton, and you 13 point out that the results were checked and approved by 14 Mardep in 1996. 15 A. Yes. 16 Q. You say: 17 "Unfortunately, the naval architect of Cheoy Lee at 18 the material time, Mr Cheung Fook-chor, who has since 19 retired, mistakenly assumed frame 1/2 was required to be 20 watertight and fed the wrong data into the program and 21 prepared the Damage Stability Information that was 22 ultimately approving/"SEEN' by Mardep on 26 July 1996." 23 A. Yes. 24 Q. You say that he mistakenly made this assumption, and of 25 course we've heard your evidence as to your theory about</p>	<p>1 So we can see the measurement at the bottom, 2 1,000 mm from transom to frame 1, and 625 mm to the 3 1/2 frame, and there's a solid line there compared to 4 the dotted lines elsewhere, and the marking "WT BHD"? 5 A. Yes. 6 Q. Which means "watertight bulkhead", does it not? 7 A. Yes. 8 Q. Then if we look at the centreline profile, we see again 9 the same five bulkheads, in each case marked "Corrugated 10 watertight bulkhead". 11 A. Yes. 12 Q. Including the one at frame 1/2 -- 13 A. Yes. 14 Q. -- marked as "watertight", right. 15 Then if we look at the main deck plan, we see, in 16 the same positions as the watertight bulkheads on the 17 profiles, solid rather than dotted lines. Do you agree, 18 Mr Lo? 19 A. Yes. 20 Q. On the bottom plan, we see the same five watertight 21 bulkheads marked as such, including the one at 22 frame 1/2. 23 A. Yes. 24 Q. So anyone looking at the Profile and Deck drawing could 25 be forgiven for thinking that the aft peak bulkhead was</p>
Page 30	Page 32
<p>1 the mistake. But we don't know that he would agree that 2 he was mistaken, do we? 3 A. I don't know. 4 THE CHAIRMAN: But if he looked at the plan, one thing he 5 would have seen was that it was marked, the 1/2 frame, 6 as being watertight. "Watertight bulkhead". 7 A. It depends on what plan he is looking at. 8 THE CHAIRMAN: Perhaps we could have a look at the plan. 9 MR BERESFORD: Yes, certainly. 10 This is not taking them in any order, Mr Lo. 11 A. That's all right. 12 Q. Let's start with the Profile and Deck, because that's 13 the first one in my file. This is page 204. 14 THE CHAIRMAN: Thank you. 15 MR BERESFORD: If we look at the side shell profile -- first 16 of all, if we can look at the whole of the side shell 17 profile. That shows five watertight bulkheads, does it 18 not, dividing the vessel into six compartments? 19 A. Yes. 20 Q. One of those watertight bulkheads is the bulkhead at 21 frame 1/2? 22 A. Yes. 23 MR BERESFORD: Perhaps if we can just focus in on that on 24 the screen so that everybody knows what we're talking 25 about.</p>	<p>1 intended to be watertight, could they not? 2 A. Yes. 3 Q. Then if we look at the Sections and Bulkheads drawing at 4 page 205, we've seen, of course, before, the drawing of 5 the access opening in the bulkhead of frame 1/2, bottom 6 left. 7 A. Yes. 8 Q. We looked on Friday at the cross-section marked "B-B". 9 We see that section at the top right-hand corner of the 10 drawing, where the watertight bulkhead is marked as 11 being watertight, is it not? 12 A. Yes. 13 Q. So would you not conclude from that drawing that it was 14 intended that the bulkhead should be watertight, albeit 15 with an access opening? 16 A. That's probably why Mr Cheung assumed that it is 17 watertight in his calculation. 18 Q. Yes. Then on the General Arrangement plan at page 172, 19 in the profile, the top drawing, we can see dotted 20 lines, vertical dotted lines, marking out the six 21 compartments, can we not? 22 A. That's right. 23 Q. Of course the upper deck plan is not concerned with 24 watertight bulkheads and neither is the main deck plan. 25 But the other deck plan shows the six compartments</p>

<p style="text-align: right;">Page 33</p> <p>1 specified in the specification -- 2 A. Yes. 3 Q. -- the fore peak, the void, the crew's space, the engine 4 room, the tank room and the steering gear compartment? 5 A. Yes. 6 Q. We can recall from the evidence that you gave on Friday 7 that the specification required the vessel to be divided 8 into those six named compartments, did it not, by 9 watertight bulkheads? 10 A. Yes. I must add that, in this bottom plan view, there 11 is an opening marked on the frame 1/2 bulkhead. 12 Q. Yes. Thank you. So that corresponds to where you would 13 expect to find the access opening? 14 A. That's correct. 15 Q. In fact the access opening was put further to port than 16 was drawn. Is that not right? 17 A. Could well be, depending on the access to the 18 compartment, whether steering gear is being blocked and 19 whatnot. 20 Q. There was also a hatch in the main deck above the 21 steering gear compartment? 22 A. Of course, so you have to gain access to that 23 compartment. 24 Q. That wasn't part of the drawings either, was it, Mr Lo? 25 A. Yes.</p>	<p style="text-align: right;">Page 35</p> <p>1 depending on the -- 2 Q. The same drawing that says "access opening" says 3 "watertight bulkhead". 4 A. Yes. 5 THE CHAIRMAN: But on any view, was it not sloppy to not 6 address this potential error? 7 A. It may be sloppy but that's how people building the ship 8 read the drawing. 9 THE CHAIRMAN: Because that's how mistakes are made. 10 A. Could be. 11 MR BERESFORD: Then let's just go to the 1996 Damage 12 Stability Booklet. It starts at page 337. That's the 13 covering letter. The booklet starts at the next page, 14 page 338. 15 This appears to be the one that you refer to in your 16 statement as being the one that's ultimately approved or 17 marked "seen" by Mardep on 26 July 1996? 18 A. Yes. 19 Q. We can see that stamp at page 338. 20 Then at page 339 we see the lost buoyancy 21 calculation prepared on the assumption that the fore 22 peak compartment is flooded. 23 A. Yes. 24 Q. Page 340, prepared on the assumption that the void space 25 is flooded?</p>
<p style="text-align: right;">Page 34</p> <p>1 Q. Then the Shell Expansion. This too shows the five 2 watertight bulkheads marked as such, including the 3 bulkhead at frame 1/2? 4 A. Yes. 5 Q. So, Mr Lo, how is it that Mr Cheung can be said to have 6 made a mistake in assuming that frame 1/2 was required 7 to be watertight? 8 A. I have no idea. 9 Q. Well, he wasn't mistaken, was he? 10 A. It was a mistake, yes. 11 Q. How is it a mistake? All the drawings say that it was 12 supposed to be watertight. 13 A. Because at least two drawings will show an opening in 14 that area. 15 Q. Well, we've seen from the Blue Book -- we can go to it 16 again -- that where there's an opening, an access 17 opening in a watertight bulkhead, it's required to be 18 fitted with a watertight appliance. 19 A. If it is a watertight bulkhead, yes. 20 Q. And these are marked as watertight bulkheads, aren't 21 they? 22 A. Depending which part is a mistake. 23 Q. Well, there's no mistake in -- 24 A. I mean, some drawings will say an access opening, the 25 other drawings will say a watertight bulkhead. So</p>	<p style="text-align: right;">Page 36</p> <p>1 A. Yes. 2 Q. Page 341, prepared on the assumption that the crew's 3 space is flooded? 4 A. Yes. 5 Q. Page 342, prepared on the assumption that the engine 6 room compartment flooded? 7 A. Yes. 8 Q. Page 343, prepared on the assumption that the tank room 9 is flooded? 10 A. Yes. 11 Q. And page 344, prepared on the assumption that the 12 steering gear compartment is flooded? 13 A. Yes. 14 Q. So, quite plainly, it's six compartments separated by 15 five watertight bulkheads? 16 A. Yes. 17 Q. Can you help us with this, Mr Lo. If you look, for 18 example, at page 344 -- 19 A. Yes. 20 Q. -- it says that the aft bulkhead of the steering gear 21 compartment is 12.445 metres from midships. Do you 22 agree with that? 23 A. Yes, yes. 24 Q. The forward bulkhead of that section is 11.575 metres 25 from amidships?</p>

<p style="text-align: right;">Page 37</p> <p>1 A. Yes. 2 Q. The difference between those two, by a process of 3 subtraction, is 0.87 metres; do you agree with that? 4 A. Yes. 5 Q. That's rather different from the 1.625 metres that we 6 saw on the plan, isn't it? 7 A. Yes. That's why in my supplementary statement I have 8 already confirmed with our present naval architect that 9 this calculation was wrong, probably because the wrong 10 data was input into the computer. 11 Q. But do you have any explanation as to how they got those 12 figures? 13 A. I have no idea. 14 Q. However, you would agree, would you not, that this 15 Damage Stability Booklet is prepared on the assumption 16 of a watertight bulkhead being in place between the 17 steering gear compartment and the tank room? 18 A. Yes. 19 Q. Thank you. You then go on to say: 20 "... even if Mr Cheung had done it ... with the 21 access opening on frame 1/2 and treated the" -- I think 22 you mean "not watertight" -- "and treated the tank room 23 and the aft peak as one single compartment --" 24 THE CHAIRMAN: Which paragraph are we at? 25 MR BERESFORD: Paragraph 54.</p>	<p style="text-align: right;">Page 39</p> <p>1 a substantial period of time and can no longer -- 2 THE CHAIRMAN: Where do we find this supplemental statement? 3 Does it have a page number? 4 MR SHIEH: Tab 40-1. The same bundle. 5 THE CHAIRMAN: Thank you. 6 MR BERESFORD: On the next page, paragraph 6. You say that 7 he can't locate that software anymore, so he can't run 8 a precise check. 9 A. That's right. 10 Q. But that he recalculated the damage stability, and 11 you've produced a recalculation at attachments 12 and 12 13. I think attachment 12 is the data when the vessel 13 was completed, and attachment 13 is when the ballast was 14 added to the aft of the vessel; is that right? 15 A. That's right. 16 Q. We can see from -- 17 THE CHAIRMAN: Before you go any further, I'm trying to 18 locate this, Mr Beresford. 19 MR BERESFORD: I'm sorry, Mr Chairman. It should be behind 20 the supplemental statement. 21 THE CHAIRMAN: No doubt it should, but it isn't behind mine. 22 MR BERESFORD: It should be at page 40-4, Mr Chairman, of 23 W&G1. 24 THE CHAIRMAN: I've located it now. Thank you. 25 Which page are we looking at?</p>
<p style="text-align: right;">Page 38</p> <p>1 THE CHAIRMAN: Thank you. 2 MR BERESFORD: "... even if [he] had ... treated the tank 3 room and the aft peak as one single compartment, the 4 result would still be satisfactory and complied with the 5 one-compartment flooding criteria." 6 A. Yes. 7 Q. I have a couple of questions about that. Firstly, how 8 do you know that that's the case? Have you done the 9 calculation? 10 A. We have since done the calculation, yes. 11 Q. You've done the calculation? 12 A. Yes. 13 Q. You've done it yourself? 14 A. My naval architect, of course, using the present 15 software that we have. 16 Q. Can you produce it? 17 A. It's in our supplementary -- 18 Q. You've already produced it? 19 A. My statement, yes. 20 THE CHAIRMAN: Who is this naval architect? His name? 21 A. The present one is Kwong Kai-ki. 22 THE CHAIRMAN: Thank you. 23 MR BERESFORD: You say in your supplemental statement that 24 he told you that the computer software that was in use 25 in the 1996 calculations hasn't been in use for</p>	<p style="text-align: right;">Page 40</p> <p>1 MR BERESFORD: We're looking at attachment 12. It begins at 2 page 40-4. At page 40-5, we can see that he's used 3 Autohydro software. 4 THE CHAIRMAN: Yes. 5 MR BERESFORD: On that page, we can see he's taken "Damage 6 Case 1: Tank Space & Steering Gear Compartment damaged". 7 That's the assumption; is that correct, Mr Lo? 8 A. Yes. 9 Q. We can see his calculations under "Floating Status". Is 10 it your case that those calculations indicate that the 11 margin line would not have been submerged? 12 A. That's right. 13 THE CHAIRMAN: Which ones tell us that? 14 MR BERESFORD: The main one, Mr Lo, would be the draft AP; 15 is that right, the aft perpendicular? 16 A. Yes. 17 Q. Which shows a draft of 1.975 metres when submerged, and 18 I think we probably have to refer to another document to 19 get the information that we need. If we look at 20 page 671 of the marine bundle, which is page 3 of the 21 2005 Stability Booklet, we see that the depth of the 22 vessel is 2.88 metres. 23 Is it your case, Mr Lo, that the difference between 24 2.88 metres and 1.975 metres leaves more than the 76 mm 25 required for the margin line?</p>

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<p>1 A. I believe so.</p> <p>2 Q. Thank you, Mr Lo. I don't think it's necessary to go</p> <p>3 through the whole of that report, unless there's</p> <p>4 something that you wish to draw to our attention.</p> <p>5 A. No.</p> <p>6 Q. You then say:</p> <p>7 "... the mistake [as you call it] ... was carried</p> <p>8 over onto 2 subsequent stability reports when lead</p> <p>9 ballast was added to the aft of the hull in 1998 and</p> <p>10 then the same ballast was raised by 10 inches in 2005</p> <p>11 without anyone questioning it, including Marine</p> <p>12 Department surveyors/inspectors who apparently just took</p> <p>13 the step of adding the respective volume of the tank</p> <p>14 room and the aft peak to see if the sum is less than the</p> <p>15 volume of the engine room."</p> <p>16 As far as that last point is concerned, Mr Lo, you</p> <p>17 just get that from a witness statement that you've seen</p> <p>18 recently, do you not?</p> <p>19 A. I believe so, yes.</p> <p>20 Q. It doesn't appear, does, from the Damage Stability</p> <p>21 Booklets that were produced at the time?</p> <p>22 A. No, no, no.</p> <p>23 Q. We can see those. The 1998 one begins at page 442.</p> <p>24 A. Yes.</p> <p>25 Q. We can see the same six compartments on the basis of the</p>	<p>1 Booklet --</p> <p>2 THE CHAIRMAN: Just give me a moment, please. Thank you.</p> <p>3 MR BERESFORD: Then we can see the Damage Stability Booklet</p> <p>4 for 2005 after the ballast was raised commencing at</p> <p>5 page 667. We just looked at page 671 of this booklet</p> <p>6 for the depth of the vessel.</p> <p>7 The damage stability calculations commence at</p> <p>8 page 695. We see the "Damage Case 1: After Peak</p> <p>9 damaged" assumption at page 697; "Damage case 2: Tank</p> <p>10 Space damaged", pages 698 to 699; engine room starting</p> <p>11 at page 700; the void space starting at page 702; and</p> <p>12 the fore peak starting at page 705.</p> <p>13 So once again, no suggestion there of the steering</p> <p>14 gear compartment and the tank room being considered</p> <p>15 together, is there?</p> <p>16 A. No. But as you can see, this is using the new program</p> <p>17 already.</p> <p>18 THE CHAIRMAN: Where do we see that?</p> <p>19 A. It's a different type of presentation, very similar to</p> <p>20 the present one that we -- in my supplemental statement.</p> <p>21 THE CHAIRMAN: Thank you.</p> <p>22 MR BERESFORD: We see a similar calculation of floating</p> <p>23 status at page 697, for example.</p> <p>24 A. Yes.</p> <p>25 Q. The floating status of the draft of the aft</p>
Page 42	Page 44
<p>1 same watertight bulkheads. At page 443, the fore peak;</p> <p>2 page 444, the void space; page 445, the crew space;</p> <p>3 page 446, the engine room; page 447, the tank space; and</p> <p>4 page 448, the steering gear compartment.</p> <p>5 A. Yes.</p> <p>6 Q. Isn't that right?</p> <p>7 A. That's correct.</p> <p>8 Q. There's no suggestion there, is there, that anybody</p> <p>9 thought about adding the respective volumes of the tank</p> <p>10 room and the aft peak?</p> <p>11 A. No.</p> <p>12 Q. In the 1999 damage stability report, the final one, with</p> <p>13 the ballast, which begins at page -- the cover letter is</p> <p>14 at page 472 and the report begins at page 473. We see</p> <p>15 the same six compartments with the same five watertight</p> <p>16 bulkheads, going from the fore peak at page 474, the</p> <p>17 void at page 475, the crew space at page 476, the engine</p> <p>18 room at page 477, the tank space at page 478 and the</p> <p>19 steering gear compartment at page 479.</p> <p>20 A. Yes.</p> <p>21 Q. No suggestion there of anybody thinking about the</p> <p>22 0.1L rule or combining the tank room and the steering</p> <p>23 gear compartment?</p> <p>24 A. No.</p> <p>25 Q. Thank you. Then we can see the Damage Stability</p>	<p>1 perpendicular was 1.443 metres?</p> <p>2 A. Correct.</p> <p>3 Q. Mr Liu, one of the surveyors, showed us in relation to</p> <p>4 the General Arrangement plan, a copy of which is at</p> <p>5 page 670 of this booklet -- if we can go to the top</p> <p>6 profile drawing and focus on the stern. There's a line</p> <p>7 just above the rudder which he identified as the aft</p> <p>8 perpendicular?</p> <p>9 A. Yes. The middle of the rudder is normally used as the</p> <p>10 aft perpendicular.</p> <p>11 Q. So you agree with that?</p> <p>12 A. Yes.</p> <p>13 Q. Going back to page 697, when it says the floating status</p> <p>14 draft AP is 1.443 metres, that means that there would be</p> <p>15 1.443 metres underwater; is that right?</p> <p>16 A. Yes.</p> <p>17 Q. You say that if you add together the respective volume</p> <p>18 of the tank room and the aft peak to see if the sum is</p> <p>19 less than the volume of the engine room, if it is, the</p> <p>20 vessel will survive damage to the hull resulting in</p> <p>21 flooding of both the tank room and the aft peak.</p> <p>22 A. Yes.</p> <p>23 Q. I know you've got some calculations attached to your</p> <p>24 supplemental statement, and we'll look at those in</p> <p>25 a minute.</p>

