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Wednesday, 12 December 2012

(10.00 am)

THE CHAIRMAN: I understand Mr McGowan is delayed, so let me address those instructing him.

Counsel for the Commission have drawn to our attention correspondence passing between them and Reed Smith Richards Butler as to the timeframe in which compliance is to be met for the provision of documentation to counsel for the Commission and the Commission itself. I have asked counsel to discuss the matter with Reed Smith Richards Butler, and we'll deal with the matter after the mid-morning break.

For everyone's information, the Commission has received an application to make an opening speech and has acceded to the request on behalf of those representing Hongkong Electric and the crew of the vessel Lamma IV. But first of all, we'll start with the opening address by counsel for the Commission.

Can I ask everyone to bear in mind that many people are listening to these proceedings through simultaneous interpretation. It might assist those interpreting if things are done at a slightly slower speed than might otherwise be done.

MR SHIEH: Certainly.

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Opening submissions by MR SHIEH

MR SHIEH: Mr Chairman, Mr Commissioner.

On 1 October 2012, at about 8.20 pm, near Lamma Island, a ferry called Sea Smooth and a launch called the Lamma IV collided. The Sea Smooth remained afloat and proceeded to Yung Shue Wan, but the Lamma IV sank within minutes, stern-first, with the consequential loss of 39 lives.

This was the worst marine tragedy in Hong Kong in 40 years. The whole of Hong Kong was in mourning in the days that followed, and the city witnessed an unprecedented display and outpouring of public grief.

For many survivors, the healing process is continuing and I am sure that everyone involved in this Inquiry, and indeed the people of Hong Kong, will join me in wishing that the survivors and their family and their friends can recover quickly from any trauma and bereavement following this incident with strength and courage.

In Hong Kong, following any significant casualty, the machinery of justice can be expected to run its usual and normal course. Investigations by law enforcement agencies may ensue, and civil responsibilities will need to be addressed and resolved. The courts will be the ultimate arbiter of any civil and

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criminal responsibilities. But following a casualty of such tragic scale and nature, the public, especially the survivors and the relatives and friends of those who have lost their lives, has a legitimate interest in learning the truth as to what in fact happened. Society has a wider interest in understanding what lessons could be learned.

It is against this background that the Chief Executive established this Commission of Inquiry under the Commissions of Inquiry Ordinance.

The terms of reference are well-known. The Chairman read them out at the preliminary hearing and I will not repeat them.

The purpose of this Inquiry is to carry out a full and fair and transparent investigation into the relevant events and to expose these facts to public scrutiny without fear of scrutiny or favour. That is the purpose of every public inquiry.

But I must emphasise, as the chairman has, that it is not the function of this Inquiry to establish civil liability or to consider whether any criminal offence has been committed. It is not in the public interest that this Commission should do so. Civil liability is the role of civil courts, and it may involve arguments of law and facts which are not appropriate for

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an inquiry of this nature; and criminal investigation and prosecution is within the province of the Police and the Director of Public Prosecutions. If a prosecution is indeed brought, then determination of guilt is for the criminal courts exclusively.

The express terms and direction of the terms of reference and the notice of appointment expressly make this clear, that the determination of civil and criminal liability shall be outside the terms of reference.

But the Commission's report could well subject persons to criticism, and the report may also make recommendations, which could have long-term effect as to the way in which persons or Government departments conduct themselves in future. So there is a duty of fairness to these parties who may be affected, and leave to participate by legal representatives has been given to various involved parties.

I am appointed as counsel to the Commission of Inquiry and assisted by Mr Roger Beresford on my right, and Mr Mike Lui, behind Mr Beresford, on the instructions of Messrs Lo & Lo.

Counsel to the Commission of Inquiry have five principal functions:

(1) to assist and liaise with the Commission in relation to the preliminary and administrative matters

associated with the Inquiry;

(2) to consider with the Commission whether, and if so what, lines of inquiry should be pursued;

(3) to consider and decide what evidence is to be adduced before the Commission;

(4) to question witnesses at oral hearings;

(5) to make submissions to the Commission on the subject matter of the Inquiry, on law and on the evidence. These submissions will be made openly and there will be opportunities for other involved parties to comment on them, but we must stress that it is entirely a matter for the Commission whether to accept or reject our submissions or indeed the submissions of any other party.

The ultimate task of compiling the report to the Chief Executive is exclusively that of the Commission.

I must emphasise that our role is not that of a prosecutor, who has a particular case to prove against particular parties. In considering what evidence to call, or what lines of inquiry to pursue, or what questions to ask in the course of this hearing, we are not constrained by any preconceived bias or perceptions in favour of or against any particular party or any particular cause.

The procedure of this Inquiry is inquisitorial in

nature, meaning investigative in nature, and so lines of inquiry and potential allegations or criticisms against particular persons could very well change as and when items of evidence are unearthed, presented, bolstered or discredited in the course of the hearing. But the Commission will endeavour at all times to make sure that persons potentially subject to criticism are always afforded a fair opportunity of dealing with any potential adverse comments.

Mr Clive Grossman SC, and Mr James McGowan, on the instructions of Reed Smith Richards Butler, represent the owners and crew of the Lamma IV. Mr Charles Sussex SC, now on my left, two seats to my left, together with his learned junior, Mr Richard Zimmern, behind him, represent the owners and crew of the Sea Smooth on the instructions of solicitors Messrs Holman Fenwick Willan.

Mr Johnny Mok SC, together with Ms Eva Sit and Frances Lok, to my far left, represent the interests of the Marine Department, shortform "Mardep"; the Fire Services Department, FSD; and the Commissioner of Police, on the instructions of the Department of Justice.

I make this opening address as counsel for the Commission, but I should emphasise that what I say must not be understood or taken as expressing or implying the

view of the Commission on any matters of controversy.