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<p>1 A. Okay.</p> <p>2 Q. But just on this point about comparing the volume of the</p> <p>3 engine room with the combined volume of the tank room</p> <p>4 and the aft peak, it's not really good enough, is it,</p> <p>5 because the engine room is more centrally located? In</p> <p>6 other words, if you have a volume of water at the centre</p> <p>7 of the boat, it's going to have a different effect --</p> <p>8 A. That will only give you a guideline only.</p> <p>9 Q. But do you think --</p> <p>10 A. Definitely not accurate.</p> <p>11 Q. But do you agree, Mr Lo, that if you have a volume of</p> <p>12 water at the centre of the boat it will have a different</p> <p>13 effect to if you have a volume of water at the end of</p> <p>14 the boat?</p> <p>15 A. Yes.</p> <p>16 Q. In fact that's quite crucial in this case, isn't it,</p> <p>17 because the Lamma IV sank stern-first very rapidly.</p> <p>18 A. After putting a hole in the engine room and the tank</p> <p>19 room.</p> <p>20 Q. So the aft of the vessel flooded?</p> <p>21 A. Yes.</p> <p>22 Q. And it went down like a brick?</p> <p>23 A. Yes.</p> <p>24 Q. I think we have to go to your supplemental statement, to</p> <p>25 take into account your latest calculations. We need to</p>	<p>1 Q. On this assumption?</p> <p>2 A. Yes.</p> <p>3 THE CHAIRMAN: Just a moment, please. Thank you.</p> <p>4 MR BERESFORD: So was this the first time that you became</p> <p>5 aware that when the ballast was added and the lightship</p> <p>6 weight increased, the vessel no longer complied with the</p> <p>7 requirement that the margin line should not be</p> <p>8 submerged?</p> <p>9 A. Yes.</p> <p>10 Q. Do you agree that the vessel did not comply with that</p> <p>11 requirement?</p> <p>12 A. On this calculation, it does not.</p> <p>13 Q. You disagree with this calculation?</p> <p>14 THE CHAIRMAN: Just give me a moment, please.</p> <p>15 A. No, no, no ...</p> <p>16 THE CHAIRMAN: Thank you.</p> <p>17 MR BERESFORD: I was asking you if you disagreed with the</p> <p>18 calculation and I think you said "No"?</p> <p>19 A. Yes. The worst scenario which is here, which is</p> <p>20 full-load departure, which means that all the tanks are</p> <p>21 full and all the people, 100 per cent on the ship, that</p> <p>22 is the calculation. And it has -- the margin line has</p> <p>23 been submerged.</p> <p>24 Q. Yes. So would you also agree that adding the respective</p> <p>25 volume of the tank room and aft peak to see if the sum</p>
Page 46	Page 48
<p>1 look now at appendix 13, page 40-27.</p> <p>2 This was, as appears from that page, prepared by</p> <p>3 KK Kwong on 17 January 2013; is that right?</p> <p>4 A. That's right.</p> <p>5 Q. It's looking back to July 2005, after the ballast was</p> <p>6 lifted?</p> <p>7 A. That's right.</p> <p>8 Q. At the next page, 40-28, this gives a draft AP of</p> <p>9 2.962 metres.</p> <p>10 THE CHAIRMAN: This is considering the tank space and</p> <p>11 steering gear compartment as being damaged?</p> <p>12 A. That's correct.</p> <p>13 MR BERESFORD: So the assumption is that those two</p> <p>14 compartments are flooded; is that correct?</p> <p>15 A. Yes.</p> <p>16 Q. And it gives a draft at the aft perpendicular of</p> <p>17 2.962 metres.</p> <p>18 A. Yes.</p> <p>19 Q. Which is greater, is it not, than the depth of the</p> <p>20 vessel, 2.88 metres?</p> <p>21 A. That's correct. That's why the diagram on the top shows</p> <p>22 that portion is underwater.</p> <p>23 Q. Yes. So not only would the margin line have been</p> <p>24 immersed but the deck would have been immersed as well?</p> <p>25 A. Slightly, yes.</p>	<p>1 is less than the volume of the engine room is not</p> <p>2 an adequate test?</p> <p>3 A. Not an adequate -- what do you mean by that?</p> <p>4 Q. Not an adequate test.</p> <p>5 A. Of what?</p> <p>6 Q. Of the damage stability of the vessel.</p> <p>7 A. The calculation is of course correct. What do you mean</p> <p>8 by "test"?</p> <p>9 Q. It doesn't show you that the vessel will not comply.</p> <p>10 A. This diagram will show you the vessel does not comply.</p> <p>11 Q. No, but in your first statement --</p> <p>12 THE CHAIRMAN: But I think it would help, Mr Beresford, if</p> <p>13 you took Mr Lo to where that is asserted, I think in</p> <p>14 paragraph 55, is it not?</p> <p>15 MR BERESFORD: Yes, paragraph 55.</p> <p>16 THE CHAIRMAN: So he can then see what's in his witness</p> <p>17 statement. Perhaps you'd be kind enough to read it out.</p> <p>18 MR BERESFORD: Certainly.</p> <p>19 Mr Lo, you recall that we mentioned earlier</p> <p>20 paragraph 55 of your witness statement.</p> <p>21 A. Yes, I know.</p> <p>22 Q. You are saying there that the Mardep surveyors and</p> <p>23 inspectors failed to notice what you describe as "the</p> <p>24 mistake", ie -- at any rate they failed to treat the</p> <p>25 tank compartment and the steering gear compartment as</p>

<p style="text-align: right;">Page 49</p> <p>1 one compartment. 2 A. Yes. 3 Q. You say that they "apparently just took the step of 4 adding the respective volume of the tank room and the 5 aft peak to see if the sum is less than the volume of 6 the engine room". 7 A. Yes. 8 Q. I'm asking you if you now agree, in the light of the 9 test that you've commissioned, whether you agree that 10 that is inadequate. 11 A. My statement is correct -- if it will survive the 12 damage, the ship will not sink. But it may not comply 13 with the rules that the margin line is submerged. 14 Q. And the test that you have mentioned, of "adding the 15 respective volume of the tank room and the aft peak to 16 see if the sum is less than the volume of the engine 17 room" is inadequate to tell you whether the margin line 18 will be submerged or not? 19 A. It's not sufficient to tell you whether the margin line 20 is -- 21 Q. It's not? Thank you. 22 A. It's not, yes. 23 Q. You then go on to say -- if I heard you just now, you 24 were saying that you stand by your statement that the 25 vessel will survive damage to the hull resulting in</p>	<p style="text-align: right;">Page 51</p> <p>1 Q. You do not agree, as I understand it, that the vessel 2 sinks? 3 A. I don't agree. The vessel will not sink. 4 THE CHAIRMAN: Even though the aft part of the deck is 5 immersed in water? 6 A. Yes. 7 THE CHAIRMAN: If that's not inconvenient, Mr Beresford, 8 we'll take a morning break. 9 MR BERESFORD: That's very convenient, Mr Chairman. 10 THE CHAIRMAN: Mr Lo, we're going to take a break for 11 20 minutes. We'll resume at 11.55. 12 A. Yes, Mr Chairman. 13 (11.35 am) 14 (A short break) 15 (11.54 am) 16 THE CHAIRMAN: Yes, Mr Beresford. 17 MR BERESFORD: Thank you, Mr Chairman. 18 Mr Lo, we were just looking at the various 19 calculations that have been done after the addition of 20 the ballast in 1998 and the raising of the ballast above 21 the bilge in 2005. 22 A. Yes. 23 Q. The ballast that was added weighed about 8.25 tonnes; is 24 that right? 25 A. Yes.</p>
<p style="text-align: right;">Page 50</p> <p>1 flooding of both the tank room and the aft peak, 2 notwithstanding what you have shown us in your 3 supplemental statement and your attachment 13. 4 THE CHAIRMAN: Where does he state this? 5 MR BERESFORD: He just said it a moment ago, Mr Chairman, 6 but I'm asking him to confirm it. 7 Is that right, Mr Lo? 8 A. No. When I say "survive damage", means that the boat 9 will not sink. As mentioned in Dr Armstrong's report. 10 Q. Even though the deck is immersed? 11 A. Of course, yes. That's what the diagram shows. 12 Q. But of course if you add the engine room to that, it's 13 going to be catastrophic, isn't it? 14 A. Of course, of course. That's definite, yes. 15 Q. And that's what happened? 16 A. Yes. 17 Q. Just so we're clear, your evidence is that the vessel 18 will survive damage to the hull resulting in flooding of 19 the tank room and the aft peak -- 20 A. (Witness nods). 21 Q. -- but you agree that it would not meet the watertight 22 subdivision requirements? 23 A. Yes. 24 Q. Because the margin line is immersed? 25 A. That's right.</p>	<p style="text-align: right;">Page 52</p> <p>1 Q. But it resulted in an increase in lightship of about 2 15 tonnes; are you aware of that? 3 A. I am not aware of that. Compared with what? 4 Q. You may have to allow me a moment. Or you may be able 5 to assist me. 6 It appears from page 428, the covering letter from 7 Cheoy Lee to the Marine Department -- 8 A. Yes. 9 Q. -- that you were intending to install trimming ballast 10 of 8.25 tonnes of lead. 11 A. Yes. 12 Q. It appears from page 430, though it's difficult to read, 13 that the difference between the lightship weight 14 existing, which was -- I think it's 46.740, page -- 15 THE CHAIRMAN: Which page is this? 16 MR BERESFORD: Page 430. This is a page from the Revised 17 Stability Booklet issued in 1998. 18 A. Which column are you referring to? 19 Q. The first column, headed "Weight in Tonnes", after the 20 description. The second row says "Lightship weight 21 (existing) 46.740". 22 A. Yes. 23 Q. Then "add ballast" -- I can't read the rest of that 24 description. Can you help us there? 25 A. You mean add the ballast, probably "frame 4" and so on.</p>

<p style="text-align: right;">Page 53</p> <p>1 Q. Then there's a minor element for "boxes for ballast", 2 and the lightship weight is 58.440. 3 A. Yes. 4 THE CHAIRMAN: Where is that figure? 5 MR BERESFORD: That's in the same column, down towards the 6 bottom of the page, Mr Chairman. 7 THE CHAIRMAN: Yes. Thank you. 8 MR BERESFORD: Then moving forward in time, before we go 9 back, at page 678 -- 10 THE CHAIRMAN: We're now in July 2005? 11 MR BERESFORD: This is the 2005 stability report. 12 THE CHAIRMAN: This is the one that addresses raising the 13 location of the left ballast by 10 inches? 14 MR BERESFORD: Yes, correct. 15 We see at page 678 in the intact stability part of 16 the report, the lightship weight is given at 17 60.36 tonnes. 18 A. Yes. 19 Q. And the same on page 696 in the "Stability after damage" 20 part of the report. 21 A. Yes. 22 Q. So a little bit of an increase over the 58, but -- 23 A. That's correct. 24 Q. Yes. Then if we can please look at the report beginning 25 at page 321. This should be the intact stability</p>	<p style="text-align: right;">Page 55</p> <p>1 A. Okay. All right. I can see what you mean. I cannot 2 answer that. 3 Q. Okay. We'll leave that then. 4 At any rate, the point that I was coming to is that 5 Dr Armstrong is under the impression that when 6 8.5 tonnes of ballast were added in 1998, it resulted in 7 a weight increase of about 15 tonnes. I appreciate that 8 you can't answer that on your feet now, so to speak, but 9 can I ask you to enquire as to why that might be the 10 case? 11 A. I can look at that. But one of the items on that last 12 experiment, you can see added fendering of about less 13 than 2 tonnes, and things like that, from a new ship to 14 a ship that's after 14 years, there will be added weight 15 all the time. 16 Q. Yes. 17 A. A ship will not decrease in weight. 18 Q. But the weight difference was just two years after it 19 was built? 20 A. Yes. Okay, but of course -- 21 Q. And I appreciate that a fender was added. 22 A. Not only that. I mean, there are crew effects, there 23 are fendering, there are ropes and all sorts of things 24 that would not have been on the new ship before she was 25 finished.</p>
<p style="text-align: right;">Page 54</p> <p>1 booklet. 2 THE CHAIRMAN: For which period? 3 MR BERESFORD: Issued in 1996, so reflecting the original 4 built condition. 5 Mr Lo, can you help us, please, identify where in 6 this we will find the lightship weight? 7 A. Probably in page 330, "Lightship Condition". At the 8 very bottom, it says "Displacement", 48.74. 9 Q. 48.74? 10 A. Yes. 11 Q. Perhaps I'm asking you to look at the wrong figures, 12 Mr Lo; I apologise. 13 If we can look at page 339, do you see at the top 14 a displacement of -- 15 THE CHAIRMAN: What document are we looking at, first of 16 all? 17 MR BERESFORD: This is the damage stability report, 1996, 18 Mr Chairman. 19 THE CHAIRMAN: Thank you. 20 MR BERESFORD: We see a displacement figure of 70.32 tonnes. 21 A. That's after the fore peak compartment I think is 22 flooded. 23 Q. Oh, I see. 24 A. I'm not quite sure, but I believe that is what it is. 25 Q. Well, it's the same on every page of that.</p>	<p style="text-align: right;">Page 56</p> <p>1 Q. Yes. 2 A. So there will be a lot of items added. And that's why 3 you have to do another experiment, to make sure that -- 4 Q. If that is the explanation, fine. 5 A. Yes. 6 Q. But rather than speculate -- 7 A. Yes, we can give you further details. 8 Q. Thank you very much. 9 THE CHAIRMAN: Would you give me the reference in 10 Dr Armstrong's report? 11 MR BERESFORD: I don't believe that's in a report as yet. 12 Maybe in a supplemental report. 13 THE CHAIRMAN: So the issue is the increase in the weight of 14 the vessel at the time that lead ballast weighing 15 8.25 tonnes was added, of a total of 15 tonnes or 16 thereabouts? 17 MR BERESFORD: The issue is why there was a weight increase 18 of about 15 tonnes in 1998 at the time when 8.25 tonnes 19 of ballast was added. 20 THE CHAIRMAN: Yes. 21 MR BERESFORD: Because obviously the addition of the ballast 22 doesn't explain the difference of 15 tonnes. 23 A. But I do not recall seeing this difference in the 24 calculation just now. 25 Q. No, I think if we looked --</p>

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<p>1 A. I wonder where Dr Armstrong got his reference. 2 Q. Unfortunately I can't check that immediately. 3 A. Okay. All right. 4 Q. Dr Armstrong is not with us today. 5 THE CHAIRMAN: Your point being that the lightship weight in 6 1996 was 48.74 tonnes, and -- 7 MR BERESFORD: No, Mr Chairman. I may have got those 8 figures wrong. All I can ask about at the moment is 9 an apparent difference of 15 tonnes. 10 THE CHAIRMAN: Very well. 11 MR BERESFORD: So if we can leave that to one side for the 12 moment, Mr Lo. 13 A. Yes. 14 Q. Thank you for agreeing to assist on that. 15 In your statement, you then go on to deal with the 16 horn or, as sailors call it, the whistle. You say: 17 "The electronic whistle installed at the time of 18 fitting out the Lamma IV, in 1996 was manufactured by 19 Marco SPA of Italy, art No. 5723 approved by RINA (the 20 Italian Classification Society) for vessels from 20 to 21 70 metres, as per our purchase order P-95433 dated 22 28 July 1995." 23 And you refer to your attachments 8 and 9. 24 Attachment 8 is Cheoy Lee's purchase order of the 25 number I have just read out, dated 28 July 1995 --</p>	<p>1 at the end of the Italian text? 2 A. That's correct. 3 Q. Thank you. 4 "The record of Cheoy Lee also showed that on 26 July 5 2000, Cheoy Lee ordered a spare part for the said 6 whistle ..." 7 You refer to attachment 10, which is a purchase 8 order for a driver unit for signal horn 05723, 24V. 9 You say that was received on 4 August 2000, as shown 10 by attachment 11, which is a delivery order from Cheoy 11 Lee to Hongkong Electric. 12 A. Yes. 13 Q. So you assume that the same whistle was in use at the 14 time of the accident? 15 A. Yes. 16 MR BERESFORD: Okay, Mr Lo. Subject to that one outstanding 17 matter about the lightship weight, those are my 18 questions. 19 Could you just give me a moment, please, 20 Mr Chairman. 21 THE CHAIRMAN: Yes. 22 MR BERESFORD: We may have run these figures to ground. So 23 although I appreciate you don't know the answer, if 24 I can show you the figures, then it may assist in your 25 enquiries.</p>
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<p>1 A. Yes. 2 Q. -- giving the details of the whistle. And attachment 9 3 is -- is this an operation manual? 4 A. This is a catalogue. 5 Q. Catalogue, right. So we can see at 5.723, 6 three-quarters of the way down the second page of 7 attachment 9, which describes it as: 8 "... [a] loudspeaker and electronic control unit 9 implemented with a class A/B amplifier which permits the 10 use of the whistle as a megaphone through the microphone 11 supplied through the kit. 12 Electronically operated, for 12 or 24 volts DC. 13 Meets International Maritime Organization Class III 14 Regulations. 15 UK Department of Trade approval dated 25 September 16 1991." 17 A. Yes, and the RINA reference is in the paragraph above, 18 where it's written in Italian. 19 Q. I'm sorry, what was that, Mr Lo? 20 A. The RINA reference, R-I-N-A, is in the paragraph above, 21 written in Italian. 22 THE CHAIRMAN: What does the acronym "RINA" stand for? 23 A. That's the Italian classification society. 24 THE CHAIRMAN: Thank you. 25 MR BERESFORD: The reference you're pointing to is the one</p>	<p>1 A. Okay. 2 Q. If we can look first, please, at page 330, which is from 3 the Inclining Experiment and Stability Calculation 4 Booklet produced in 1996. Page 330 sets out the 5 lightship condition as condition 1. 6 A. Yes. 7 Q. It shows at the bottom the lightship weight of -- 8 I think it's 48.740. 9 A. Correct. 10 Q. Then if we compare that with the page at 466, which is 11 the 1998 inclining experiment and stability calculation, 12 which shows a lightship condition of 63.6-something -- 13 A. Yes. 14 Q. So it appears as though that may be where the difference 15 in lightship weight comes from. 16 A. Yes, I see that. I will try to find an answer for you. 17 MR BERESFORD: Thank you very much, Mr Lo. 18 A. You're welcome. 19 THE CHAIRMAN: Mr Grossman? 20 MR GROSSMAN: Mr Chairman, I will be asking leave to ask 21 a few questions. Let me just say this, though. As 22 a result of something that was said on Friday, I asked 23 for the original contract and tender documents to be 24 obtained. They were dug out of the archives this 25 morning, and now, a few minutes ago, that is as my</p>