The Commission was appointed on 22 October this year and prior to commencement of its public hearing, it has been collecting a substantial body of materials, principally from three sources: the Police, the Fire Services Department and Mardep.

I have listed out in my written openings the sort of materials obtained from these various sources. Significantly the Police materials consist of police statements given by passengers on various vessels -- Lamma IV, Sea Smooth, Lamma II -- and other what I may call bystanders or other witnesses who had relevant information to give; voice records of 999 calls; FSD officers' statements; and various other miscellaneous documents, like photographs, information about the deceased, et cetera, and police notebooks and documents seized from the owners.

Mardep has provided photographs and importantly a DVD containing video and audio records of vessel movements and communications captured by the system at what's called the Vessel Traffic Centre, VTC. Mardep also provided various documents about the vessels in question, certificate and licences, plans, drawings, matters of that nature.

The Fire Services Department has provided records

about responses that evening, about emergency services and the rescue mission, and the Commission also obtained various charts from the Hydrographic Office and also weather information, visibility reports, originating from the Hong Kong Observatory.

The Commission has appointed two experts. One is Captain Nigel Robert Pryke, an Elder Brother of Trinity House in London. He was appointed on 19 November to compile reports to assist the Commission in discharging its duties under the terms of reference.

Captain Pryke provided his first report on 4 December. Over the weekend, Captain Pryke signed off a supplemental report, which was given to the parties on Monday, 10 December, consequential upon further documents supplied by the Department of Justice on behalf of Mardep, consisting of radar track records generated by equipment in Mardep.

On 6 December, the Commission further appointed another expert witness, Dr Anthony Armstrong, who is a fellow of the Royal Institute of Naval Architects, to assist the Commission in discharging its duties. He will address issues of ship construction, and he will be providing his written report in due course.

The Chief Executive set a particular timeframe in the terms of reference when appointing the Commission,

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and while the Commission's efforts to collect relevant materials will continue, it proposes to start taking oral evidence in this Inquiry now, with the immediate focus on the first item in its terms of reference, namely the causes of the incident. That can conveniently be divided into two questions: (i) why did the collision occur? And (ii) why did the Lamma IV sink so quickly?

Before I commence adducing evidence, it would assist the Commission and the public to have a broad overview of the facts and events surrounding the Commission insofar as they are relatively free from controversy.

We should all see a chart on the monitor in front of us. The first point to note is an area on Lamma Island called Shek Kok Tsui. Shek Kok Tsui is a point at the north-west extremity of Lamma Island. There is a reef with a rock near Shek Kok Tsui, and there is a white light beacon, a white tower, about 1 cable, which is one-tenth of a nautical mile, north-west from that point. That light or light beacon is sometimes colloquially referred to as the Shek Kok Tsui "lamppost", the "(Chinese spoken)".

Yung Shue Wan is entered between Shek Kok Tsui and the Lamma Island Power Station, 9 cables to the south. There is a small typhoon shelter on the north side of

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Lamma Power Station. The power station is owned by Hongkong Electric.

There is a ferry pier in the south part of that bay, by the village. There's a ferry service between Central and the Yung Shue Wan ferry pier, and that is operated by Hong Kong & Kowloon Ferry Holdings Ltd. On public holidays in the evenings, the ferry service runs at half-hourly intervals.

North-west of Shek Kok Tsui there is the north-west Lamma anchorage. And some ships were anchored there in the evening of 1 October.

On the island of Kau Yi Chau, for which we may have to move slightly away from the current chart -- it's further up. On the island of Kau Yi Chau, 3.3 nautical miles north-west of Shek Kok Tsui, there is a radar station. There is a digital radar surveillance system together with remote long-range daylight camera and a remote thermal imager, which I understand was responsible for capturing certain images and radar signals that evening.

According to information supplied by the Hong Kong Observatory on 1 October between 8 and 9 pm, visibility was clear, wind was light, and the tide off west Lamma was flowing north. But it appears that neither weather nor tide appear to have been material to navigation that

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evening.

I shall now endeavour to give a brief summary of the sequence of events, again insofar as they are relatively free from controversy.

In the evening of 1 October, the 8 o'clock ferry departing from Central to Yung Shue Wan was the Sea Smooth. According to the radar data, she was under way by 8.04 pm at the latest. She was carrying four crew members and at least 62 passengers. Two of Hongkong Electric's launches, the Lamma II and the Lamma IV, took off from the typhoon shelter shortly thereafter to take the Hongkong Electric staff and their families and friends to watch the National Day fireworks in the Harbour.

Lamma IV cleared her berth at the Lamma Power Station typhoon shelter at about 8.16. It had three crew members and was carrying 127 passengers, including the crew. By the time the Lamma IV cleared her berth and was underway, the Sea Smooth was well within two nautical miles of the Lamma IV. By 8.17, they should have been within sight of one another by radar and also visually.

At about 8.20 pm, off Shek Kok Tsui, the Sea Smooth collided with the Lamma IV. After the collision, the Sea Smooth disengaged from the Lamma IV, leaving part of

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its port bow in the port side of the Lamma IV. It proceeded to Yung Shue Wan. The Lamma IV sank stern-first within a few minutes of the collision.

The Commission has obtained records of the 999 calls that were made, and I should say that we are considering producing the logs of these 999 calls to assist the Commission.

The evidence will show that the first timed 999 call was at about 8.21 pm from a passenger on board the Lamma IV. It would appear from subsequent 999 calls that the Lamma IV sank in less than five minutes. The Fire Services Department in its investigation report, in its incident summary, put the place where the Lamma IV submerged at 22 degrees 14.161N and 114 degrees 6.159E.

The vessel came to rest almost vertically with its bow and forward section protruding above the water. And many persons on board the Lamma IV fell into the sea or were trapped inside the vessel. 96 people from the Lamma IV were rescued from the sea and the wreckage by various rescue teams, the Fire Services Department, the Police and nearby vessels. Nine persons were injured on board the Sea Smooth and they were conveyed by the Sea Smooth to the Yung Shue Wan pier.

Unfortunately, 30 bodies were found in and around the wreckage of the Lamma IV, the last victim being

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located and removed at around 5.10 pm the next day. Eight more persons were certified dead upon arrival at hospitals and a girl was certified dead on 5 October. A total of 39 people on board the Lamma IV are known to have died. Eight of them were children.

Among the mass of materials collected by the Commission, a category of evidence is of particular significance and that is radar and electronic records of vessel movements which will be produced by witnesses from Mardep and also the Police, which show the track and speed of the two vessels leading up to the collision. Such evidence, more specifically, includes live radar images captured by radars. Radar information is sometimes supplemented by information derived from what's called the AIS transponder system transmitting from vessels which carry such a system.

In our case, AIS information is available for the Sea Smooth but not available for the Lamma IV, because the Lamma IV was not equipped with the relevant equipment.

From this raw data coming from the radars, equipment in Mardep and equipment in the Marine Police have each produced their own track reports, in text and numerical form, showing the speed, the position and the course of each vessel from the time of departure until the time of

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the collision. We will be calling witnesses from Mardep and the Police to explain the operation of their respective systems and to assist in the interpretation of the records they produced as the Commission's first witnesses.

After the witnesses from Mardep and the Marine Police, the Commission will, before proceeding to call Captain Pryke, call a technical witness who is responsible for the equipment. It's a company called HITT. The relevant witness will be expected to testify probably tomorrow. He is responsible for the radar system, supplying the radar system to Mardep and also to the Marine Police. The purpose of calling this witness after the Marine Police and the Mardep witnesses is to explain the possible reason for certain differences in figures in the track reports generated by the systems in Mardep and in the Marine Police.

After this witness, the Commission will proceed to call Captain Pryke, the expert, to comment on the raw data and the track records and to offer his explanation and opinions about the cause of the collision. Captain Pryke will also be giving his opinion as to whether the discrepancies in figures between the track reports generated by Mardep and the track reports generated by the Marine Police are such as to materially affect his

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assessment of the cause of the collision.

After what one may call the technical evidence and the expert evidence, the Commission will proceed to present evidence from passengers on the vessels -- Lamma IV, Sea Smooth, and also Lamma II -- who experienced or witnessed the incident first-hand.

Over 100 passengers from Lamma IV, Sea Smooth and Lamma II have been interviewed by the Police, but the Commission does not propose to call all of them as witnesses. The counsel team and solicitors have selected passengers from the three vessels with a view to presenting a fair view of what those on board the two vessels that evening, as well as those on board the Lamma II, have or have not seen, have or have not felt, have or have not heard. In particular, for Lamma IV passengers, we have tried to call witnesses from a variety of locations, from various decks and various sides, so as to give as full a picture as possible as to the events on board the vessel that evening.

These witnesses will be expected to give evidence on certain areas which would be of interest to the Commission and to the public. For example, whether there had been safety demonstrations and warnings given on board, especially the Lamma IV, prior to her departure; whether any sound signals were sounded by any

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vessels or heard by any passengers prior to the collision; the reaction of the crew members on the two vessels in the immediate aftermath of the collision, what might or might not have been said; the physical state of the decks and seats on board the Lamma IV after the collision; also, the situation about life jackets on the vessels, in particular on Lamma IV, about the absence of children's life jackets and also about the ease or difficulty with which life jackets could be put on; and also the chaotic scene that ensued inside the Lamma IV when she began to sink.

This is perhaps as good a juncture as any to introduce hopefully some uncontroversial photographic evidence in relation to the two vessels and bring out one point which hopefully, again, should be relatively uncontroversial.

Perhaps I should now start with the photo of the Sea Smooth. That depicts that part of the Sea Smooth, the port bow, which struck Lamma IV. The first three photographs are all of the Sea Smooth.

The next photograph -- again, it's a closer version of the Sea Smooth. This is taken from the front, and one can see the port bow of the Sea Smooth being damaged.

Then I shall move on to photographs of the Lamma IV.

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That represents the port stern of the Lamma IV, where one can see the damage done to the port stern, the open deck.

This represents the open deck of the Lamma IV. One can see the damage on the deck.

This depicts that part of Lamma IV consisting of two holes where it was perforated below the water line. One can see the two holes. No doubt evidence will be adduced, technical evidence, expert evidence, as to the significance of these openings and the cause of sinking.

This is a photograph of what one may call the upper deck. One can see from the floor signs where seats were originally located. As I said, it should be reasonably free from controversy that when the Lamma IV began to sink, some seats, a number of seats on the Lamma IV, on the upper deck, which is what we are looking at, became detached from the floor and flew off. Some passengers are expected to describe this and explain what difficulties this caused to them when they were trying to escape from the Lamma IV, even with their life jackets on.

This shows the loose screw. This is where the seats were supposed to be screwed to the floor. That's where they fell off and became detached.

That again is a photograph showing where seats were

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originally supposed to be, and what the area looked like after the seats became detached; all one can see are screwholes on the floor.

That is one row of seats remaining in the upper deck.

The process I have described so far, of calling technical witnesses, expert witnesses, and also passenger witnesses, is likely to take the Inquiry beyond the Christmas break.

Hopefully what may be called the technical evidence, about the radar signals, the track reports, and the expert evidence will be completed before Christmas, obviously subject to any application to defer questioning by the other involved parties, which they have flagged.

Passenger witnesses will begin to be called before the Christmas break and continue after the break.

After the passenger witnesses, the Commission expects to call another category of witnesses who were witnesses involved in the rescue mission, from various Government departments -- the Marine Police and the FSD, for example. 999 telephone recordings are also expected to be produced, and it would portray the immediate reaction of those on board the Lamma IV, as well as the contemporaneous situation on board the Lamma IV as and

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when things happened. That will hopefully assist in identifying the point in time when the Lamma IV began to sink, and finally sank.