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<p>1 learned friend Mr Beresford was finishing, the 2 photocopies came and they're being distributed as 3 I speak. I will be asking leave to ask a couple of 4 questions on the general contract and the tender 5 documents. 6 THE CHAIRMAN: Yes. 7 MR GROSSMAN: In addition to that, I'll be asking questions 8 generally about the relationship between the shipbuilder 9 and the client in regard to responsibility for what 10 transpires. 11 Thirdly, I want to ask some questions about the 12 seating arrangements, and I would like to ask some 13 questions about the Sea Smooth. 14 THE CHAIRMAN: Very well, please do. 15 MR GROSSMAN: Thank you. 16 Examination by MR GROSSMAN 17 MR GROSSMAN: Good morning, Mr Lo. I represent Hongkong 18 Electric. 19 A. Good morning. 20 Q. I have a few questions to ask you; not many. 21 First of all, I've just obtained a copy of the 22 original contract, general conditions of contract, 23 between Hongkong Electric and yourselves. 24 THE CHAIRMAN: Has this been scanned, Mr Grossman? 25 MR GROSSMAN: No, it's just been handed out.</p>	<p>1 Q. I understand. But insofar as, say, the number of 2 watertight bulkheads is concerned, that would be 3 a matter you would advise on? 4 A. That's correct. 5 Q. Yes. And as far as the provision of seating and how it 6 should be attached, this is a matter you would advise 7 them on? 8 A. That's how we would build and satisfy requirements, yes. 9 Q. Now, you've spoken during the course of your evidence 10 about certain mistakes that were made. 11 A. For example? 12 Q. Well, in your supplementary statement, for example, you 13 talk about mistakes that were made. 14 A. Whatever is stated in the statement, yes. 15 Q. I beg your pardon? 16 A. Whatever is stated in my statements, yes. 17 Q. Yes, all right. 18 If mistakes are made in the course of construction, 19 this is not something that you would expect the client 20 to notice, would you? 21 A. Probably not. 22 Q. No. Now, you've talked of a reduction of six watertight 23 compartments to five; do you remember that? 24 A. Yes. 25 Q. You said, "Well, this must have been agreed with</p>
Page 62	Page 64
<p>1 THE CHAIRMAN: Perhaps you can come back to it when you've 2 scanned it. 3 MR GROSSMAN: Very well. I won't be long, I have to say. 4 I don't know how long the scanning will take. 5 Let me ask you this. When you are asked or you 6 tender to construct a vessel, presumably the client, if 7 it's not a professional company, professional ferry 8 company, like, say, Hong Kong Ferries, will simply tell 9 you the type of vessel it wishes to have built and you 10 will give it certain advice in the tender specifications 11 as to the kind of vessel or the way the vessel should be 12 constructed; am I right? 13 A. Yes. 14 Q. More specifically, if you're dealing with a company such 15 as Hongkong Electric, which doesn't as a rule -- it's 16 not its business to run vessels, you would advise them 17 on safety matters; am I right? 18 A. I wouldn't go as far as that. I mean, we tender -- we 19 submit tender based on the requirements specified in the 20 tender document. 21 Q. Yes. 22 A. All right? Which lists out the basics that they're 23 expecting to see, and then we will tender accordingly 24 based on the best solution we think is suitable for 25 them.</p>	<p>1 Hongkong Electric". 2 A. I think on the issue of bulkheads, the Hongkong Electric 3 tender does not specify anything about bulkheads. It is 4 actually in our submission, in our tender, that it is in 5 our specification that we have listed out the number of 6 bulkheads and compartments. 7 Q. Yes. In your submission, I can tell you, you say there 8 should be six watertight compartments. 9 A. According to our specification, yes. 10 Q. And that, as we know, is reduced to five? 11 A. Yes. 12 Q. You've said -- well, let me ask you this way. I take it 13 this was done by Cheoy Lee Shipyards of its own accord? 14 THE CHAIRMAN: What was done? 15 MR GROSSMAN: The reduction. 16 A. Of the bulkheads, yes. 17 Q. This was not something discussed with Hongkong Electric? 18 A. Not that I know of. 19 Q. No. Well, I can tell you this, and by all means search 20 if you wish, but a search has taken place to see whether 21 there's any indication at all of an agreement to vary 22 the building by reduction of six watertight compartments 23 to five, and nothing has been found. 24 A. Also not in our record. 25 Q. No. So we can assume they were not told?</p>

<p style="text-align: right;">Page 65</p> <p>1 A. It could be verbally, but I'm not sure. 2 Q. It's very unlikely that it would simply be verbal, is it 3 not? 4 A. It can be, because they have their engineers or their 5 marine officers, you know, periodically checking the 6 construction in the ship. So it could have been 7 discussed, but, as I say, I'm not sure. There's no 8 record of it. 9 Q. If it's not in writing, there's no record from either 10 side -- 11 A. That's correct. 12 Q. -- no reduction in price, is it not fair to assume that 13 they were not told about it? 14 A. I cannot say it's fair or not fair. 15 Q. Very well. You see, there's something that you 16 mentioned on Friday, page 111 for your reference. You 17 say, "Well, in any event, Hongkong Electric accepted the 18 vessel". 19 A. Ultimately signed for it, yes. 20 Q. But it appears they hadn't been told about the reduction 21 of watertight compartments. 22 A. As I say, I'm not sure. 23 Q. Very well. 24 As far as seating is concerned, you recall that my 25 learned friend Mr Beresford went through with you in</p>	<p style="text-align: right;">Page 67</p> <p>1 I just want to ask you a question or two about the 2 Sea Smooth. 3 A. Yes. 4 Q. Did your company manufacture the Sea Smooth? 5 A. Yes. 6 Q. We've heard, as you know, that the accident occurred 7 when Sea Smooth collided with Lamma IV. 8 A. Yes. 9 Q. I'm not sure if you are aware, but one of the things 10 that happened on the Sea Smooth was that the watertight 11 manholes burst and water came flooding up. 12 A. Yes. 13 Q. How could that happen? 14 A. Watertight manholes, if you don't tighten them 15 correctly, depending on how the crew operates the 16 ship -- it needs a certain procedure before that manhole 17 can be tightened, so that when pressure is applied from 18 both above and below, it doesn't come loose. So it is 19 an operational issue and not the construction of the 20 manhole. Because a manhole is inspected by the Marine 21 Department during construction to make sure that it is 22 watertight. 23 Q. So are you able to attribute any cause to the fact that 24 these suddenly came loose? 25 A. Yes, which means that it wasn't tightened.</p>
<p style="text-align: right;">Page 66</p> <p>1 some detail about suggestions of how the seating should 2 have been formed so that it was safer. Do you remember? 3 A. Yes. 4 Q. And you said, "Well, we do that if we're specifically 5 asked about it". 6 A. Yes. 7 Q. I take it that to a company like Hongkong Electric, you 8 wouldn't expect them to second-guess the way the seating 9 is normally supplied, would you? 10 A. No. 11 Q. No. Thank you. 12 You recommenced -- sorry, just let me ask you one 13 thing. Would you have a look at your statement at 14 paragraph 48. I'll read it out: 15 "Upon completion of the requisite inspections of the 16 completed hull, CCS [that's China Classification 17 Society] surveyor signed and stamped the Mardep survey 18 items list and issued a survey report ... on 6 September 19 1995, confirming the hull was constructed in accordance 20 with the drawings approved by Mardep." 21 A. Yes. 22 Q. There doesn't have to be any approval by the clients, 23 does there? 24 A. No. 25 Q. No. Thank you.</p>	<p style="text-align: right;">Page 68</p> <p>1 Q. It wasn't tightened? 2 A. Yes, by hand. 3 Q. By hand, I see. 4 A. Yes. 5 Q. Very well. 6 One other point. In 2003, you started doing the 7 surveys of matters that needed to be attended to by the 8 Lamma IV. Is that the right way of putting it? 9 A. The procedure is that we are given a work order to check 10 the items and prepare the ship for survey, and if 11 necessary Hongkong Electric will instruct us to assist 12 them to do the survey. 13 Q. Yes. Very well. Can I take it that from your point of 14 view, that's Cheoy Lee Shipyard's, everything was done 15 in order, was done properly? 16 A. According to the work list, which is checked by the 17 officers, not us. 18 Q. At the end of the day, there were no problems with the 19 survey? 20 A. If there is problem with the survey, it will show up in 21 the survey, first of all verbally by the inspectors to 22 Hongkong Electric and probably to our staff, and then 23 remedial work will be carried out, either additional 24 work if it's coming from Hongkong Electric, or if it's 25 our workmanship that is not correct, then of course we</p>

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<p>1 will do it, and then resurvey will have to be done, or 2 reinspection, before the final survey certificate is 3 issued. 4 Q. And the survey includes the safety of the seating on the 5 various decks? 6 A. As is printed on the survey form, yes. 7 MR GROSSMAN: Thank you. Just a moment. 8 May I just check if these documents have been 9 scanned? 10 THE CHAIRMAN: No, not as yet. 11 MR PAO: I believe they are in the bundle already, these 12 documents. I have them as page 3296 all the way up to 13 page 3359. I can't remember which bundle I took them 14 from. 15 THE CHAIRMAN: All of these documents? 16 MR PAO: All of these documents. The two documents that 17 were handed to us just now. 18 THE CHAIRMAN: Thank you for that, Mr Pao. Perhaps we can 19 locate them. 20 MR GROSSMAN: And let me apologise for that. 21 THE CHAIRMAN: Page 3026? 22 MR GROSSMAN: It may be the Wilkinson & Grist bundle. No? 23 MR SHIEH: It could be marine bundle 11, I think. 24 MR GROSSMAN: Thank you. 25 MR PAO: It's just that it's out of time sequence. The</p>	<p>1 contract. 2 Could we have a look, please, at page 3330. 3 THE CHAIRMAN: Identify the document for the transcript, 4 please. 5 MR GROSSMAN: Yes. This is the general conditions of 6 contract. 7 If we go to paragraph 2, which is on page 3332. 8 That is the scope of the work that is agreed, and this 9 is all that is asked for: 10 "The contractor [which is your good selves] shall be 11 responsible for the fabrication of a 180-200 seater 12 vessel and deliver it to the purchaser's Lamma Power 13 Station ... in accordance with the tender documents." 14 A. Yes. 15 Q. That's basically what you're asked for? 16 A. Yes. 17 Q. Then could you have a look, please, at paragraph 6, 18 which is at page 3333. 19 A. Yes. 20 Q. It says here: 21 "The contractor shall be responsible for any 22 discrepancies, errors, or omissions in the drawings and 23 other particulars supplied by him, whether such drawings 24 and particulars have been approved by the engineer or 25 not, provided that such discrepancies, errors, or</p>
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<p>1 Cheoy Lee tender document comes before the proposal of 2 Hongkong Electric. 3 THE CHAIRMAN: Thank you. 4 MR GROSSMAN: Very well. We're looking at the moment at 5 page 3297. That is the addendum. Perhaps we can just 6 look at that. There are only two paragraphs I'd like 7 you to look at, just to confirm -- and incidentally, 8 I think it's your signature at the -- your signature 9 appears, I think, on page 3 of 3, which should be 10 page 3299, I think -- page 3328. 11 A. That's correct. 12 MR GROSSMAN: Yes. 13 THE CHAIRMAN: Could you identify what we're looking at? 14 MR GROSSMAN: We're looking at the form of tender, the 15 tender. 16 THE CHAIRMAN: Thank you. 17 MR GROSSMAN: Could you have a look, please, at -- there are 18 only a couple of paragraphs I want you to look at -- 19 paragraph 9. 20 THE CHAIRMAN: Of which document? 21 MR GROSSMAN: We're looking at the addendum to form of 22 tender, the one that's on the screen at the moment. 23 THE CHAIRMAN: Give me a page number, please. 24 MR GROSSMAN: I'm just looking for it. We seem to be going 25 slightly out of -- we now have the general conditions of</p>	<p>1 omissions be not due to inaccurate information or 2 particulars furnished in writing to the contractor by 3 the purchaser or the engineer ..." 4 Do you see that? 5 A. Yes. 6 Q. In this particular case, I take it you will accept that 7 there was no inaccurate information passed to you by the 8 purchaser? 9 A. No. 10 Q. You agree? 11 A. Yes. 12 Q. Thank you. 13 If we can look next at the addendum to the form of 14 tender, which starts at page 3297. Again, just one or 15 two paragraphs I'd like to take you to. 16 THE CHAIRMAN: Just give me a moment, please. Yes. 17 MR GROSSMAN: Would you look at page 3307, please, 18 paragraph 9. This deals with drawings and plans. It 19 says: 20 "All important working drawings together with 21 stability and floodable length calculations, etc to be 22 submitted to Hongkong Electric Marine Department for 23 approval as necessary." 24 A. Yes. 25 Q. And then:</p>

<p style="text-align: right;">Page 73</p> <p>1 "All departures from the specification or drawings, 2 together with modifications in cost, if any, to be 3 mutually agreed to, before the work is commenced." 4 Do you see that? 5 A. Yes. 6 Q. Were there any written modifications? 7 A. Depending on which issue, but -- 8 Q. On any issue? 9 A. There is none. 10 Q. Thank you. If you would look, please, at paragraph 17. 11 This is "Hull & Superstructure". This confirms what you 12 said earlier. We'll look at the second paragraph of 13 that: 14 "The hull to be robustly built and of hard chine 15 hull form with transom stern. To be subdivided by five 16 watertight bulkheads into six compartments comprising 17 fore peak/chain locker, void space, crew accommodation, 18 engine room, store room and aft peak/steering flat." 19 Do you see that? 20 A. Yes. 21 MR GROSSMAN: Thank you. I have no further questions. 22 THE CHAIRMAN: Thank you. 23 MR ZIMMERN: Mr Chairman, we have no questions for the 24 witness. Thank you. 25 THE CHAIRMAN: Mr Pao?</p>	<p style="text-align: right;">Page 75</p> <p>1 specification and General Arrangement"? Is there any 2 significance in the word "closely" instead of using the 3 word "strictly"? 4 A. Yes, because no ship when it is being constructed can 5 follow 100 per cent of drawings and specification. It 6 has to comply with rules and regulations, and some of 7 this, if you don't get into the detailed design, you 8 will not know what to change or what changes are 9 necessary. 10 THE CHAIRMAN: Sorry, which paragraph deals with the -- 11 MR PAO: The first complete paragraph, "To: Construct one 12 twin-screw double-deck composite 13 aluminium/glass-reinforced plastic passenger launch 14 having approximate dimensions of 28.00 m ..." 15 And then towards the end of that line: 16 "... to be built closely in accordance with the 17 attached specification and General Arrangement 18 drawing ..." 19 THE CHAIRMAN: Thank you. 20 MR PAO: Then my learned friend Mr Grossman asked you about 21 paragraph 17, about hull and structure. That's 22 page 3310. 23 A. Yes. 24 Q. He said, in the second complete paragraph at 17, the 25 "Hull & Superstructure" section:</p>
<p style="text-align: right;">Page 74</p> <p>1 MR PAO: May I have leave from the Commission to ask 2 questions on the tender documents and the contract for 3 the building of the Lamma IV; and also some 4 clarification that I need to make on the witness's 5 answer over the mistakes -- 6 THE CHAIRMAN: Yes. 7 MR PAO: -- on the bulkhead at frame 1/2. 8 THE CHAIRMAN: Yes, please do. 9 Examination by MR PAO 10 MR PAO: Mr Lo, it may be convenient to pick up where my 11 learned friend Mr Grossman has asked you first. 12 In the tender document, we see a letter of 12 August 13 1994 where you submit -- it's titled "Addendum to Form 14 of Tender", which is page 3298. 15 A. Yes. 16 Q. May we have that on the screen. 17 A. Yes, I have that. 18 Q. I want to ascertain one thing from you. When you put in 19 this so-called addendum to form of tender on 12 August 20 1994, were the plans of Lamma IV prepared at that time? 21 A. Only the General Arrangement drawing. 22 Q. Only the General Arrangement drawings. Is that the 23 reason why you said in the first paragraph, towards the 24 end of line 3 of that paragraph that this vessel is "to 25 be built closely in accordance with the attached</p>	<p style="text-align: right;">Page 76</p> <p>1 "The hull to be robustly built and of hard chine 2 hull form with transom stern. To be subdivided by five 3 watertight bulkheads into six compartments comprising 4 fore peak/chain locker, void space ..." 5 Is that a proposal made by Cheoy Lee rather than 6 required under the invitation for tender? 7 A. This paper, if you look at the top left-hand corner, it 8 says "Cheoy Lee Shipyards Ltd", and underneath, in 9 brackets, "(28/1)". That is our document prepared for 10 this tender. 11 Q. Yes. 12 Is there any reason why you proposed that there 13 would be five watertight bulkheads and six compartments? 14 A. Most likely it's because at that moment, the person 15 creating this document only had the General Arrangement 16 plan from the proposed designer. And in that plan -- 17 most likely it's a small plan, maybe A3, maybe A4. And 18 in that plan, of course, there are five bulkheads in 19 that plan. That's how he writes this type of paragraph. 20 Q. He just assumed from the General Arrangement drawing 21 that it is five watertight bulkheads at that time? 22 A. Exactly. 23 Q. So would it be correct to say that that General 24 Arrangement -- I mean -- let me put it again. Would it 25 be correct to assume that at that time, you do not know</p>

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<p>1 that the drawings for Lamma IV would be adapted from 2 those of Eastern District No. 1? 3 A. We probably know it's going to be adopted, but 4 whether -- the Eastern District No. 1 has how many 5 bulkheads, we don't know. Because at that moment, we 6 didn't have that drawing. 7 Q. I see. You remember my learned friend Mr Grossman asked 8 you about paragraph 5.1, about drawings; that's the 9 contract to supply the vessel. I'm thinking of 10 page 3332. 11 A. Yes. 12 THE CHAIRMAN: What document are we looking at? 13 MR PAO: This is the document entitled "Contract 14 No. 94/9214/CS". Mr Chairman will find that title on 15 page 3324. 16 THE CHAIRMAN: Thank you for that. 17 MR PAO: Pages 3325 and 3326 are just the contents pages. 18 This is in fact the form of tender, Mr Chairman. 19 I might have misled you. It is the form of tender which 20 starts on page 3327. 21 THE CHAIRMAN: Yes. 22 MR PAO: And then it's followed by the general conditions of 23 contract. In fact there are three different documents 24 in a bunch starting from page 3324, which is the 25 contract, and then page 3328 is the form of tender, and</p>	<p>1 been given drawings at the shipyard. 2 THE CHAIRMAN: These records that you speak of, where are 3 they? 4 A. We have in particular one letter, I think, that shows 5 that we have given some drawings to them. 6 THE CHAIRMAN: Is that in the material made available to us? 7 MR PAO: Not at this time, I do not think so. 8 THE CHAIRMAN: Mr Lo? 9 A. No. 10 THE CHAIRMAN: Would you make that available to us? 11 A. Okay. 12 THE CHAIRMAN: Any records that you have that evidence the 13 supply of drawings to Hongkong Electric. 14 A. Yes, I will do that. 15 THE CHAIRMAN: Thank you. 16 MR PAO: From your record or from your recollection, were 17 any questions asked over these drawings, put to you, any 18 question put to you by Hongkong Electric? 19 A. Not on the record. 20 Q. Not on the record. Were approvals given by -- 21 A. No. I mean, I must say that from 1980 onwards, we 22 constructed seven vessels for Hongkong Electric, and 23 Lamma IV is the eighth vessel. And the same procedure 24 follows. Actually, on and off, we might give them 25 drawings, but they seldom reply. So this is the</p>
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<p>1 then page 3329 is the general conditions of the 2 contract. 3 We are on the terms of the general conditions of 4 contract -- 5 THE CHAIRMAN: Yes. 6 MR PAO: -- where my learned friend Mr Grossman was 7 questioning Mr Lo on clause 5 of these general 8 conditions of contract, about the drawings. That is at 9 page 3332. 10 THE CHAIRMAN: Yes. 11 MR PAO: Mr Lo, you remember my learned friend Mr Grossman 12 asked you to look at clause 5.1. 13 A. Yes. 14 Q. It says: 15 "The contractor shall submit to the engineer for 16 approval within the times named in the specifications 17 such drawings ... or as the engineer may reasonably 18 require ..." 19 To your recollection, were drawings, particularly 20 structural drawings of the Lamma IV, supplied to 21 Hongkong Electric? 22 A. We have record of some drawings being given to them, 23 although not all drawings have been, as far as the 24 record shows. Although, of course, they are in the 25 shipyard periodically and they would have, if requested,</p>	<p>1 procedure that we've been following in building their 2 ships. 3 THE CHAIRMAN: Just give moment, Mr Pao. 4 Thank you. 5 MR PAO: So how did Cheoy Lee deal with this silence from 6 Hongkong Electric, after you gave the drawings to them 7 and they said nothing? 8 A. Well, if they don't -- you know, after a period of time, 9 let's say two weeks, if they don't reply, we can assume 10 that they have no comments. 11 Q. I see. But are you aware of the general condition at 12 the very end of this general condition that this 13 specific section relates to approval -- 14 A. Yes. 15 Q. -- that's on page 33-59? 16 A. Yes. So but it said if they require -- 17 THE CHAIRMAN: Could we have that up, first of all. 18 MR PAO: May I just read it to you: 19 "Details of design, construction, equipment, 20 accommodation layout machinery installation et cetera, 21 not enumerated here shall be at least of comparable 22 standard to existing HKE ferries. Work is not to begin 23 until plans for particular part has been approved by 24 HKE." 25 A. This is never carried out by HEC. We will submit</p>

<p style="text-align: right;">Page 81</p> <p>1 drawings to them, okay, and they will never comment. 2 Q. So if these terms are not strictly adhered to -- so what 3 you're telling me is that you just follow the previous 4 practice that you did -- 5 A. Exactly, yes. 6 Q. -- for these seven ferries for Hongkong Electric -- 7 A. Launches and ferries, yes. 8 Q. That's how they operate? 9 A. Yes. 10 Q. If there is no comment, then that means approval; is 11 that it? 12 A. Yes, that's correct. 13 Q. I'm just thinking, if you hadn't got approval from 14 Hongkong Electric, then work was not to begin, then none 15 of us would be here today. 16 MR GROSSMAN: I'm sorry, I didn't follow that question. 17 THE CHAIRMAN: I think it was a statement, not a question. 18 MR GROSSMAN: Perhaps that's why I didn't follow it. I'm 19 sorry. 20 MR PAO: May I then turn to your explanation as to the 21 bulkhead at frame 1/2 of the Lamma IV not being 22 watertight. 23 A. Yes. 24 THE CHAIRMAN: Give me a moment, please. Thank you. 25 MR PAO: Your explanation, which my learned friend</p>	<p style="text-align: right;">Page 83</p> <p>1 MR PAO: You said: 2 "Over the weekend, I have had a telephone 3 conversation with Mr Lim, during which we managed to 4 clarify the instructions they had received over the 5 design of the bulkhead between the tank room and the aft 6 peak. I explained to him that the vessel was meant to 7 have damage stability of 'one-compartment flooding' and 8 that the aft peak and the tank room have to be 9 considered as one compartment." 10 A. Yes. 11 Q. Do you remember telling the Commission that? So 12 basically you have -- 13 THE CHAIRMAN: I think we passed over this evidence because 14 we're going to hear from Mr Lim. 15 MR PAO: Yes. 16 THE CHAIRMAN: But I see it in the witness statement. 17 MR PAO: Yes. So I'll just skip over that. 18 Lamma IV was an adaptation from the design of 19 Eastern District No. 1 which has watertight bulkhead at 20 frame 1/2. 21 A. Yes. 22 Q. Then you say that if Lamma IV was meant to have 23 a similar watertight bulkhead then notation at the 24 opening would have been the same and would read "WT 25 door" instead of "access opening"?</p>
<p style="text-align: right;">Page 82</p> <p>1 Mr Beresford kept telling the Commission that it's 2 a theory, may I just briefly recap what you said to the 3 Commission. 4 A. Yes, please do. 5 Q. At the design stage, you said that instructions were 6 given to Naval-Consult Pte Ltd of Singapore for the 7 design of an aluminium-hulled vessel that would satisfy 8 the requirement of one-compartment flooding. 9 A. Yes. 10 Q. That's correct. Now, you have -- 11 THE CHAIRMAN: Before you go on, do we have any material 12 relating to those instructions to the design consultant? 13 MR PAO: The instructions given to the design consultant? 14 THE CHAIRMAN: Yes. Do we have any -- 15 A. We don't have anything in writing. 16 THE CHAIRMAN: Have you looked for these in your records? 17 A. Yes, yes. 18 THE CHAIRMAN: And you don't have anything? 19 A. We don't have any. 20 THE CHAIRMAN: Just give me a moment. Thank you. 21 MR PAO: May we have Mr Lo's first statement up on the 22 screen. That's W&G bundle, from page 1 onwards. 23 I particularly would like the Commission to look at 24 page 6, paragraph 20. 25 THE CHAIRMAN: Yes.</p>	<p style="text-align: right;">Page 84</p> <p>1 A. Yes. 2 Q. And you refer the Commission to the drawing of the 3 Sections and Bulkheads, particularly in the lower 4 left-hand corner. That's marine bundle 2 at tab 5, 5 page 205. That's where it says "access opening". Then 6 at tab 4, page 198, which you also refer the Commission 7 to -- it's the lower left drawing of this page, where it 8 says "WT door". 9 A. Correct. 10 THE CHAIRMAN: This is the Eastern District plan, is it? 11 MR PAO: Eastern District No. 1 plan. 12 THE CHAIRMAN: Yes. 13 MR PAO: Then you went on to tell the Commission that at the 14 construction stage of the vessel, which was done in 15 Wuzhou, where the hull was built, the opening was never 16 constructed to receive a door. 17 A. That's correct. 18 Q. You also said that as the bulkhead was constructed of 19 corrugated aluminium, there was no flat surface reserved 20 around the side of the opening for a door to be fixed? 21 A. Yes. 22 Q. That's your evidence. That's in the transcript -- 23 THE CHAIRMAN: You're repeating evidence we've already 24 received. 25 MR PAO: Yes, I'm just trying to recap the background before</p>

<p style="text-align: right;">Page 85</p> <p>1 I ask --</p> <p>2 THE CHAIRMAN: Do you have a question that you're coming to?</p> <p>3 MR PAO: Yes.</p> <p>4 You also said that it's not a question of cost, as</p> <p>5 it would only cost a few thousand dollars to put such</p> <p>6 a door on the opening. Then that this is minimal as</p> <p>7 compared to the price of a vessel.</p> <p>8 THE CHAIRMAN: We had all of this evidence on Friday. It's</p> <p>9 fresh in our minds.</p> <p>10 MR PAO: Yes.</p> <p>11 THE CHAIRMAN: Please get to your question.</p> <p>12 MR PAO: I'm getting to it, Mr Chairman. We actually do</p> <p>13 have a price for the vessel.</p> <p>14 THE CHAIRMAN: For the door or the vessel?</p> <p>15 MR PAO: For the vessel.</p> <p>16 THE CHAIRMAN: Very well.</p> <p>17 MR PAO: That's marine bundle 10, tab 28A, page 3299.</p> <p>18 THE CHAIRMAN: Thank you.</p> <p>19 MR PAO: Mr Chairman, you will see that at the very top,</p> <p>20 "Quoted Price", where the numerals are redacted --</p> <p>21 THE CHAIRMAN: Yes, so the redactor failed in his task to</p> <p>22 secure highly sensitive information from us.</p> <p>23 MR PAO: Yes. It's HK\$9,883,000.</p> <p>24 THE CHAIRMAN: Thank you.</p> <p>25 A. Can I make a comment to that?</p>	<p style="text-align: right;">Page 87</p> <p>1 door being fixed to the opening found in the bulkhead at</p> <p>2 frame 1/2?</p> <p>3 A. No.</p> <p>4 Q. Never?</p> <p>5 A. Never.</p> <p>6 Q. So this is in fact the first time you are being asked to</p> <p>7 provide such an explanation?</p> <p>8 A. Exactly.</p> <p>9 Q. So you would have called for the drawings to be amended</p> <p>10 had CLS noticed the mistake at the time?</p> <p>11 A. If the mistake was found, yes.</p> <p>12 Q. Yes, and you've answered as such to Mr Beresford's and</p> <p>13 Mr Chairman's questions.</p> <p>14 A. Yes.</p> <p>15 Q. The fact was CLS had assumed that Naval-Consult would</p> <p>16 have adapted the drawings for Lamma IV correctly from</p> <p>17 those Eastern District No. 1, and CLS had proceeded with</p> <p>18 the construction of Lamma IV on that basis.</p> <p>19 THE CHAIRMAN: I'm sorry, the fact is that China</p> <p>20 Classification Society?</p> <p>21 MR PAO: No, the fact that Cheoy Lee had assumed that</p> <p>22 Naval-Consult would have adapted the drawings for</p> <p>23 Lamma IV correctly from those of Eastern District No. 1,</p> <p>24 and Cheoy Lee proceeded with the construction of</p> <p>25 Lamma IV on the basis that the bulkhead that frame 1/2</p>
<p style="text-align: right;">Page 86</p> <p>1 THE CHAIRMAN: Yes, please do.</p> <p>2 A. That happened to be the quoted price, and it is not the</p> <p>3 contract price.</p> <p>4 THE CHAIRMAN: The quoted price?</p> <p>5 A. The contract price is actually more than that, but that</p> <p>6 is close.</p> <p>7 THE CHAIRMAN: I think what we're coming to is what is the</p> <p>8 cost of the door compared with that?</p> <p>9 A. As I said, thousands of dollars.</p> <p>10 THE CHAIRMAN: Thank you.</p> <p>11 MR PAO: This has all along been the understanding of Cheoy</p> <p>12 Lee, and you've stated it in paragraph 4 of your</p> <p>13 supplemental statement.</p> <p>14 Coming to the mistake. You said the notation for</p> <p>15 the bulkhead for frame 1/2 should have been removed from</p> <p>16 the structural drawing, and the Chairman asked you twice</p> <p>17 whether this was with the benefit of hindsight, and your</p> <p>18 answer would appear to be "yes", that you only</p> <p>19 reconstructed the explanation after you ploughed through</p> <p>20 all the documents and the drawings?</p> <p>21 A. Yes, yes. I mean, nobody noticed this until the</p> <p>22 enquiries.</p> <p>23 Q. My question is in the 16 or 17 years since the Lamma IV</p> <p>24 was designed and built, was there any occasion in which</p> <p>25 you were asked to explain why there was no watertight</p>	<p style="text-align: right;">Page 88</p> <p>1 was not meant to be watertight; is that correct?</p> <p>2 A. Yes.</p> <p>3 Q. Is it your evidence that if that opening was meant to</p> <p>4 receive a door, it would have to be prepared at the</p> <p>5 construction stage with plates around the --</p> <p>6 A. Yes, yes. And the --</p> <p>7 Q. So the door can be bolted on afterwards, or at the same</p> <p>8 time?</p> <p>9 A. Bolted or welded, yes. It's a different type of</p> <p>10 construction altogether.</p> <p>11 MR PAO: May I have the supplemental statement of Mr Lo on</p> <p>12 the screen. W&G bundle, page 40-1 onwards. I'm</p> <p>13 thinking of paragraphs 4 and 5.</p> <p>14 You said:</p> <p>15 "If the design of the bulkhead between the tank room</p> <p>16 and the aft peak were meant to be watertight, the</p> <p>17 notation for the access opening on the 'Sections and</p> <p>18 Bulkheads' drawing would be the same as that appearing</p> <p>19 on the similar drawing for the Eastern District No. 1</p> <p>20 from which the design of the Lamma IV was adapted and</p> <p>21 would read 'WT Door'.</p> <p>22 It was not until CLS's Mr Cheung ... was interviewed</p> <p>23 by officers of Mardep in late December 2012 that Cheoy</p> <p>24 Lee realised that the plans approved in 1995 actually</p> <p>25 contained several mistakes which I have pointed out in</p>

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<p>1 my earlier witness statement. These mistakes led to the 2 wrong calculations for damage stability being submitted 3 to Mardep for their assessment." 4 So that is a correct summary of the evidence you 5 have given to the Commission? 6 A. Yes. 7 Q. So it really was not after repeated questioning that you 8 finally admitted to the mistakes, as reported in some of 9 the Chinese press? 10 A. No. 11 Q. It is there in your statement all the time? 12 A. That's correct. 13 MR PAO: Mr Chairman, it may be a convenient time for the 14 lunch break. I do have a few more questions. 15 THE CHAIRMAN: Yes, certainly. 16 Mr Lo, we're going to take the luncheon adjournment 17 now and I'm going to have to ask you to come back this 18 afternoon, but to be on standby because we're going to 19 take evidence, as I understand it, from Singapore. 20 Mr Beresford? 21 MR BERESFORD: That's correct, Mr Chairman. 22 THE CHAIRMAN: Thank you. We've made arrangements with 23 a witness in Singapore from Naval-Consult. 24 A. Of course, yes. 25 THE CHAIRMAN: Because we're taking that by videolink, we'll</p>	<p>1 A. Of course. 2 THE CHAIRMAN: Mr Mok? 3 MR MOK: Mr Chairman, can I update the Commission on certain 4 documentation. This relates to certain email exchanges 5 with Mr John Lim, the witness who is coming on this 6 afternoon. 7 THE CHAIRMAN: Yes. 8 MR MOK: This is starting at now paginated pages 4016 9 to 4026. These are short email exchanges which will be 10 relevant to this witness. 11 THE CHAIRMAN: Are these in addition to the -- 12 MR MOK: These are updated emails since the ones that had 13 been inserted into the bundle. 14 THE CHAIRMAN: Very well. Thank you. Have these been 15 scanned? Yes. 16 2.30 this afternoon, Mr Lo. 17 A. Thank you. 18 (1.03 pm) 19 (The luncheon adjournment) 20 (2.30 pm) 21 THE CHAIRMAN: Good afternoon, Mr Lo. 22 A. Good afternoon. 23 THE CHAIRMAN: I remind you that you continue to testify 24 according to your original affirmation. 25 A. Yes.</p>
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<p>1 give that precedence. It's unknown to me how long that 2 will take. 3 A. It's all right. 4 THE CHAIRMAN: But when that's finished, we'll come back to 5 you. 6 A. All right. 7 THE CHAIRMAN: So could I ask you to be on standby to resume 8 your evidence this afternoon. 9 A. Sure. 10 MR BERESFORD: Mr Chairman, I wonder if it might actually be 11 possible to finish Mr Lo's evidence before we start with 12 Mr Lim, if my learned friend Mr Pao is not going to be 13 long. On the basis of what I have heard so far, I only 14 have a couple of questions so I won't take very long. 15 THE CHAIRMAN: We haven't heard from Mr Mok yet. 16 MR MOK: I have a few questions in four areas. I don't 17 anticipate it will be very long. Certainly not more 18 than 15 minutes. 19 THE CHAIRMAN: I'm anxious that we don't spill over to 20 another day with the Singapore evidence, but if we were 21 to perhaps give it 20 minutes and then take our 22 adjournment? 23 MR BERESFORD: That might be preferable, Mr Chairman. 24 THE CHAIRMAN: Very well. Let's do that. So if you can 25 return for 2.30.</p>	<p>1 THE CHAIRMAN: Mr Pao. 2 MR PAO: Mr Mok has something to say. 3 MR MOK: I'm sorry. 4 Just before the lunch, there were certain copies of 5 emails being circulated. 6 THE CHAIRMAN: Yes. 7 MR MOK: Unfortunately there seems to be a page missing from 8 those emails. Mr Chairman, if you look at page 4018, 9 there is an email containing four questions, but there 10 seems to be no answer attached to this email. 11 I understand that that is an omission, and the answer is 12 in the course of being sent to Lo & Lo. Hopefully it 13 may be in the first half hour or so that copies could be 14 made of that as well. 15 THE CHAIRMAN: Yes. This is Mr Lim addressing various 16 issues that arise? 17 MR MOK: Yes. 18 THE CHAIRMAN: But of course he'll be led in his evidence 19 afresh is the way I'd like it to be done -- 20 MR MOK: Of course, but these may be some reference points. 21 THE CHAIRMAN: -- rather than revisiting his recent email 22 traffic with various parties. 23 MR MOK: I understand. 24 THE CHAIRMAN: Mr Pao? 25 MR PAO: Mr Chairman, subject to the production of this</p>