The significance of the rescue witnesses, especially those from the Police and the Fire Services Department, is that they produce first-hand evidence as to the actual situation in the Lamma IV after it had sunk and while they were carrying out the rescue mission. In a way, this evidence would have been given by passenger witnesses but the rescuers' evidence will supplement that by explaining the difficulties that they encountered in carrying out their rescue mission.

They would also describe the locations where dead bodies were found, and that could assist in ascertaining whether the deaths could have anything to do with the physical state of the vessel, especially the fact that seats had fallen off and become detached and possibly trapping passengers who were trying to escape.

After such evidence, the Commission proposes to recall Captain Pryke to give evidence on what one may call part 2 of the Commission's terms of reference: matters concerning ship safety and harbour management. It will also call its second expert, Dr Anthony Armstrong, to deal with issues of ship construction which will be relevant to why the Lamma IV sank so

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quickly, and also the terms of reference concerning the current system of harbour management and inspection of ships.

Then, subject to any question of recalling of witnesses for questioning, subject to any possible further lines of inquiry, the involved parties will have the opportunity of giving evidence and calling their own witnesses.

One question that has arisen is whether the crew members will testify. Under the Ordinance, the Commission has the power to compel witnesses to testify, and that power in our Commission covers involved persons as well. It covers such persons even though they may be or have already been charged with criminal offences. The Commission has the power to compel their attendance. So, irrespective of whether they volunteer themselves, it always remains an option for the Commission to issue witness summonses to compel their attendance to testify.

But in that event, under the procedure laid down by the Commission last week, the evidence of such involved persons will be led by their counsel. The same considerations will apply to witnesses and officers of the corporate involved parties, namely the two owners, and also to Mardep, who is also an involved party. They are expected to be able to give evidence about safety

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arrangements and management of vessels as well as harbour management. Again, irrespective of whether the corporate involved parties and Mardep volunteer such witnesses, the Commission has the power to compel their attendance before the Commission, to testify. But these are matters which will no doubt be a matter of liaison between the counsel, legal representatives, and the lawyers for the various involved parties, and the Commission will hear in due course.

So, subject to any matters that the Commission may raise with me or may ask me, that completes my opening address for the Commission.

THE CHAIRMAN: Thank you very much, Mr Shieh.

Mr McGowan, I see you're in the back of the hearing room. Would you come forward.

MR McGOWAN: Thank you.

THE CHAIRMAN: I understand you had a court commitment elsewhere.

MR McGOWAN: Yes. It started at 9 and unfortunately ran on, Mr Chairman.

Mr Chairman, I am, as I think everybody is aware, representing both Hongkong Electric and the crew of the Lamma IV. The crew of the Lamma IV are employed by Hongkong Electric.

I wish to, on behalf of the managing director of

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Hongkong Electric, Mr Tso Kai-sum, address yourselves and indeed those attending the Inquiry. Mr Tso has written a letter to yourself, sir, and it reads as follows:

"On 1 October 2002 our company, HK Electric's ferry, Lamma IV, manned by our own employed, and carrying our own staff, their families and friends, to the National Day Fireworks Display, was hit by the high speed ferry Sea Smooth near Lamma Island. Very sadly, 39 of those onboard died and many others were injured. Our management, staff, and our families are all deeply saddened by this terrible tragedy. We wish once again to express our condolences to the families and friends of all the deceased and injured.

Whilst the last months have been a time of grief and sorrow, we are greatly encouraged by the remarkable care and support from the Government, the community and our staff. Our management and staff appreciate the immense efforts by the Government's rescue team to mobilise all available resources to save as many lives as possible, and all other departments involved for the various supporting services in the aftermath. We are particularly grateful to those who risked their own lives and personal safety in their endeavours to help our people that night.

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We are also greatly moved by the prompt, efficient and unreserved support from the hospitals and medical services to save precious lives and to care for the injured; the community, for various expressions of condolence and support, be they memorial gatherings, floral tributes, sympathy cards, condolence messages, donations or other generous and thoughtful gestures; the Li Ka Shing Foundation, for its emergency financial assistance to the victims' families; and our staff, for standing together to support each other through these difficult and critical times. We are incredibly touched by the overwhelming outpouring of sorrow, support, sympathy and succour. We have truly seen, and benefitted from, the best side of Hong Kong people, and we owe all of them our greatest gratitude and respect.

We, Company and Staff together, are also doing our utmost to help those affected. Following the incident, our staff were immediately in close and continuing contact with the affected passengers and their families to offer appropriate assistance and support. Emergency financial relief provided by our Company, and those we identified as having particular needs were assisted and supported in their applications for specialist referrals. Professional counselling services were offered and provided to our staff as appropriate.

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A public donation drive was also initiated by HK Electric and implemented with support from a number of charitable and commercial organisations to channel the community's financial support to those in need -- we are extremely grateful to, and touched by, the generosity of all those who, together, have contributed over HK$6.3 million.

We are able to inform both the Commission and the people of Hong Kong that all those hospitalised have been discharged, and most of our staff members have returned to work. Our support for all our affected staff continues.

We acknowledge, however, that whilst physical injuries may heal quickly, emotional and psychological traumas may continue for far longer. We sincerely hope that all affected will recover from their shock and distress in due time, and 'move on'.

We, as a Company and an Employer, accept that questions as to the what, why and how it happened on 1 October 2012, are a very necessary part of this healing process. It is most important that those affected, directly or indirectly, should be given the answers. Equally, the lessons to be learnt from this tragedy must be identified, and the appropriate measures taken to prevent recurrence. Meanwhile, we are

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reviewing our own procedures to see how we can best improve our company practices, with particular focus on the security and safety of our passengers, our ferries and our arrangements for company events, with emphasis on our preparedness for, and response to, times of crisis and emergency.