<p style="text-align: right;">Page 93</p> <p>1 letter, the letter dated 25 July 1995 -- 2 THE CHAIRMAN: Yes, I understand it's being copied. 3 MR PAO: Yes, from Cheoy Lee to Hongkong Electric, enclosing 4 eight drawings. 5 THE CHAIRMAN: And has been scanned. 6 MR PAO: I believe. 7 THE CHAIRMAN: Perhaps we could have it on the screen if 8 you're going to deal with it. 9 MR PAO: No, I don't think I have any questions on it. 10 THE CHAIRMAN: But I think this being a public hearing, it 11 ought to be available for the public to see what is 12 being put into evidence. 13 MR PAO: It says in the letter that further to your recent 14 request -- 15 THE CHAIRMAN: First of all, to whom is the letter 16 addressed? 17 MR PAO: It's to Hongkong Electric Co Ltd, and attention 18 Mr FY Hung, I think, of the marine section. 19 THE CHAIRMAN: This is 25 July 1995 -- 20 MR PAO: Yes. 21 THE CHAIRMAN: -- from Cheoy Lee to Hongkong Electric. 22 MR PAO: Yes. It says: 23 "Further to your recent requests, I hereby enclose 24 one copy each of the following drawings ..." 25 And that includes the Midship Section, Profile and</p>	<p style="text-align: right;">Page 95</p> <p>1 Mr Lo this morning relating to the ABS -- 2 THE CHAIRMAN: Yes, I have those. 3 MR PAO: Yes. I think if Mr Beresford is not going to deal 4 with it, then I have to ask this witness one or two 5 questions on it. 6 THE CHAIRMAN: Yes. Well, someone has to deal with it so 7 that we can follow what it's all about. 8 MR BERESFORD: Mr Chairman, I've only just been handed them, 9 so perhaps if my learned friend has some questions to 10 ask on them, then perhaps he can deal with them. 11 THE CHAIRMAN: Yes, very well. 12 MR PAO: Mr Lo, you remember handing up to Mr Chairman two 13 documents this morning? 14 A. Yes. 15 Q. One is the ABS Rules for Survey After Construction for 16 2004? 17 A. That's correct. 18 MR PAO: I'm not sure if it's been scanned? 19 THE CHAIRMAN: Yes, it's on the screen. 20 MR PAO: Table 2 is in relation to steel wastage allowance 21 for conventional vessels under 90 metres. 22 A. Yes. 23 Q. The one we are interested in, obviously, is table 3, 24 which is further down the page: the aluminium wastage 25 allowance for conventional vessels under 90 metres. And</p>
<p style="text-align: right;">Page 94</p> <p>1 Deck, Sections and Bulkheads (sheet 1 of 2), which is 2 the important one, Sections and Bulkheads (sheet 2 of 3 2), Bulwark Construction, Shafting Arrangement and 4 Detail, Rudder and Rudder Stock Details, and Fuel Oil 5 Tank Construction. Altogether eight drawings. 6 THE CHAIRMAN: Yes. 7 MR PAO: It further went on to say: 8 "I trust the enclosed will be found in order. So 9 far all but items 6 and 7 have already been approved by 10 the Marine Department." 11 THE CHAIRMAN: Thank you. 12 MR PAO: Subject to the production of this document, I have 13 no further questions. I will let my learned friend 14 Mr Beresford deal with the two ABS regulations and the 15 Bureau Veritas regulations relating to thickness of 16 aluminium sheeting in his re-examination. 17 Do you want to do deal with it? 18 THE CHAIRMAN: Where do you suggest that this document be 19 placed in our papers? 20 MR PAO: Should we put it at the end of the W&G bundle? 21 THE CHAIRMAN: As long as that puts it next to Mr Lo's 22 statement. 23 MR PAO: Yes. I've just been indicated by my learned friend 24 Mr Beresford that he doesn't want to deal with the -- 25 Mr Chairman, you remember the two documents produced by</p>	<p style="text-align: right;">Page 96</p> <p>1 the side shell plating, the allowance is 20 per cent. 2 A. That's correct. 3 Q. If we go back up to table 2, the side shell plating for 4 steel vessels is 30 per cent. 5 A. Yes. 6 Q. So your understanding that 30 per cent wastage was 7 allowable was in fact as my learned friend Mr Beresford 8 said in relation to steel-constructed vessels? 9 A. You mean according to the Marine Department scale? 10 Q. Yes. 11 A. Now, because it doesn't say what material, so one has to 12 enquire to the Marine Department as to what their 13 intentions are. 14 Q. So in any event, the ABS regulations said for 15 aluminium-hulled vessels, the wastage allowance is 16 20 per cent? 17 A. Yes, which means that there is definitely wastage on 18 aluminium also. 19 Q. Yes. That's the point you wish to make. 20 The second one is the Bureau Veritas regulations. 21 A. Yes. 22 Q. It's on the right-hand side column, towards the bottom, 23 under C3.2.3, "Aluminium alloy structures". Mr Lo, 24 I would like you to look at this document and point to 25 the figure or the column that you wish to draw the</p>

<p style="text-align: right;">Page 97</p> <p>1 Commission's attention to. 2 A. In fact this is the tolerance -- 3 Q. On the third page, you mean? 4 A. -- on the third page, on page 44, which is referred to. 5 In actual fact this is for new building and not for 6 wastage after the ship is finished. 7 Q. Yes. And the table you're referring to is C3.2.3? 8 A. That's correct. 9 Q. "As-built thickness" is the left-hand column of that 10 table, which is less than 8 mm? 11 A. That's correct. 12 Q. And the tolerance of "Under-thickness" would be 0.3 mm? 13 A. That's right. This is actually more than ABS allowed. 14 Q. Right. So that's the point you wanted to make? 15 A. That's right. 16 MR PAO: Thank you, Mr Lo. 17 THE CHAIRMAN: Thank you. 18 MR MOK: Mr Chairman, I would like to ask questions on 19 a number of areas. The first one relates to the Blue 20 Book guideline or instruction number 12, and maybe the 21 drawings which may relate to that. 22 THE CHAIRMAN: Yes. 23 MR MOK: Secondly, in relation to the hull thickness and the 24 letter to the Marine Department dated 4 April 1995. 25 Thirdly, about the damage stability calculation by</p>	<p style="text-align: right;">Page 99</p> <p>1 Q. -- which bulkhead would be the peak bulkhead near the 2 stern for the purposes of this rule? 3 A. Aft engine room bulkhead. 4 Q. Thank you. 5 In relation now to paragraph (v) -- 6 THE CHAIRMAN: Just a moment, please. Thank you. 7 MR MOK: Again for the purposes of paragraph (iv), it 8 follows from your answer just given now that the 9 structure and design of Lamma IV complies with this 10 rule; correct? 11 A. Yes. 12 Q. Now, in relation to (v), it states this: 13 "When any access opening is fitted in a watertight 14 bulkhead, it is to have an efficient closing appliance." 15 Do you see that? 16 A. Yes. 17 Q. Would this rule be applicable to Lamma IV? 18 A. Yes. 19 Q. If that is the case, on the basis that the bulkhead 20 between the steering gear compartment and the tank room 21 is not a watertight bulkhead, all right -- "not" -- 22 A. Yes. 23 Q. -- would the vessel be required to have an efficient 24 closing appliance, to your understanding? 25 A. No.</p>
<p style="text-align: right;">Page 98</p> <p>1 Mr Cheung Fook-chor, which is referred to in the 2 witness's statement. 3 Then finally, very quickly, about some wrong input 4 of data into that booklet. 5 THE CHAIRMAN: Yes. Please do. 6 Examination by MR MOK 7 MR MOK: Mr Lo, can I first of all refer you to the Blue 8 Book, to instruction 12. We can find that in marine 9 bundle 8, tab 1, at page 1769. Mr Beresford earlier 10 asked you questions on paragraphs (iv) and (v) of this 11 instruction; do you remember? 12 A. Yes. 13 Q. May I draw your attention first of all to 14 paragraph (iv), which says: 15 "In all double-ended launches and launches over 16 70 feet long peak bulkheads will be required at both 17 ends." 18 Do you see that? 19 A. Correct, yes. 20 Q. Would that be applicable to Lamma IV? 21 A. Of course. 22 Q. Now, assuming -- on the basis that there is no 23 watertight bulkhead between the steering gear 24 compartment and the tank room -- 25 A. Yes.</p>	<p style="text-align: right;">Page 100</p> <p>1 Q. Right. Your attention has been drawn to various 2 drawings and plans, one of which is Sections and 3 Bulkheads. 4 A. Yes. 5 Q. We have just gone through the various drawings this 6 morning again. 7 A. Right. 8 Q. Would it be fair to describe that if you look at those 9 drawings as a whole, there is a certain ambiguity 10 concerning whether or not the access opening should or 11 should not be watertight? 12 A. Yes. 13 Q. I'm just asking you, according to your experience, 14 where, let's say in this case, the Wuzhou Shipyard in 15 China were given this set of drawings, which as you said 16 contains an ambiguity, what do you expect them to do? 17 Would they come back to you and ask further questions, 18 or for clarifications, or -- what do you expect them to 19 do? 20 A. I really have no idea, because I was not the person 21 overseeing the construction at the shipyard. 22 Q. Thank you. My second area of questions relates to 23 a letter which is found in marine bundle 1, tab 6, 24 page 206. Do you remember this letter? 25 A. Yes.</p>

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<p>1 Q. We have gone through this letter a number of times, but 2 there is a paragraph which we have not focused on. This 3 is the paragraph after the numbered paragraphs 1 and 2, 4 in the middle of the letter. 5 A. Yes. 6 Q. It says: 7 "Our designer advised changes are acceptable and 8 remain within applicable DNV rules." 9 Do you see that? 10 A. Yes. 11 Q. Can you tell the Commission was "DNV rules" stands for? 12 A. Det Norske Veritas. It's the Norwegian ship 13 classification society. 14 Q. Right. In the bundle, we have a copy of those rules but 15 for the year 1996. We haven't been able to find the 16 rules for 1995. But can I draw your attention to that, 17 please. This is found in marine bundle 11, page 3926-7. 18 I don't know whether you have the same pagination as 19 I do. This is attached to a supplemental witness 20 statement of Wong Chi-kin, the first page of which is 21 page 3926-3 in my document. 22 THE CHAIRMAN: No, I don't have that in my bundle. 23 MR MOK: The witness has found it, I think. 24 The page is 3926-7. 25 MR BERESFORD: Mr Chairman, I believe I have a spare copy</p>	<p>1 MR MOK: I think we will try as well, but if the witness 2 could help, it would be very helpful. 3 The third area I would like to ask you on concerns 4 the damage stability calculation by Mr Cheung Fook-chor. 5 You refer to that in paragraph 53 of your witness 6 statement on page 12 of the W&G bundle. 7 Mr Lo, you recall some questions being asked of you 8 concerning some errors made in that booklet. 9 A. Yes. 10 Q. Can I explore with you a few matters concerning those 11 errors. First of all, is it correct that, according to 12 you, in relation to Lamma IV, the 0.1L rule applies? 13 A. Yes. 14 Q. Also, the length of the steering gear compartment, 15 according to you, is much less than 0.1 of the length of 16 the vessel. You said that in paragraph 32 of your 17 statement. 18 A. Yes. 19 Q. Is it correct to say that this means regardless of 20 whether the bulkhead between the steering gear 21 compartment and the tank room was watertight, this 22 bulkhead should be disregarded in calculating the damage 23 stability, according to this rule? 24 A. That's correct. 25 Q. Would it be correct to say that this in turn means that</p>
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<p>1 here. 2 THE CHAIRMAN: I think I've seen this document but it's not 3 in the place I'm expecting to find it. We've found 4 a copy. 5 MR MOK: Right. Thank you. It is also on the screen. 6 First of all, Mr Lo, can I ask you to identify the 7 society in question? If you look at the bottom of this 8 page, is that the society, the shortform of which is 9 "DNV"? 10 A. Correct. 11 Q. As I said, these rules are the rules applicable in July 12 of 1996. 13 A. Yes. 14 Q. Are you familiar with these rules? 15 A. No, no, no, I'm not. 16 Q. You're not familiar with these rules? 17 A. I'm not. 18 Q. But can I ask for your assistance, if someone could help 19 us to locate a set of the rules which were applicable at 20 the time of the letter, 4 April 1996? 21 A. Well, we'll try, but at this moment I can't promise you 22 we can do that. 23 Q. All right. Thank you very much. 24 THE CHAIRMAN: Could not the classification society itself 25 be contacted?</p>	<p>1 there should have been a calculation of the damage 2 condition on the basis that both the steering gear 3 compartment and the tank room are flooded? 4 A. Yes. 5 Q. And there was no such calculation in this booklet? 6 A. That's correct. 7 Q. Or indeed in any of the subsequent booklets? 8 A. Yes. 9 Q. Would you regard this as an error, for not including 10 such a calculation in these booklets? 11 A. Yes. 12 Q. Finally, the question is, would it follow from what 13 you've just said that even if the booklet was prepared 14 on the basis that the bulkhead in question was 15 watertight, the booklet would still be incorrect in the 16 sense that that calculation which I have just mentioned 17 was not included? 18 A. Can you repeat that question? 19 Q. Yes. Even if the bulkhead between the steering gear 20 compartment and the tank room was watertight -- 21 A. Yes. 22 Q. -- because the length of the steering gear compartment 23 was less than 0.1 -- 24 A. Yes. 25 Q. -- it should be disregarded. So even if it was</p>

<p style="text-align: right;">Page 105</p> <p>1 watertight, there was still an omission in the sense 2 that there was no calculation based on the fact that 3 both the steering gear compartment and the tank room 4 were flooded? 5 A. Yes. 6 Q. Thank you. My final area -- 7 THE CHAIRMAN: Just a moment, please. Thank you. 8 MR MOK: My final area concerns another area in the 9 stability booklet, the one which is found in marine 10 bundle 3, tab 84, page 479. 11 THE CHAIRMAN: Is this the 1998 calculations? 12 MR MOK: Let me see. Correct. 13 THE CHAIRMAN: Thank you. 14 MR MOK: Page 479, please. I'm sorry, I may be wrong. This 15 is the October 1998 calculation. 16 THE CHAIRMAN: Yes. 17 MR MOK: Can I direct you to the numbers -12.445 and 18 -11.575? 19 A. Yes. 20 Q. I think you accept that those figures, or at least one 21 of those figures, was incorrect? 22 A. That's right. 23 Q. The result was that the calculation -- as a result of 24 that calculation, the length of the steering gear 25 compartment was shorter than what it should have been?</p>	<p style="text-align: right;">Page 107</p> <p>1 the specification which was prepared by -- 2 A. Yes. 3 THE CHAIRMAN: Before you embark upon this, I know you gave 4 an estimate earlier but we're now past the time that I'd 5 set for going to Singapore. How long do you anticipate 6 being? 7 MR BERESFORD: Not more than five minutes, Mr Chairman. 8 THE CHAIRMAN: Very well. 9 MR BERESFORD: Mr Lo, you were asked some questions about 10 the specification that was prepared by Cheoy Lee, and we 11 were looking at some of the documents and we passed over 12 a drawing at page 3296, a General Arrangement drawing. 13 Can we just have that up on the screen, please? 14 This has your company's name on it. Do you know who 15 prepared this drawing? 16 A. This would have been prepared by us, by Cheoy Lee. 17 Q. Yes. Do you know who in Cheoy Lee would have prepared 18 it? 19 A. The drawing is too -- no, it doesn't show. 20 Q. No. 21 A. I cannot see. 22 Q. But we can see from the profile, which is the second 23 drawing down, and from the lower deck plan, that it has 24 the six compartments that we saw specified in the 25 specification; is that right?</p>
<p style="text-align: right;">Page 106</p> <p>1 A. Yes. 2 Q. In relation to that, can I draw your attention to your 3 supplemental witness statement, paragraph 7 on 4 page 40-2. 5 A. Yes. 6 Q. In paragraph 6, you refer to certain errors in the 7 calculations for damage stability; do you see that? 8 A. Yes. 9 Q. Then in paragraph 7, you said: 10 "However, he was able to confirm with me that even 11 with such errors in the calculations, the vessel's 12 stability would not be adversely affected." 13 Do you see that? 14 A. Yes. 15 Q. Would that paragraph be applicable also to the error 16 which I have just identified with you on page 479 of 17 bundle 3? 18 A. Yes. 19 Q. Yes? 20 A. Yes. 21 MR MOK: Thank you. Those are my questions. 22 THE CHAIRMAN: Yes. 23 Mr Beresford? 24 Further examination by MR BERESFORD 25 MR BERESFORD: Mr Lo, you were asked some questions about</p>	<p style="text-align: right;">Page 108</p> <p>1 A. Yes. 2 Q. You said that you prepared the specification before 3 you'd had sight of anything to do with the Eastern 4 District No. 1; is that right? 5 A. That part, I don't know, because we would have 6 identified a design before we go into a tender. You 7 don't dream of a ship like this, you know; you must have 8 some basis, otherwise it would be very hard to start 9 going after the contract -- 10 Q. Cheoy Lee didn't build the Eastern District No. 1, did 11 it? 12 A. No, no. 13 Q. In answer to a question by my learned friend Mr Pao, you 14 said you did not have the Eastern District No. 1 drawing 15 at this stage? 16 A. No, no. There's full sets of drawing. I mean, I might 17 have known the existence of the ship and the designer. 18 That's why it's so quick that after we are awarded the 19 contract, we can go to Mr Lim. 20 Q. So it isn't entirely correct, then, to say that these 21 drawings were adapted from the drawings of the Eastern 22 District No. 1, is it? 23 A. It may be the General Arrangement to a certain extent. 24 Q. You just knew of the ship? 25 A. Yes, I just knew of the ship. Whether at that moment we</p>