The Appointment and now Opening, of this Commission of Inquiry, are therefore the most significant and critical steps [in this process].

HK Electric welcomes the opportunity to participate in these Hearings, pledges to co-operate fully with the Commission, and will do whatever we can to assist in the Inquiry. Those who have lost their lives and suffered injuries, their families and their loved ones, deserve no less."

As I've said, Mr Chairman, that's signed by the managing director of Hongkong Electric.

Thank you.

THE CHAIRMAN: Thank you, Mr McGowan.

Mr Shieh?

MR SHIEH: Mr Chairman, Mr Commissioner. Without further ado, could I call the Commission's first witness, from the Marine Department, Mr Yim Kit-ming.

THE CHAIRMAN: May I ask the interpreter, would you mind vacating that seat so that the witness can sit there,

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and if she would be kind enough to occupy the other seat. It's just to make it easier for line of sight for the Commissioners to see the witness.

There will, of course, be a short delay, will there not, Mr Shieh, because the witness room is on a lower floor?

MR SHIEH: Yes. The waiting area for the witnesses.

THE CHAIRMAN: Yes.

MR SHIEH: Mr Chairman, Mr Commissioner, perhaps I can make use of this opportunity to deal with something about the hearing bundles which has been raised by Messrs Holman Fenwick Willan.

Yesterday in the afternoon, there was a request for hard-copy bundles to be supplied. For practical reasons, it would not be feasible for numerous copies of hard-copy bundles to be supplied. What we suggested, and I've had a word with Mr Sussex about it, is for soft-copy versions of all the documents that the Commission has received, subject to matters which were decided to be entirely irrelevant and which contained personal data and information which as a matter of sensitivity and also to protect those other persons, such as the deceased and also employees of the company and all that, will be taken out.

We will be liaising with Messrs Holman Fenwick

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Willan about these matters and also we will be I think consulting and conferring with the Department of Justice as well, because various matters -- because they may have their input as to what documents they do not wish to be disclosed. But subject to any input by the Department of Justice and subject to us taking away matters in bundle J, for example, information about the deceased, and other matters such as employment records seized from the owners, we will be giving soft-copy documents to the involved parties.

THE CHAIRMAN: Yes.

MR SHIEH: Hopefully that will ease any future concern.

THE CHAIRMAN: Thank you. We hope counsel can reach agreement amongst themselves on this issue.

Now, Mr Yim, may I ask you to take the oath or the affirmation.

MR YIM KIT-MING (affirmed in Punti)

(All answers via interpreter unless otherwise indicated)

MR SHIEH: Could I ask whether Mr Yim is going to give his evidence in English or Punti? His statement is in English, and therefore if he proposes to give evidence in English. Conventionally --

THE CHAIRMAN: It's a matter for you, Mr Yim, whether you give evidence in Cantonese or English.

A. (In English) I prefer to give ...

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A. I prefer to give evidence in Cantonese.

THE CHAIRMAN: Very well. It may well be that when you come to technical terms, you'll want to use English terms. Feel free to do so if that makes it easier.

A. I understand.

THE CHAIRMAN: Yes, Mr Shieh.

Examination by MR SHIEH

MR SHIEH: Mr Yim, you have previously signed off and provided a statement dated 28 November 2012. Do you have that in front of you?

For the record, it is in what's called the marine bundle 8, page 1873.

A. Yes.

Q. That witness statement will be projected onto the monitor.

It contains five pages, and your signature appears at page 1877, the last page.

A. Yes.

Q. Can I just tell you what I propose to do with your evidence. Subject to anything you may wish to correct or amend in your witness statement, I'm going to ask you whether you confirm the contents, because it contains a good deal of technical matters and I'm not going to read it all out into the record. After that, I will identify particular areas on which I may require your

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specific assistance in giving further elaborations or explanations.
A. I understand.
Q. Could I just ask you, before you came here to give evidence, have you had a chance of refreshing your memory by looking at what you have said in your witness statement?
A. Yes.
Q. Is there anything you wish to correct or amend in this statement?
A. Yes.
Q. Can you tell us what those areas are?
A. On page 4 --
Q. That's in the bundle page 1876. Yes?
A. Yes. In about the middle of the page, in line 2, the words, the characters "SOG" have been typed twice. In fact the first "SOG" should be amended to "COG".
Q. Right. So it reads "COG SOG Length in metres"?
A. It should be "COG SOG" --
Q. "Length in metres".
Any other matters requiring correction?
A. No.
Q. Do you confirm the contents of this statement as your evidence before this Inquiry?
A. Yes.

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Q. There are a number of areas on which I would like your assistance in elaborating or explaining.
You at the material time, 1 October and now, work in the Vessel Traffic Centre of the Marine Department; is that correct?
A. Yes.
Q. The premises, the office, the location of that centre is in Shun Tak Centre, Sheung Wan?
A. Yes. It is located on the outer ferry pier of the Macau Ferry wharf at Shun Tak Centre.
Q. I shall call it the VTC. The VTC operates a vessel traffic services system; correct?
A. Yes.
Q. In your witness statement, on the first page, at the bottom, it describes the six components of the system. The first subsystem is called the radar subsystem.
A. Yes.
Q. In layman terms, a radar sensor or the signal hits a target and then comes back and is received back by the radar, and by this process of continuously sending out signals, hitting a target and coming back, the radars will be able to form a pattern of signals which will identify where a target is or the way it's moving. That's a rather layman way of explaining it; right?
A. Yes.