<p style="text-align: right;">Page 109</p> <p>1 have a drawing or not, I'm not sure. 2 Q. Now, you say you had no record of the instructions that 3 you gave to Naval-Consult. 4 A. We have a contract, no doubt, ultimately, yes. 5 Q. But have you looked for a record of it? Is it in 6 writing? 7 A. The contract is in the file, yes. 8 Q. Can you produce a copy of the contract? 9 A. Sure. 10 Q. What instructions would you have given them? Would you 11 have given them a copy of the specification? 12 A. I don't -- I have to look at it. 13 Q. Can you tell us what instructions -- I mean, can you 14 look into it and enquire what instructions you gave? 15 A. Yes, we can look into that. Yes. 16 Q. But presumably you would have given them a copy of this 17 specification, otherwise they wouldn't have known what 18 to draw? 19 A. Could have, yes. 20 Q. Yes. And then finally, your attention has just been 21 drawn to the Blue Book requirement for bulkheads at both 22 ends. 23 A. Yes. 24 Q. It appears from the stability reports that the aft 25 engine room bulkhead is 7.2 metres aft of the midship</p>	<p style="text-align: right;">Page 111</p> <p>1 and any instructions you have -- subject to that, your 2 evidence is complete. The Commission thanks you for 3 your assistance in giving evidence, and we're grateful 4 that you felt able to postpone your trip on an important 5 matter like this to assist us. Thank you very much. 6 A. Thank you. 7 THE CHAIRMAN: You're now free to leave, or to remain in the 8 hearing room if you wish. 9 A. Yes, Mr Chairman. 10 (The witness withdrew) 11 MR BERESFORD: Mr Chairman, the next witness is Mr John Lim, 12 who is in Singapore. 13 THE CHAIRMAN: Yes. I'm just dealing with some of these 14 miscellaneous papers that have been handed up without 15 pagination during the hearing. 16 MR JOHN LIM (affirmed via videolink) 17 THE CHAIRMAN: There is a little time lag in our signal, so 18 would you perhaps pause after we've ended speaking and 19 perhaps we will do the same at this end when you speak. 20 A. I will. 21 THE CHAIRMAN: If there is any difficulty with the 22 presentation to you of scanned documents, please be free 23 to interrupt and say that you're not able to see the 24 document, and we'll see if we can remedy it. 25 A. Okay.</p>
<p style="text-align: right;">Page 110</p> <p>1 line. If you want to have a look at a drawing, you 2 could, for example, have a look at page 477. 3 A. Yes. 4 Q. If we look at the aft bulkhead for the steering gear 5 compartment, basically the transom, we see that it's 6 12.445. 7 A. On which page? 8 Q. Page 479. 9 A. Yes. 10 Q. So that's nearly halfway back, isn't it, the engine room 11 aft bulkhead? 12 A. What do you mean by "halfway back"? 13 Q. Well, it's 57 per cent of the distance between the 14 transom and midships. 15 A. Yes. 16 Q. It's not exactly at the end of the vessel, is it? 17 A. No. 18 Q. So is it really your opinion that that satisfied the 19 requirement for a peak bulkhead at one end? 20 A. Yes, it does. 21 MR BERESFORD: All right, Mr Lo. Thank you. 22 THE CHAIRMAN: Mr Lo, subject to producing the material that 23 you've just spoken about and any other matters that are 24 outstanding -- the matter that you just spoke about was 25 documents relating to the contract with Naval-Consult,</p>	<p style="text-align: right;">Page 112</p> <p>1 THE CHAIRMAN: Thank you. Now counsel will lead you in your 2 testimony, and the Commission for its part will listen 3 to your evidence. 4 A. Okay. 5 THE CHAIRMAN: Mr Beresford. 6 MR BERESFORD: Thank you, Mr Chairman. 7 Examination by MR BERESFORD 8 MR BERESFORD: Mr Lim, can you hear me? 9 A. Yes, I can hear you. 10 Q. Good. Good afternoon, and thank you very much for 11 assisting today. 12 A. Good afternoon. 13 Q. I have some questions to ask you on behalf of the 14 Commission. 15 A. Yes. 16 Q. Mr Lim, we've seen some drawings of your firm 17 Naval-Consult Pte Ltd. 18 A. Yes. 19 Q. You are a principal of this firm, or a director? 20 A. Yes, I'm the director. 21 Q. How long have you been a director? 22 A. Since 1980. 23 Q. Did you have any personal involvement in the project for 24 the design of the vessel that we now know as the 25 Lamma IV?</p>

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<p>1 A. Yes. 2 Q. What was your involvement, please? 3 A. My involvement is mainly to oversee my draftsmen on 4 their work. 5 Q. Yes, I see. 6 I understand the draftsman has left your company 7 now. 8 A. Yes. It has been a long time. 9 Q. Do you know who the draftsman was? What was his name? 10 A. I think his name was KC Tan, I think. 11 Q. When did he leave your company? 12 A. Sometime in 1995. 13 Q. So immediately after this job, really? 14 A. Yes. 15 Q. Was that for retirement or to move to another firm? 16 A. He moved to another firm, I think. 17 Q. In Singapore? 18 A. I'm not too sure. I didn't ask. 19 Q. You've provided us with a list of the basic design 20 package that you prepared for Cheoy Lee Shipyards. 21 You've provided us with a list of 30 drawings. 22 A. That list was in the contract, actually, the agreement 23 between Naval-Consult and Cheoy Lee. 24 Q. Do you have a copy of that contract? 25 A. Of course I have a copy.</p>	<p>1 General Arrangement that you were talking about? 2 A. Yes. 3 Q. Then after that, there's a contract between Cheoy Lee 4 and Hongkong Electric. I'm not going to ask you 5 questions about that. But conveniently -- 6 A. No, I don't -- 7 Q. Sorry? 8 A. I don't see this contract. This is between Cheoy Lee 9 and Hongkong Electric? 10 Q. Yes, but the specifications are attached to that. There 11 are 19 pages of contract, and then -- so about 20 pages 12 on, there's a document which says "Specifications". 13 Can we try around about page 3317. 14 THE CHAIRMAN: Perhaps page 3305? "Specification of 15 28 metre Aluminium/GRP Passenger Launch"; is that what 16 you have in mind? 17 MR BERESFORD: The beginning of the document just has 18 a single page saying "Specifications". Then there's 19 an index. 20 THE CHAIRMAN: Has this been paginated? 21 MR BERESFORD: My copy hasn't, Mr Chairman, I'm afraid. 22 That's my difficulty. 23 THE CHAIRMAN: Has anybody helping you got it paginated? 24 Bear with us, Mr Lim. We're trying to locate the 25 document.</p>
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<p>1 Q. Would you be able to provide us with a copy of that 2 contract? 3 A. Yes. 4 Q. Thank you. If you could arrange for that to be 5 transmitted through to Hong Kong after this, I'd be very 6 grateful. 7 A. Yes. I think I have got it here somewhere. Yes, I have 8 got it here. 9 Q. What did you get in the way of instructions from Cheoy 10 Lee for the building of this vessel? 11 A. Basically to do a design for the 28 metre. 12 Q. Yes, but in terms of documents, did they provide you 13 with a General Arrangement drawing or did they provide 14 you with a specification or anything like that? 15 A. Initially they did provide me with a GA by Cheoy Lee, 16 and I'm not too sure now, I can't remember whether 17 I have got a detailed specification or just an outline 18 specification. 19 Q. Would it help if I showed you a specification and asked 20 you if you recognised it? 21 A. Yes. 22 Q. Perhaps we could turn it up on the screen. I think it's 23 in marine bundle 11 at page 3296. 24 There's a copy here of a General Arrangement plan 25 prepared by Cheoy Lee Shipyards. Would that be the</p>	<p>1 MR BERESFORD: Perhaps we can try a different copy at 2 page 3305. 3 If you'd care to look through that document, you see 4 that the principal dimensions are set out. In item 1, 5 there are general requirements. Item 2 deals with 6 speed. Item 4 is passenger carrying capacity. The 7 drawings and plans required, at item 9. At item 17, we 8 have a clause relating to the hull and superstructure -- 9 A. Yes. 10 Q. -- which provides that: 11 "The hull shell, bulkheads and main deck plating and 12 extrusions for frames and beams to be of marine quality 13 aluminium, the whole fabricated by welding and to 14 conform to Hong Kong Marine Department requirements for 15 operation in class III waters. 16 The hull to be robustly built and of hard chine hull 17 form with transom stern." 18 Then it provides this: 19 "To be subdivided by five watertight bulkheads into 20 six compartments comprising fore peak/chain locker, void 21 space, crew accommodation, engine room, store room and 22 aft peak/steering flat." 23 Then it provides for the fendering arrangement; 24 rudder and stock; sacrificial anodes; engine room 25 flooring; bulwark and guard railing; insulation and</p>

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<p>1 lining, various matters to be attached. The wheelhouse 2 arrangement; signal mast and yard. 3 So perhaps not all of those matters would have been 4 matters for you, but you would have needed to have seen 5 this document in order to be able to prepare your 6 drawings, wouldn't you? 7 A. Yes, I'm quite sure that we have seen this document. 8 But I really cannot confirm. 9 THE CHAIRMAN: Mr Lim, do you have with you other documents, 10 other than the contract to which you've made reference, 11 that might be of assistance to us? 12 A. No. Actually on this vessel, I have got very little 13 documents left, especially the 28 metres, for this one, 14 as well as the Eastern District No. 1. Because this 15 just has been designed in 1992 and 1995. 16 THE CHAIRMAN: So apart from the contract that you mentioned 17 to us, that apparently you have with you, what else do 18 you have? 19 A. Yes. 20 THE CHAIRMAN: What else do you have? 21 A. I have a copy of a prelim trim and stability booklet. 22 THE CHAIRMAN: And anything else? 23 A. No, I don't have anything else. 24 THE CHAIRMAN: Thank you. 25 Mr Beresford, I understand that if we are to -- and</p>	<p>1 MR BERESFORD: I'm trying to avoid interrupting, 2 Mr Chairman. 3 THE CHAIRMAN: I understand that. I've made that enquiry 4 already. It cannot be done. 5 MR BERESFORD: Oh, I see. I hadn't appreciated that. 6 THE CHAIRMAN: I think it better if we obtain your documents 7 first, Mr Lim. 8 A. Who should I send the documents there? 9 THE CHAIRMAN: As I understand it that can be done now, 10 perhaps by the person with you in the room. I'm going 11 to ask that that be done. We'll keep the link open so 12 we can come back to you if there are any difficulties. 13 But the first step is to scan and the second is then to 14 email them to us here in Hong Kong, and then we will all 15 know what we're talking about. 16 A. Yes. Addressed to? 17 THE CHAIRMAN: People in the Hong Kong office in Singapore 18 will assist you. Don't worry about addressing it. 19 What I propose doing is standing the matter down. 20 We'll stand down for 15 minutes and we'll see where we 21 are then. But we'll keep the link open so that we can 22 monitor the progress. In the meantime, you're not 23 required to participate. Others will deal with the 24 scanning side of things. Do you understand? So we'll 25 adjourn for 15 minutes. Thank you.</p>
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<p>1 we can have these documents scanned and sent to Hong 2 Kong now, but that process will interrupt the taking of 3 the evidence. 4 MR BERESFORD: Yes. Thank you, Mr Chairman. 5 THE CHAIRMAN: How do you wish to proceed? 6 MR BERESFORD: Well, I don't think we need anything that has 7 been mentioned so far, and we're expecting to get 8 a contract in due course. So I think I'd rather just 9 proceed with the questions on the basis of the documents 10 that we have before us. 11 THE CHAIRMAN: As you choose. 12 MR BERESFORD: Mr Lim, are you able to tell us in terms of 13 the number of pages how many documents you have there, 14 how many pages of documents you have there? 15 A. Are you referring to the agreement documents? 16 Q. All of the documents that you have. 17 A. I don't know. Maybe about 60-over pages here. About 18 70 pages of documents. 19 Q. It's been suggested to me that perhaps -- if there's 20 somebody available who could do the scanning in the 21 background, perhaps they could be scanned while we are 22 talking about other matters. 23 THE CHAIRMAN: That's the enquiry I made, which is why 24 I formulated my statement to you in the way that I did. 25 It will require interrupting the proceedings.</p>	<p>1 A. Thank you. 2 (3.18 pm) 3 (A short break) 4 (3.45 pm) 5 THE CHAIRMAN: Mr Lim, apologies for the delay, but we're 6 now ready to resume. We've received two documents that 7 have been sent from Singapore. 8 A. Yes. 9 THE CHAIRMAN: One is the agreement made between 10 Naval-Consult and Cheoy Lee, 8 December 1994, and that's 11 half a dozen pages; and the other is a document headed 12 "Preliminary Trim & Stability Booklet", and that 13 extends, I think, if we look at the top right-hand 14 corner, handwritten pagination, 63 pages. 15 A. Yes. 16 THE CHAIRMAN: Thank you for that. We'll ask counsel to 17 resume questioning. 18 Mr Beresford. 19 MR BERESFORD: Thank you, Mr Chairman. 20 Mr Lim, we have a copy of the agreement made between 21 Naval-Consult and Cheoy Lee Shipyards -- 22 A. Yes. 23 Q. -- for the design drawings for a 28 m fast passenger 24 launch, reference NC-391, dated 8 December 1994. If we 25 turn to the last page of that agreement, we see some</p>

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<p>1 signatures there. Do you recognise the signature on 2 behalf of Naval-Consult? 3 A. Yes. 4 Q. Whose signature is that, please? 5 A. My signature. 6 Q. Thank you. Paragraph 1 of the contract says: 7 "In consideration of their mutual undertakings, the 8 naval architect [which is your company] and the builder 9 [which is Cheoy Lee Shipyards] agree to the following: 10 1. The naval architect shall design and the builder 11 shall build the 28 m fast passenger launch (hereinafter 12 called 'the vessel') as detailed in the Specification 13 (appendix) and the General Arrangement No. 14 NC-391-1 Rev A." 15 Then paragraph 2 sets out a list of 30 drawings and 16 other documents. 17 A. Yes. 18 Q. The last one is an intact and damage stability report 19 booklet. Is that the other document that you've sent 20 through to us, the Preliminary Trim & Stability Booklet? 21 A. That's correct. 22 Q. Thank you. Then the other terms of the contract I don't 23 think we need be concerned with. 24 So, going back to paragraph 1. Firstly, it refers 25 to the specification appendix, but it appears that you</p>	<p>1 in the W&G1 bundle at page 43. This version is Cheoy 2 Lee's copy of the plan as marked up by the Marine 3 Department. Have you been shown a copy of that yet? 4 A. You are referring to the drawing NC-391-1, revision A? 5 Q. Yes, I am. 6 A. Yes, I have got a copy in front of me. 7 Q. Can you identify that as your firm's drawing? 8 A. Yes, this is our drawing. 9 Q. Although you say that you no longer have a copy of the 10 specification, would it be reasonable to assume that the 11 specification referred to in the contract would be the 12 same specification as I showed you, which is the 13 specification attached to Cheoy Lee's contract with 14 Hongkong Electric? 15 A. I would say yes. 16 Q. So it appears that the contract you entered into was 17 a contract to design, and for the builder to build, 18 a vessel as detailed in that specification and this 19 General Arrangement? 20 A. Yes. 21 Q. Yes. Now, if we can just look at the General 22 Arrangement for a moment. We can see from the profile 23 that it's divided into six compartments under the main 24 deck. 25 A. Yes.</p>
<p>Page 122</p> <p>1 no longer have the specification; is that right? 2 A. That's correct. 3 Q. In fact you informed us in an email that your company 4 has moved, I think you said four times -- 5 A. That's correct. 6 Q. -- in the intervening years. So is it the case that 7 your documents have been lost in the course of those 8 moves, or have they been routinely destroyed, or what 9 has happened to them? 10 A. I can't remember what was particularly destroyed, but 11 the thing is that a lot of documents have been discarded 12 during the move. 13 Q. A lot of documents have been ...? 14 THE CHAIRMAN: Discarded. 15 MR BERESFORD: Discarded, I see. 16 A. Yes, because the thing is that it has been too long. 17 Q. Yes. However, we do have a plan bearing this reference 18 number and I wonder if I can show it to you, please. 19 It's at marine bundle 2, at page 172. 20 A. Can you repeat what you just said? 21 Q. Yes. I'm asking you about the contractual obligation in 22 paragraph 1 to design in accordance with the General 23 Arrangement No. NC-391-1, revision A -- 24 A. Yes. 25 Q. There is a colour copy of this, of Cheoy Lee's version,</p>	<p>Page 124</p> <p>1 Q. Do you agree with that, Mr Lim? 2 A. Yes. 3 Q. Then at the bottom, in the underdeck plan, we can see 4 that those six compartments are identified as the six 5 compartments named in clause 17 of the specification; 6 namely going from the bow to the stern, the fore peak, 7 the void, the crew's space, the engine room, and the 8 steering gear compartment; is that right? 9 A. Correct. 10 Q. And these six compartments are divided by bulkheads, are 11 they not? 12 A. Yes. 13 Q. Do you agree that a solid line is a convention for 14 a watertight bulkhead? 15 A. Yes. 16 Q. Although in the bulkhead separating the steering gear 17 compartment and the tank room, there is a marking that 18 appears to correspond with the position of the access 19 door? 20 A. Yes. 21 Q. On the face of that drawing, Mr Lim, would you agree 22 that that bulkhead appears to be a watertight bulkhead, 23 albeit with a requirement for an access door? 24 A. From the GA, I can make out the access opening on 25 bulkhead 1/2.</p>