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Q. You talked about 13 radars located at different radar sites which perform the task of detecting and locating targets.
A. Yes.
Q. Is there any division of labour among these radars? For example, for the incident in question on 1 October, would the area in question be within the province of responsibility of a particular radar located at a particular place?
A. Yes. There is a division of labour among the radars, because they are located in different locations within the Hong Kong waters. So, depending on the location on the Hong Kong water of this particular target, it might be detected or tracked by one or two or three radars. When the Sea Smooth was heading from the Central Pier, it could be detected by the radar on the rooftop of the VTC. But when it proceeded to Lamma Island, it could be detected or tracked by the radars on Lantau Island or Kau Yi Chau.
At the site of the incident, it would be tracked or detected by the radars at Kau Yi Chau and Shek Kwu Chau.
Q. Let's say if the same target is detected by two radars from different locations, would each radar then generate its own data concerning the location, speed and course of that target?

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A. Yes.
Q. In the various track reports which you have commented on, there are numerous figures giving the longitudinal and latitudinal measurements, et cetera, how would one be able to know which radar those had emanated from? Or does it matter, because they are supposed to be the same?
A. Each radar, when it tracks to certain target, it will emanate its own track data which would be sent to the central processor at the Centre. There is the software in the central processor. It will compare the data emanated from different radars, and choose from it the most reliable data and then show it up in the track data. Whether -- it doesn't really matter from which radar it was sent, because as long as the radars detect a certain target, the data shown should be more or less the same. It's only that some radars, the data shown will be less stable and some will be more stable. So some of it will be showing better track quality.
Q. So from the track print-out that the -- whether the Marine Department produced it or the Police produced it, it won't actually tell you which radar generated it?
A. No, it can't be told. We can't tell from the print-out.
Q. Thank you. Can I move on in your witness statement to something called the AIS, the automatic identification

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system. It's item 3 in the six subsystems.
AIS basically depends on a particular vessel having equipped itself with equipment called AIS transponders; is that correct?
A. Yes.
Q. The equipment on board a vessel would send out signals about its name, its length and breadth, as well as its course and speed?
A. Yes.
Q. That information emanates from the ship?
A. Yes.
Q. This information would be received by what you have called the AIS base stations?
A. Yes.
Q. The information would again get back to the equipment in the VTC, and you say they would be fused together with radar tracks and shown on the display subsystem?
A. Yes.
Q. Can I just ask you this. It's best if we were to actually look at the track record produced by Mardep. Can I trouble you to look at marine bundle 8, the latest disclosure of documents by the Department of Justice, and that was the document that we all received last Thursday.
If you look at, in terms of internal page numbering,

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page 2054. If you look at this set of information, it should appear sideways like this (indicates).
A. Yes.
Q. This, as I understand, because I can see the vessel name and length and breadth and vessel type and callsign, would appear to be a collection of data which was received from the transponder on board the Sea Smooth; that's correct?
A. Yes.
Q. Whereas if you look at the same bundle, the same tab, and turn to page 2042. I'm looking at a page with the label on the left-hand column which carries the number 786. The start time is 20:04:36.
A. Yes.
Q. The format of this suggests to me that this -- because it attaches a particular label with a number -- seems to correspond with what you have described in your witness statement as basically the radar system attaching a label, a number, to a particular target. 786 was the number given by your system to Sea Smooth; that's correct?
A. Yes.
Q. What I am interested in knowing is that the data that we see in this print-out which tells people as from 8.04 pm onwards the position and COG and SOG of Sea Smooth, this

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print-out, going straight for numerous pages, that has nothing to do with the data from AIS? The AIS data is completely separate; that's correct? In other words, the data here does not take into account anything we see from the AIS coming from the Sea Smooth; is that correct?
A. Yes.
Q. It is purely radar, not AIS? For AIS, we have to look to the charts that we have just seen, the set of documents that we looked at sideways?
A. Yes.
Q. Because the Lamma IV does not have any AIS equipped, so in terms of the Lamma IV, the only data about course, speed, that is generated on the Mardep print-out system is the radar data with the label 7622, which we can find at page 2040 onwards. Is that correct? If you look at page 2040. The time is 20:17:35 onwards.
A. Yes.
Q. Can I also ask you this: if one were to try to do a plotting of the trajectory of the two vessels by using such data, would it be better and more reliable to actually use the radar data for both the Sea Smooth and the Lamma IV rather than to use AIS data from Sea Smooth with radar data from Lamma IV? Because for the former, at least the source is the same: radar?

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A. From the standpoint of the VTS system, since the maintenance of the radar was responsible by the Marine Department, so we had more confidence in adopting the data from the radar. As for the AIS, since it emanated from the transponder on board the vessels, we are not sure about its accuracy. So we have more confidence in the radar data.
The algorithm of the radar system is different from the tracking of the AIS system, because the AIS system was applied for faster and more manoeuvring vessels.
So, in the case of the faster and more manoeuvrable vessels, the AIS data is a good reference. Because the radar tracking algorithm is mostly applied in larger ocean-going vessels and larger river-trade vessels, so it can provide more stable data. So while tracking a certain vessel, it might have to take more radar scans in order to trace the change of the vessel.
THE CHAIRMAN: Before you go on, Mr Yim, could you help me with one matter of detail, dealing with the AIS data, page 2054. This is information that's transmitted, in this case, from Sea Smooth.
A. Yes.
THE CHAIRMAN: Is the information --
MR SHIEH: In the expert bundle it would be page 337, because there are problems with page numbering. I'm

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just informing the parties.
THE CHAIRMAN: Very well. For current purposes, just stay on that page.
Dealing with the coordinates of latitude and longitude that are detailed here in the columns, does that information come from the GPS on board the Sea Smooth?
A. It should be, because the AIS needs a GPS system in order to input the position into the AIS transponder.
THE CHAIRMAN: So the answer is yes, it comes from on board Sea Smooth from its GPS system?
A. Yes.
THE CHAIRMAN: And then it transmits that information by VHF; is that right? VHF radio?
A. Yes.
THE CHAIRMAN: The calculations that are made as to SOG and COG, speed over ground and course over ground, is that information that is provided from Sea Smooth?
A. Yes.
THE CHAIRMAN: Is that based on a calculation depending on the latitude and longitude given between different points?
A. As far as I understand, yes.
THE CHAIRMAN: Thank you.
MR SHIEH: It's around about time for the usual mid-morning