<p style="text-align: right;">Page 125</p> <p>1 Q. Yes, on a watertight bulkhead? 2 A. No, it's not a watertight bulkhead because at that time 3 we were talking about the single-compartment flooding. 4 Q. Well, that's not what you told us before you spoke to 5 Mr Lo, now, is it? 6 A. Yes, but I think that I did not remember before -- 7 Q. I just want to -- 8 A. But then if you go to the preliminary stability booklet 9 now, you can see clearly -- 10 Q. Never mind all that, Mr -- 11 A. -- that the two compartments are considered as one. 12 Q. Never mind all that, Mr Lim, I'm just asking you to look 13 at this drawing. We'll come to all of that in a minute. 14 A. Yes. 15 Q. Just on the basis of this drawing, you told me that 16 a solid line conventionally indicates a watertight 17 bulkhead. 18 A. Correct. 19 Q. So if you had this drawing and nothing else, would you 20 assume that this was a watertight bulkhead with 21 an access opening? 22 A. Correct. 23 Q. And the contract also required you to design in 24 accordance with the specification, and we looked at the 25 specification earlier, which requires the vessel to be</p>	<p style="text-align: right;">Page 127</p> <p>1 bulkheads to create six individual compartments below 2 the main deck. There are namely, steering gear 3 compartment, tank room, engine room, crew space, void 4 and fore peak." 5 Do you recall that? That was your email -- 6 A. Yes. 7 Q. -- of 2 January 2013. 8 A. Yes, I remember. 9 THE CHAIRMAN: I think it would help us if that was on the 10 screen, please. 11 MR BERESFORD: I'm sorry, Mr Chairman. That's page 3982. 12 THE CHAIRMAN: Can we have a date for the document? 13 MR BERESFORD: The date is 2 January 2013, timed at 17:15. 14 THE CHAIRMAN: Thank you. 15 MR BERESFORD: The paragraph I was referring to is numbered 16 paragraph 1, which is now on the screen. 17 THE CHAIRMAN: Thank you. 18 MR BERESFORD: You then went on to say: 19 "All corrugated WT" -- that's "watertight", is it 20 not? 21 A. Yes. 22 Q. "All corrugated WT bulkheads/WT bulkheads are shown 23 clearly in the Profile and Deck drawing and the Shell 24 Expansion drawing which was also noted by you. The 25 access opening on bulkhead 1/2 is meant to have</p>
<p style="text-align: right;">Page 126</p> <p>1 divided into six compartments by five watertight 2 bulkheads; do you remember that? 3 A. Yes. 4 Q. Shall we look at it again, or do you remember it? 5 A. I remember it. 6 Q. Those watertight compartments were named with names 7 corresponding to these compartments on the General 8 Arrangement, were they not? 9 A. Yes. 10 Q. So the specification also required a watertight bulkhead 11 between the steerage gear compartment and the tank room, 12 did it not? 13 A. Yes. 14 Q. There's nothing in the specification or this General 15 Arrangement that says anything about one-compartment 16 flooding, is there? 17 A. No. Of course not in the GA. 18 Q. No, nor in the specification. If you'd like to have 19 a look through the specification, then we're quite happy 20 to wait while you do so. 21 A. No, it's not stated in the specification either -- 22 Q. No. Okay. 23 You said, I believe, when enquiry was originally 24 made of you by Mr Ho of the Marine Department: 25 "The ... vessel is designed to have five watertight</p>	<p style="text-align: right;">Page 128</p> <p>1 a watertight door as this is a watertight bulkhead. 2 Details were clearly shown in section B-B of the 3 Sections and Bulkheads drawing (sheet 1 of 2) that 4 bulkhead 1/2 is a watertight bulkhead." 5 Can we just have a look at those drawings. 6 We'll go through them one by one. 7 Just before we leave the General Arrangement plan, 8 though, could you just clarify one small matter. The 9 tank marked "FW tank" in the tank room just close to the 10 aft peak bulkhead, does that mean freshwater tank? 11 A. The one near to the aft bulkhead of the tank room? 12 Q. Correct. 13 A. That's the freshwater tank. 14 Q. Thank you. Could you please have a look at the Profile 15 and Deck drawing, which may be found in marine bundle 2 16 at page 204. Can you see that, Mr Lim? 17 A. No. They're trying to find it. 18 Q. Okay. 19 A. Are you referring to the Profile and Deck? 20 Q. Yes, Profile and Deck, drawing No. NC-391-4, and the 21 revision I'm looking at is dated 20 March 1995. This is 22 marked "approved" by the Marine Department, with a date 23 stamp of 3 May 1995. 24 Do you have it, Mr Lim? 25 A. Yes.</p>

<p style="text-align: right;">Page 129</p> <p>1 Q. Do you identify this as one of your firm's plans, or 2 drawings, I should say? 3 A. Sorry? Can you repeat your -- 4 Q. Yes, certainly. Can you identify this as one of your 5 firm's drawings? 6 A. Yes. 7 Q. Yes. Thank you. If you look at the side shell profile, 8 we can see there, can we not, five watertight bulkheads 9 dividing six compartments? 10 A. Yes. 11 Q. Including one at frame 1/2, which is 1,625 mm forward of 12 the transom? 13 A. Yes. 14 Q. Then on the centreline profile, we can see the same. We 15 can see five corrugated watertight bulkheads marked in 16 corresponding positions. 17 A. Yes. 18 Q. On the main deck plan, they're not marked as watertight 19 bulkheads, but we can see a solid and not a dotted line 20 in the corresponding positions; is that right? 21 A. Yes. 22 Q. Then on the bottom plan, we can see five watertight 23 bulkheads marked in the corresponding positions, 24 including the one at frame 1/2. 25 A. Yes.</p>	<p style="text-align: right;">Page 131</p> <p>1 A. Yes. 2 Q. Thank you. Just while we're here, we can see that there 3 are a number of figures numbered 5, with a squiggle or 4 a wavy line underneath them, in the upper part of the 5 Shell Expansion plan. These show the hull thickness, do 6 they not? 7 A. You are referring to the shell thickness? 8 Q. Yes. So there's one, for example, just aft of the 9 frame 1/2 bulkhead, and then there's another one 10 1.5 frames forward, up at the top of the drawing. 11 A. Yes. 5 mm? 12 Q. Yes. 5 mm? 13 A. That is correct. 14 Q. What is the symbol underneath the 5, please? 15 A. Thickness. 16 Q. Thickness? That's simply a symbol for thickness. Does 17 that mean precisely 5 mm or not less than 5 mm, or what 18 exactly? 19 A. Supposed not to be less than 5 mm. 20 Q. I didn't quite catch that. 21 A. Supposed not to be less than 5 mm. 22 Q. Not less than 5 mm? Thank you. 23 If we can then, please, look at the Sections and 24 Bulkheads, which is at marine bundle 2, page 205. Tell 25 me when you have that in front of you, please.</p>
<p style="text-align: right;">Page 130</p> <p>1 Q. So it would appear from the Profile and Deck plan, would 2 it not, that the bulkhead at frame 1/2 was supposed to 3 be watertight? 4 A. As from the drawing, yes. 5 Q. Yes. Then if we can look at the Shell Expansion 6 drawing, which is at marine bundle 2, page 202. If you 7 can just tell me when you have that before you. 8 A. Yes, I have it in front of me. 9 Q. Okay. That's drawing No. NC-391-7, revision dated 10 20 March 1995. 11 A. Yes. 12 Q. Can you identify that as your firm's drawing? 13 A. Yes. 14 Q. Thank you. From this too we can see, can we not, five 15 watertight bulkheads dividing six compartments in the 16 same positions corresponding to those that we saw on the 17 Profile and Deck? 18 A. Yes. 19 Q. Including one at frame 1/2, which is marked "watertight 20 bulkhead"? 21 A. Yes. 22 Q. Thank you. 23 So it would appear from this drawing too, would it 24 not, that the bulkhead at frame 1/2 was intended to be 25 watertight?</p>	<p style="text-align: right;">Page 132</p> <p>1 A. Yes, I have. 2 Q. So that's drawing NC-391-5, sheet 1 of 2? 3 A. Yes. 4 Q. And the revision is dated 20 March 1995? 5 A. Yes. 6 Q. Can you identify that as one of your firm's drawings, 7 please? 8 A. Yes. 9 Q. Thank you. We see from the bottom left-hand drawing, 10 bulkhead at frame 1/2 -- 11 A. Yes. 12 Q. -- that that shows an access opening, 1,200 x 600. 13 That's a measurement in millimetres, is it? 14 A. Yes, correct. 15 Q. And the "50R", does that mean 50 mm radius? 16 A. At corners, yes. 17 Q. At the corner, yes. Which to those of us not of 18 a technical bent basically indicates a rounded corner; 19 is that right? 20 A. That's correct. 21 Q. There's a cross-section on the right-hand side of that, 22 marked "B-B". 23 A. Yes. 24 Q. Does that not correspond to the drawing at the top 25 right-hand corner of the sheet, marked "Section B-B"?</p>

<p style="text-align: right;">Page 133</p> <p>1 A. Yes. 2 Q. We see from that that this was marked "watertight 3 bulkhead", do we not? 4 A. Yes. 5 Q. So does this drawing too also not show that the bulkhead 6 at frame 1/2 was supposed to be a watertight bulkhead? 7 A. Yes, from the -- yes. 8 Q. Thank you. In the email that we were looking at at 9 page 3982, you indicated that the access opening on 10 bulkhead 1/2 is meant to have a watertight door. You 11 said: 12 "Details were clearly shown in section B-B of the 13 Sections and Bulkheads drawing (sheet 1 of 2) that 14 bulkhead 1/2 is a watertight bulkhead." 15 A. Yes. 16 Q. Your attention was also drawn to a drawing of the 17 MV Eastern District No. 1, which drawing may be found in 18 marine bundle 2 at page 198. 19 Mr Lim, can you tell us what it is that you're 20 referring to? 21 A. Sorry, can you repeat that? 22 Q. Yes. I see you looking at some other documents. Can 23 you tell us what it is that you are referring to? 24 A. I'm looking at the Eastern District No. 1 drawing. 25 Q. I see. You've got another file for Eastern District</p>	<p style="text-align: right;">Page 135</p> <p>1 Q. Right. I'm afraid my drawing is much reduced. Thank 2 you. Okay. 3 In the bottom left-hand corner of this drawing -- by 4 the way, this vessel was a two-compartment vessel; is 5 that right? 6 A. Yes. 7 Q. In other words, it was built so that, on the assumption 8 that two compartments were flooded, it would remain 9 stable? 10 A. Correct. 11 Q. It wouldn't sink below the margin line? 12 A. No. 13 Q. In that respect, at least, it differed from Lamma IV? 14 A. It is different from Lamma IV. 15 Q. Yes. There was no requirement that Lamma IV be 16 a two-compartment vessel? 17 A. No. 18 Q. In the bottom left-hand corner of this Sections and 19 Bulkheads drawing, there's a drawing for the bulkhead at 20 frame 1 and 1/2; "bulkhead 5 to be similar". 21 A. Yes. 22 Q. Is that right? 23 A. Yes. 24 Q. So this is a bulkhead in a different position to the 25 bulkhead we were looking at on the Sections and</p>
<p style="text-align: right;">Page 134</p> <p>1 No. 1? 2 A. I don't have another file. I have some drawings which 3 I managed to find in my office. 4 Q. I see. Perhaps you'd better tell us what you've got 5 there. Have you got the Sections and Bulkheads drawing 6 for Eastern District No. 1? 7 A. Yes, I have got sheet 1 of 2, yes. 8 Q. Do you have anything else? 9 A. I have got the Profile and Deck and the Sections and 10 Bulkheads sheet 2 of 2. But this is for Eastern 11 District No. 1. 12 Q. Yes. This was another vessel that you had built for 13 Hongkong Electric, was it not? 14 A. No, this is for a Chinese customer. 15 Q. Okay. 16 THE CHAIRMAN: Did you tell us earlier that this was built 17 in 1992? 18 A. This was designed in 1992, yes. 19 THE CHAIRMAN: Designed? Thank you. 20 MR BERESFORD: In fact we can just about make out the date 21 at the bottom of the drawing. It looks like 10 January 22 1992. 23 A. You are referring to which drawing? 24 Q. Sections and Bulkheads, sheet 1 of 2. 25 A. I think it's 19 April 1992.</p>	<p style="text-align: right;">Page 136</p> <p>1 Bulkheads drawing for Lamma IV; is that correct? 2 A. I think this is the same bulkhead, but the numbering for 3 the frames are a bit different from Lamma IV. 4 Q. The main significance of this is that the access opening 5 is marked as a watertight door -- 6 A. Yes. 7 Q. -- rather than marked with the words "access opening" 8 such as were used in the Sections and Bulkheads drawing 9 for Lamma IV; is that right? 10 A. Correct. But this vessel, you mentioned earlier, it's 11 meant for two-compartment flooding. 12 Q. Yes. Originally in your email of 2 January 2013 at 13 page 3982, you said: 14 "Lamma IV's hull form is similar to the vessel MV 15 Eastern District No. 1. However, the compartment 16 designation is slightly different. The word 'WT door 17 opening' was changed to 'access opening' and this could 18 be done by our draftsman. Nevertheless, the access on 19 any watertight bulkhead should be fitted with 20 a watertight door to ensure watertight integrity." 21 Do you remember that? 22 A. Yes. 23 Q. But as I understand it, after speaking to Mr Lo of Cheoy 24 Lee Shipyards, and after he informed you that Lamma IV 25 was designed for single-compartment flooding, you said</p>

<p style="text-align: right;">Page 137</p> <p>1 in a later email, which is at page 3980: 2 "With regards the watertight bulkhead 1/2, the 3 draftsman seems to be correct in removing the watertight 4 door and replaces it with an access for this bulkhead 5 basing on the fact that the steering gear compartment is 6 less than 0.1L and that the damage criteria for the 7 vessel is to comply with a single-compartment flooding." 8 A. Yes. 9 Q. I have to ask you, Mr Lim: was that Mr Lo's idea? 10 A. Sorry? 11 Q. Was that Mr Lo's idea? 12 A. No, no. 13 Q. Well, you originally said that the access opening on 14 bulkhead 1/2 is meant to have a watertight door as it 15 was a watertight bulkhead. And that seems to be -- 16 A. Correct. 17 Q. -- consistent with all the drawings and the 18 specification and what you are contractually obliged to 19 produce. 20 A. Correct, but then the -- 21 Q. So -- 22 A. The thing is at that time, I think I was not clear on 23 the vessel or I can't remember at that time the vessel 24 was done to a single-compartment flooding. 25 Q. But there's nothing about single-compartment flooding in</p>	<p style="text-align: right;">Page 139</p> <p>1 which is why there was the change of words from 2 "watertight door" to "access opening" on the drawing. 3 Just before we come to the stability report, can we 4 just clarify to what extent this business is within your 5 own knowledge as being what you can recollect from 1995, 6 or are you, no doubt with the best intentions, just 7 trying to help us now from what you can see from the 8 documents? 9 A. I don't get what you are saying. 10 Q. Well, when you say, "the draftsman seems to be correct 11 in removing the watertight door ... basing on the fact 12 that the steering gear compartment is less than 0.1L and 13 that the damage criteria for the vessel is to comply 14 with a single-compartment flooding", are you reaching 15 that conclusion now from those facts or do you remember 16 at the time that you were instructed to prepare a vessel 17 in accordance with the single-compartment flooding 18 damage criteria? 19 A. No, I can't remember at that time. But the thing is, 20 what I made up from now, and all documents that I have, 21 that's my conclusion. 22 Q. Yes. So this is your conclusion from the documents that 23 you have available in front of you now? 24 A. That's correct. 25 Q. Yes, okay. In your email you said that -- you were</p>
<p style="text-align: right;">Page 138</p> <p>1 the specification, is there? 2 A. No, but then, again, if you refer back to our 3 instability booklet, it shows very clearly that the 4 compartment was considered one. 5 Q. All right. We'll come to that in a minute. Because, of 6 course, it's only just arrived and I haven't had 7 an opportunity to look at that yet. So you can take us 8 through that in a minute. 9 A. Right. 10 Q. But before we leave this chain of emails, can I just 11 draw your attention to the email underneath the one we 12 were looking at, dated 12 January 2013. You mention: 13 "... the design was provided to us by Cheoy Lee 14 Shipyards some 16 years ago and the draftsman concerned 15 left our company in mid-1996. Unfortunately, I have 16 failed to locate him ..." 17 You say: 18 "Our contract with the shipyard is purely to provide 19 them with a basic design drawing package. All shop 20 fabrication drawings, GRP superstructure drawings, 21 outfittings and fitting drawings including watertight 22 doors and hatches are done by the shipyard with their 23 yard's standard. I am sure that the shipyard is in 24 a better position to provide you with your request." 25 That being basically the same question I asked you,</p>	<p style="text-align: right;">Page 140</p> <p>1 asked about the change, if I may call it that, from the 2 marking "watertight door" to "access opening". Do you 3 know who made the change? 4 A. I cannot remember. 5 Q. Did your firm do any calculations concerning the 6 watertight subdivision which led your draftsman to place 7 the bulkheads where he did? 8 A. I'm quite sure at that time we did some calculation. 9 But I cannot find any documents -- 10 Q. You no longer have them. Okay. 11 You have also provided us with a Preliminary Trim & 12 Stability Booklet. 13 A. Yes. 14 Q. I believe the relevant page is page 26, or one of them 15 anyway. We can see from the previous page a divider 16 heading the section "Damage stability". 17 A. Yes. 18 Q. Then at page 26, you treat the steering and tank room as 19 one compartment for the purpose of the flooding 20 assumption, one-compartment flooding; is that right? 21 A. Yes, correct. That's correct. 22 Q. So that is consistent with the fact that the steering 23 gear compartment is less than 10 per cent of the length 24 of the vessel; is that right? 25 A. I can't hear you clearly.</p>