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break, but can I just ask you one question before we take a break, and then after the break I'm going to ask you to look at the actual radar display that was captured. There are four videos that you have commented on.
In relation to the video display, the radar trajectory provided by Mardep, am I correct in understanding that, again in the same as what you have just said, for the radar data, Mardep generated that data by relying exclusively on the radar data? So in producing the video, again, Mardep has operated only on the basis of the radar signals? Is that correct?
A. No.
Q. Can you tell us which part of the videos involved utilising AIS data?
A. In the video, the Sea Smooth shows the AIS label. That means it has received the AIS data.
Q. I understand there are bits that we will see which say "Sea Smooth", but in terms of the actual trajectory, that is based on the radar signals; is that correct? The movement.
A. Yes. Yes, we can see that the radar echoes come solely from the radar.
MR SHIEH: Thank you. Perhaps after the mid-morning break you can actually look at the videos and you can give

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a more specific commentary on the individual features.
Perhaps that would be convenient moment.
THE CHAIRMAN: Mr Yim, we are going to take a 20-minute break so we'll resume at 11.50 am by that clock.
Can I ask that counsel put their heads together about the timetable for the production of material by in particular Hongkong Electric in response to the request of the letter from the solicitors assisting the Commission.
MR SHIEH: Yes.
THE CHAIRMAN: 20 minutes.
(11.30 am)
(A short break)
(11.50 am)
THE CHAIRMAN: Yes, Mr Shieh.
MR SHIEH: Perhaps this is an appropriate juncture to show the actual video that this witness commented on. But can I just put us on the map of his witness statement.
If you look at page 3 of your witness statement, at the bottom, you've said:
"Interpretation of Items 1 to 8."
I think items 1 to 8 are items which the Commission's solicitors have asked for comments from you. Items 1 to 4 are four videos, and we are now going to look at these four videos.

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I think the first video that we wish you to look at is the video of the full course.
(Video played)
This is Victoria Harbour.
A. Yes.
Q. This is supposed to show the movement of Sea Smooth from leaving Central Pier at around 8.04 pm.
A. Yes.
Q. If we watch it for another 15 minutes, we will get to the point when it collided with Lamma IV.
A. Yes.
Q. Right. In your witness statement you talked about AIS label being able to be seen on this video. Is that the yellow patch of words that we see in the middle of the harbour? Now it's green.
A. Yes.
Q. The top part says "Sea Smooth", so that would be the ship's name?
A. Yes.
Q. There is a plus sign in front of the words "Sea Smooth". That means that this ship carries AIS transponder?
A. Yes.
Q. Then in the next row, we have the first number -- well, it changes -- 293.4. Basically the first item is the course over ground.

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A. Yes.
Q. The next item, speed over ground, and then length and then breadth; that is the content of the second row?
A. Yes.
Q. This is all data which is generated from or originated from the AIS transponder on board the Sea Smooth?
A. Yes.
Q. The third row, it starts with "U"; it means "underway"?
A. Yes.
Q. Then "L" is "low accuracy"?
A. Yes.
Q. Low accuracy of what?
A. The accuracy of the GPS.
Q. The accuracy of the GPS on board the vessel?
A. Yes. It is only a common GPS and not a DGPS, which means differential global positioning system.
Q. After that, we have --
THE CHAIRMAN: Before you move on, that's low accuracy as to the coordinates of latitude and longitude?
A. Yes.
THE CHAIRMAN: Thank you.
MR SHIEH: The "low accuracy" -- from your witness statement, there's a bracket which says larger than 10 metres. Can you explain that, your description of "low accuracy"?

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A. "Low accuracy" means the average position accuracy is more than 10 metres.
Q. So put very crudely, it could misdescribe its position by more than 10 metres? It can inaccurately describe its position by more than 10 metres?
A. Yes.
Q. The last item on that row is longitude and latitude. We can see "North" and "East". The last item and longitude and latitude, on the third row?
A. Yes.
Q. The fourth row would be the callsign, ship name, and the MMSI?
A. Yes.
Q. Can you give me the full name for MMSI?
A. (In English) Maritime Mobile Service Identity.
THE CHAIRMAN: Is that a unique number for that vessel?
A. Yes.
THE CHAIRMAN: And the callsign, is that the VHF radio callsign?
A. It should be the callsign of this vessel. It is for the identification of this vessel.
THE CHAIRMAN: Is it the same as the VHF radio callsign?
A. When the VTS operator calls the ship, they will use this callsign to identify the ship. But I'm not sure whether it is called the VHF callsign.

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THE CHAIRMAN: Thank you.
MR SHIEH: Perhaps I could just ask about one term of translation.
In some of the VHF call recordings that we have heard, we have heard of this concept of "hoi si pin ma". Is that MMSI?
THE INTERPRETER: (Chinese spoken).
MR SHIEH: We have heard this phrase "hoi si pin ma" in some of the recordings. Is "hoi si pin ma" the same as MMSI?
A. No. As far as I understand, no.
Q. Right. So who assigns the MMSI number?
A. The MMSI should be allocated by the Office of Communications Authority.
THE CHAIRMAN: That's OFTA?
A. (In English) Previously OFTA.
MR SHIEH: The fifth row basically simply gives you the type of ship, and that is it's a high-speed craft, HSC. It's item 4. Number 40 denotes that it's a high-speed craft. It's a code.
A. Yes.
Q. Then we have the antenna position -- sorry, timestamp. Timestamp; it's 20:14:28.
A. Yes.
Q. Then antenna position, followed by transponder type, in the last row?