<p style="text-align: right;">Page 141</p> <p>1 Q. That is consistent with the fact that the steering gear 2 compartment is less than 10 per cent of the length of 3 the vessel? 4 A. Yes. 5 Q. Paragraph 27 contains calculations on the -- page 27 6 contains calculations on the same basis? 7 A. Correct. 8 Q. Is there anything else in this booklet to which you 9 would draw our attention? 10 A. Yes. For the remaining of conditions for damage, you 11 can see very clearly it is meant for 12 a single-compartment flooding. That means the whole 13 stability is calculated based on an assumption of 14 a single-compartment flooded. 15 Q. Yes. And is there anything else specific in the booklet 16 that you wish to draw our attention to? 17 A. No. 18 Q. No. Okay. 19 You've pointed out in an email that because the 20 length of the steering gear compartment is less than 21 0.1 -- 22 THE CHAIRMAN: Could you give us the email reference? 23 MR BERESFORD: I'm sorry, Mr Chairman. Yes, of course. 24 18 January 2013. I'm afraid I don't have a page 25 reference for this one. I'll just try and get a page</p>	<p style="text-align: right;">Page 143</p> <p>1 watertight, it must be ignored for the purpose of the 2 0.1L rule and the single-compartment flooding standard? 3 That's one point. 4 A. Yes. 5 Q. Do you agree with that? 6 A. Yes. 7 Q. But that doesn't necessarily imply that the bulkhead is 8 not watertight. 9 A. The water -- that, yes. In that sense, yes. 10 Q. You can still have a watertight bulkhead, even if it is 11 required to be ignored for the 0.1L rule? 12 A. Correct. 13 Q. If you are instructed to design a vessel with 14 a watertight bulkhead, if that's part of the 15 specification for which you're instructed to prepare 16 drawings, then you would prepare drawings for 17 a watertight bulkhead, wouldn't you? You wouldn't just 18 ignore it. 19 A. Well, if you satisfy the stability of the vessel and it 20 does not impede the stability of the vessel, I don't see 21 the problem. 22 Q. Well, it might be a breach of contract, Mr Lim. 23 A. Well, at that time the shipyard didn't come back to us. 24 Q. But your drawings indicated that there was a be 25 a watertight bulkhead. So why should they come back to</p>
<p style="text-align: right;">Page 142</p> <p>1 reference for you. 2 THE CHAIRMAN: Thank you. 3 MR BERESFORD: It's only just come in, Mr Chairman. We have 4 no page reference yet for this one. 5 THE CHAIRMAN: Is this the one that Mr Mok handed in? 6 MR BERESFORD: I believe so, yes. 7 THE CHAIRMAN: Is this the one, Mr Mok? 8 MR BERESFORD: I'm told it will be called 4027 and 4028, of 9 marine 11. 10 THE CHAIRMAN: Yes. 11 MR BERESFORD: In this email in response to the question of 12 whether the bulkhead between the steering gear 13 compartment and the tank room, ie bulkhead 1/2, was 14 designed to be watertight, you replied: 15 "As per my email to you on 14 January 2013, the 16 vessel was designed to comply with a single-compartment 17 flooding criteria. Thus, this bulkhead is 18 a non-watertight bulkhead. The length of this 19 compartment is less than 0.1L, and it does not satisfy 20 the minimum compartment length requirement. Even if the 21 bulkhead is watertight, the consideration for this 22 bulkhead will be assumed as non-existence." 23 A. Yes. 24 Q. Mr Lim, there are two separate questions there, really, 25 aren't there? As you say, even if the bulkhead is</p>	<p style="text-align: right;">Page 144</p> <p>1 you? 2 A. Yes, but then the thing is that the bulkhead in the 3 section drawing shows the access. 4 Q. Are you familiar with Hong Kong's Blue Book? 5 A. No. 6 Q. So you weren't familiar with the regulatory scheme in 7 existence in Hong Kong at the time when you built this 8 vessel? 9 A. No. 10 MR BERESFORD: No. Okay. 11 Okay, Mr Lim. Thank you. I think that's all my 12 questions. 13 THE CHAIRMAN: Thank you. 14 Mr Grossman? 15 MR GROSSMAN: I have no questions, thank you. 16 MR ZIMMERN: I have no questions, sir. 17 THE CHAIRMAN: Mr Pao? 18 MR PAO: Mr Chairman, I do have a few questions about this 19 Preliminary Trim & Stability Booklet. 20 THE CHAIRMAN: Very well. 21 Examination by MR PAO 22 MR PAO: Mr Lim, when you first replied to the Marine 23 Department's enquiry, Mr Ho, through the email, did you 24 check this Preliminary Trim & Stability Booklet? 25 THE CHAIRMAN: Identify the first email by date for that</p>

<p style="text-align: right;">Page 145</p> <p>1 question, please. 2 MR PAO: That is 24 December 2012 where it says -- this is 3 page 4026. 4 THE CHAIRMAN: Can we put that up on the screen, please. 5 MR PAO: That is the one I have. 6 THE CHAIRMAN: Can we put it up on the screen so that Mr Lim 7 can see what we're talking about. 8 MR PAO: The one I was referring to was the one where Mr Ho 9 introduced himself, and then the next one is 10 31 December. 11 THE CHAIRMAN: Let's deal with them one at a time. 12 24 December. What is the correct page number? 13 MR PAO: Page 4026. 14 THE CHAIRMAN: Thank you. 15 MR PAO: It's currently not on the screen. 16 That's the first one, I gather, from the Marine 17 Accident Investigation Section, who wrote to 18 Naval-Consult, introducing themselves and that they were 19 investigating this tragedy. 20 Then the next one would be the one dated 31 December 21 2012, which starts on page 4022 and going over to 22 page 4023 where all the questions are listed out, the 23 questions that the Marine Department would like you to 24 answer. 25 THE CHAIRMAN: Are you following this, Mr Lim?</p>	<p style="text-align: right;">Page 147</p> <p>1 Q. No, no, no. 2 A. -- definitely after that time. 3 Q. No, Mr Lim, my question is, when did you find this 4 booklet? 5 A. Cannot remember the date. 6 Q. Would it be in January this year, or December? 7 A. I think it's in January, but I cannot tell you the exact 8 date. 9 Q. Yes. Would it be correct to say that it was after you 10 discovered this stability booklet that you changed your 11 answers to further questions -- 12 A. Yes. 13 Q. -- put to you? 14 A. Yes. 15 Q. So it was not because of your conversation with Mr Lo -- 16 A. Oh, no. 17 Q. -- that you changed your tune, so to speak? 18 A. No, not that. 19 Q. If I may invite you, Mr Lim, to look at this stability 20 booklet. 21 A. Yes. 22 Q. Page 26 onwards. 23 A. Yes. 24 Q. This is a calculation of full loaded departure of the 25 vessel to be designed. Now, "full loaded departure",</p>
<p style="text-align: right;">Page 146</p> <p>1 A. I think I know what he is referring to. His question is 2 asking me whether -- when I wrote my email, at that time 3 of writing the email, do I have the stability book with 4 me; is that correct? 5 THE CHAIRMAN: I think you're anticipating the question. 6 MR PAO: Yes. It was then, after this email, that you 7 said -- you reply, on 2 January. The email that my 8 learned friend Mr Beresford referred you to, when you 9 replied: 10 "The said vessel is designed to have five watertight 11 bulkheads to create six individual compartments below 12 the main deck." 13 A. Okay. When I answered that email -- 14 Q. Never mind that. I haven't come to my question yet, 15 Mr Lim. 16 A. Yes. 17 Q. The question is, at that time, when you replied to the 18 Marine Department, this Mr Ho, had you checked the 19 Preliminary Trim & Stability Booklet that you had 20 prepared? 21 A. No. Because at that time, I did not find -- this 22 document was not in my hand. 23 Q. When did you find this Preliminary Trim & Stability 24 Booklet, the approximate date of it? 25 A. Approximate date? I cannot remember, but --</p>	<p style="text-align: right;">Page 148</p> <p>1 does that mean that the vessel is filled to full 2 capacity with the tanks full of fuel and water? Is the 3 calculation done on that basis? It's the third line 4 from the top. It says: 5 "Full loaded departure with 200 passengers damage 6 condition steering & tank room damage with passenger 7 crowding." 8 Mr Lim, can you hear us? 9 A. Yes. 10 Q. Right. Is my understanding of the calculation correct; 11 "full loaded departure" is the calculation based on the 12 vessel carrying everything to its full capacity? 13 A. Yes. 14 Q. So this is a calculation for both the aft peak -- well, 15 the steering gear compartment and the tank room being 16 flooded at the same time? 17 A. Correct. 18 Q. Then over at page 28, there are some graphs. Then at 19 the top left-hand corner, there's a date. It's 20 "94-12-23". Does that mean it was done on 23 December 21 1994? Top left-hand corner. 22 A. Yes. 23 Q. Then over the page at page 29 is a calculation based on 24 "full loaded arrival with 200 passenger damage condition 25 steering & tank room damage with passenger crowding".</p>

<p style="text-align: right;">Page 149</p> <p>1 Now, "full loaded arrival", would I be correct to 2 understand it is when the ferry has travelled some 3 distance and then arrived at the destination so the 4 tank, fuel tank, water tank, would not be full? 5 A. That's correct. Normally on the arrival condition, it's 6 10 per cent loaded. 7 Q. I see. 8 A. That means it's got 10 per cent left on the content. 9 Q. I see. So over on page 31, there is also the graph for 10 this steering and tank room damage, and at the top 11 left-hand corner, also the date, also 23 December 1994. 12 A. Yes. 13 Q. Would that indicate that that's when the report was 14 prepared? 15 A. I cannot tell you, because the thing is that this 16 program runs out on it's own and at the time, maybe the 17 computer we did not change the date. 18 Q. So it could have been done around that time? What are 19 you telling me? It may not be ... 20 A. No, this prelim stability definitely is done after all 21 our drawings have been issued for construction, and 22 after that, we will use the prelim stability booklet. 23 Q. So it was before the vessel was built, but after you had 24 prepared the drawings -- 25 A. Yes.</p>	<p style="text-align: right;">Page 151</p> <p>1 A. Yes. 2 Q. So the calculation could have been done earlier? 3 A. Yes. 4 Q. But no later than that date? 5 A. No. 6 Q. Then to page 32, Mr Lim. This is "full loaded 7 departure" calculation -- 8 A. Yes. 9 Q. -- for the engine room being flooded. Was that the 10 point you were making to my learned friend Mr Beresford, 11 that this entire booklet, the calculations were done on 12 the basis of a single-compartment flooding? 13 A. Correct. 14 Q. So the steering gear compartment and the tank room were 15 being considered as one compartment in these 16 calculations? 17 A. Correct. 18 Q. And they were done between the time of end of 1994 to 19 mid-1995, shall we say? 20 A. I cannot confirm the date, but for sure, yes -- 21 Q. During that period of time? 22 A. During the period, yes. 23 Q. So it was long before you had that conversation with 24 Mr Lo? 25 A. Oh, yes.</p>
<p style="text-align: right;">Page 150</p> <p>1 Q. -- for Lamma IV? You prepared these -- 2 A. Yes. 3 Q. So it would be around end of 1994 to early 1995? 4 A. Could be, yes. 5 THE CHAIRMAN: Have a look, if you would, at page 56. 6 Perhaps the page before 56, which gives you a title 7 only. Perhaps this is a different part of the report. 8 It has the title "Hydrostatic Properties". Do you see 9 that? 10 A. Yes. 11 THE CHAIRMAN: If we go to the next page, page 56, in the 12 bottom left-hand corner we have a date, "9-5-95". 13 MR PAO: I'm grateful, Mr Chairman. 14 THE CHAIRMAN: Was this material prepared in two parts, or 15 is that the date when all of the material was prepared? 16 A. Basically this hydrostat ... calibration and things like 17 that will be prepared before the computation of the ... 18 THE CHAIRMAN: So if the date of the preparation of the 19 hydrostatic properties report was 9 May 1995, if that's 20 how one reads those numbers, does that mean that the 21 stability report was produced afterwards? 22 A. No, this date doesn't state exactly when is the ... but 23 then the thing is it's normally run on the date that 24 prints out. 25 MR PAO: The print-out was on that date, you mean?</p>	<p style="text-align: right;">Page 152</p> <p>1 MR PAO: Thank you, Mr Lim. 2 THE CHAIRMAN: Mr Mok? 3 MR MOK: I have a few questions relating to the Sections and 4 Bulkheads drawing, and one of the answers of Mr Lim. 5 THE CHAIRMAN: Yes, very well. 6 Examination by MR MOK 7 MR MOK: Mr Lim, can we go back to the Sections and 8 Bulkheads drawing. This is in marine bundle 2, tab 5, 9 on page 205. Mr Lim, you remember that Mr Beresford 10 earlier put to you that the drawings seemed to show that 11 the bulkhead between the steering gear compartment and 12 tank room should be watertight? Do you remember that 13 line of questioning? 14 A. Yes. 15 Q. You took him back, I believe, to this section drawing of 16 the bulkhead on this page, the bulkhead at frame 1/2. 17 Do you see that? 18 A. Yes. 19 Q. I think you focused on the words "access opening". 20 A. Yes. 21 Q. Did that indicate to you that that should be an opening 22 instead of a watertight door? 23 A. As what I wrote in my email, that my -- I said my 24 draftsman could be correct at that time, considering 25 that it is a single-compartment flooding.</p>

<p style="text-align: right;">Page 153</p> <p>1 Q. Yes. With that answer, can I ask you to go back to your 2 other email, dated 18 January 2013, at page 4027. This 3 is question 2 on that email. The question was: 4 "Was there a mistake of the draftsman to decide the 5 bulkhead 1/2 as watertight in some of the drawings? 6 In this instance, I would say yes. This could be 7 the result of him modifying existing drawings from 8 a previously built vessel (MV Eastern District No. 1)." 9 Do you see that? 10 A. Yes. 11 Q. Can I ask you, please, to identify which are those 12 drawings that you are referring to? First of all, can 13 we go back to the same drawing at page 205. This time 14 can we look at the top right-hand corner, section B-B. 15 Do you see on section B-B, there's a reference to 16 "WT bulkhead"? 17 A. Yes. 18 Q. Would you consider that to be one of the mistakes 19 referred to in your answer 2 of your email of 20 18 January? 21 A. Yes. 22 Q. As it applied to the frame 1/2? 23 A. Correct. 24 Q. Another one -- can we go back one page on Profile and 25 Deck.</p>	<p style="text-align: right;">Page 155</p> <p>1 MR BERESFORD: No further questions, Mr Chairman. 2 Questions by THE COMMISSION 3 THE CHAIRMAN: Those are four mistakes that you've just 4 identified, Mr Lim, on these drawings; correct? 5 A. Yes. 6 THE CHAIRMAN: These being mistakes that were amended on the 7 drawings, or not? 8 A. No, they were not amended. They were only found out 9 now. 10 THE CHAIRMAN: If it had been known that these four mistakes 11 had been made earlier, what would have happened? 12 A. Then the bulkhead would be put as a watertight bulkhead. 13 THE CHAIRMAN: I understood you to be saying the mistake was 14 to say that it was a watertight bulkhead. So the 15 drawing would say "not a watertight bulkhead"; is that 16 what you're saying? 17 A. Yes. 18 THE CHAIRMAN: Do you have any system of checking your 19 drawings with the reality of what's built? 20 A. No. Normally, no. 21 THE CHAIRMAN: Thank you, Mr Lim, for assisting us in Hong 22 Kong with our enquiries into this important matter. 23 Your evidence is complete, and we will now, with our 24 thanks to you, terminate the connection with you. Thank 25 you.</p>
<p style="text-align: right;">Page 154</p> <p>1 A. Yes. 2 Q. There is a reference or there are references, for 3 example, in the drawing marked "Centreline profile", you 4 will see the frame 1/2 bears the notation, if I can read 5 it, of "corrugated WT bulkhead"; correct? 6 A. Yes. 7 Q. Would you also consider that to be a mistake covered by 8 your answer 2? 9 A. Yes. 10 Q. So, similarly, for example, at the bottom plan on the 11 same drawing; do you see that? 12 A. Correct. 13 Q. Sorry, we didn't catch your answer. 14 A. Yes. 15 Q. All right. Can we go now to the drawing called Shell 16 Expansion on page 202. 17 A. Yes. 18 Q. There is a notation of "WT bulkhead" where we find the 19 frame 1/2; do you see that? 20 A. Yes. 21 Q. Would that be covered by the reference to the mistake in 22 your answer 2 as well? 23 A. Yes. 24 MR MOK: Right. Thank you very much. 25 THE CHAIRMAN: Mr Beresford?</p>	<p style="text-align: right;">Page 156</p> <p>1 A. You are welcome. Thank you. 2 (The witness withdrew) 3 THE CHAIRMAN: Yes, Mr Beresford? 4 MR BERESFORD: Mr Chairman, that concludes the evidence for 5 today. Tomorrow we have on our list four Marine 6 Department surveyors, followed by Mr Tang Wan-on, who is 7 the marine manager of the Hongkong Electric Company. 8 THE CHAIRMAN: Very well. Thank you. 9 MR GROSSMAN: Mr Chairman, might I raise just one query. 10 I notice Dr Armstrong comes after Mr Tang. I wonder if 11 that is really efficient, because there's nothing really 12 that Mr Tang says that would be of interest to 13 Dr Armstrong. Dr Armstrong is really dealing with the 14 naval architecture part. 15 THE CHAIRMAN: Yes. 16 MR GROSSMAN: It may be more efficient if he comes 17 immediately after the Marine Department people. That's 18 what it seems like. Certainly Mr Tang would be 19 available, but it just seems to me to be more efficient 20 that way. 21 THE CHAIRMAN: Yes. Well, that's a matter for counsel to 22 the Commission to consider. 23 MR BERESFORD: Very well. 24 THE CHAIRMAN: We'll adjourn until tomorrow, then, 25 at 10 o'clock.</p>

<p style="text-align: right;">Page 157</p> <p>1 (4.53 pm) 2 (The hearing adjourned until 10 am on the following day) 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 158</p> <p>1 I N D E X 2 MR LO NGOK-YANG (on former affirmation)2 3 Examination by MR BERESFORD (continued)2 4 Examination by MR GROSSMAN61 5 Examination by MR PAO74 6 Examination by MR MOK98 7 Further examination by MR BERESFORD106 8 (The witness withdrew)111 9 MR JOHN LIM (affirmed via videolink)111 10 Examination by MR BERESFORD112 11 Examination by MR PAO144 12 Examination by MR MOK152 13 Questions by THE COMMISSION155 14 (The witness withdrew)156 15 16 17 18 19 20 21 22 23 24 25</p>
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