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A. Yes.
Q. All this information that we see in this cluster on the display all came from the AIS system; correct?
A. Yes.
Q. But in terms of the actual track, showing the actual track that the Sea Smooth had travelled in the video that we have just seen, in following the movement, the track, this display is actually based on the radar signals, not the AIS signals that came from the vessel; is that correct?
A. Yes.
Q. Thank you. Can I now stop this video and move on to item 2, the second video.
(Video played)
You can see Lamma Island.
A. Yes.
Q. Top left-hand corner, we see again the green patch, the information there?
A. Yes.
Q. Again, this information giving -- the green information again comes from the AIS, which is the same that we saw in the earlier video?
A. Yes.
Q. But then in the middle, we see a purple patch?
A. Yes.

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Q. We see "Sea Smooth", and then "7622"?
A. Yes.
Q. "7622" is the label given by Mardep's radar system to this particular target?
A. Yes.
Q. It's Lamma IV. Sorry, it's my mistake. 7622 is Lamma IV. I've made a mistake.
Actually, if you look at the white patch, it says "7622". That is actually Lamma IV's label. Sorry, I've misled you.
This actually is the moment of collision.
Why would the 7622 label appear in that purple patch behind the name of "Sea Smooth" that we have just seen?
Can we rewind it to the beginning of this video.
Can we pause it here.
A. The purple patch can be interpreted that way. In the first column, the first group of numbers showing 00:18 is the TCPA, which means the time to the closest point of approach. The middle number, that is 12, means the CPA, which means the closest point of approach in metres. The third number, showing 0.01, is the CPA in nautical miles. And the centre column, showing the name of "Sea Smooth". And then the centre column, in the centre of the line, showing 228, it denotes the distance of Sea Smooth from the CPA in metres. And the lowest

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number shows the Sea Smooth from the point of CPA in nautical miles.
The third column, showing the number 7622, it shows the check number of this target ship, 7622. And the number in the centre showing 111, it denotes the distance of this target ship, 7622, from the CPA in metres. As for the lowest number, 0.06, it shows the position of the target ship, 7622, from the CPA in nautical miles.
Q. Thank you. That actually is a further elaboration, really, of what you said at the bottom of page 4 of your statement going on to page 5 of your statement; is that correct?
A. Yes.
Q. Can you explain further this concept of the closest point of approaching? How did the system in the VTC actually arrive at the closest point of approaching? Based on what information did it calculate this closest point of approaching?
THE CHAIRMAN: He'd like to have the video display?
MR SHIEH: He'd like to have the video screen back.
I think it's the middle row of the first column.
A. Yes. The calculation of the VTS is such that it is arrived at by calculating the course and speed of the two ships, the existing two ships, and projects that

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these two ships keep moving forward until they reach a point where they are closest to each other. In the screen, we see that the short white line, it is actually the distance and it is calculated according to the speed and the course of the ships.
We can see from the screen that the short white line measures 12 metres, or 0.01 nautical miles. So according to the TCPA on the top number, in the first column, if these two ships continue to travel at the same speed and direction, they will reach the CPA point after 0.18 seconds.
THE CHAIRMAN: That's 0.18 minutes?
A. Sorry. It should be 0 minutes, 18 seconds.
THE CHAIRMAN: It's expressed as seconds, not as a percentage of a minute? It's seconds, is it?
A. (In English) Yes. Not a percentage of a minute; it's a second.
THE CHAIRMAN: Thank you. So it's a projection if everything stays the same?
A. Yes.
THE CHAIRMAN: As things were at that moment in time, it was a 12-metre CPA, closest point of approach?
A. Yes. Yes, at that moment. Yes, but the system will continue to make calculation. So in the next moment, it will come up with different CPA distance according to

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the speed and direction of the vessels.
MR SHIEH: Yes, because it is a prediction as of a particular point in time, based on the course and speed recorded or perceived at that particular point in time; correct?
A. Yes.
Q. And the white patch in the bottom right-hand corner, that pertains to Lamma IV?
A. Yes.
Q. 7622 would be the label given to Lamma IV?
A. Yes.
Q. The next row would be the one you have corrected, COG followed by SOG, and length in metres?
A. Yes, it's COG and SOG and also the length of the vessel in metres.
Q. The third row gives the ID of the vessel, "7622", followed by the length and breadth as detected by the radar?
A. Yes.
THE CHAIRMAN: Expressed in what unit?
A. (In English) In metres.
THE CHAIRMAN: Thank you.
MR SHIEH: And the last row, track number again?
A. Yes. I would like to add something. The length and breadth detected by the radar was only calculated from

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the echo received by the radar and not the actual length and breadth. There might be some difference the -- there might be discrepancy from the real length and breadth. Because the radar can pick up different length and breadth from different aspects.
Q. Thank you. This is in fact a more detailed elaboration of what you've said in the middle of page 4 of your witness statement; correct?
A. Yes.
Q. Right. Can I now move on to look at the third video.
(Video played)
Again, at the top left-hand corner we see the same AIS information from the Sea Smooth that we have seen in the previous two videos.
A. Yes.
Q. In the bottom right-hand corner there's a white patch, "7622". That gave the information about Lamma IV that again we have seen in the previous video.
A. Yes.
Q. Perhaps we can pause it here. You can see four purple rows of figures.
A. Yes.
Q. That, I understand, describes the bearing and distance between the vessels. Perhaps you can explain the significance of each item.

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A. In the first row, 173.8, it shows the bearing as measured from the north as seen by Sea Smooth, of the target ship, 7622. As for the number 353.8 on the second row, it shows the bearing of Sea Smooth as measured from the north, as seen by target ship 7622. Both numbers were shown in degrees.
The third row, the number on the third row, that is 1492, it denotes the distance between Sea Smooth and the vessel 7622 at that moment. It was measured in metres. The number 0.806 on the fourth row denotes the distance between the two ships in nautical miles.
Q. The analysis of this data is an exercise performed by equipment in the VTC, as part of Vessel Traffic System?
A. Yes.
Q. I notice that in this display, there is no separate -- well, perhaps I'll scrap that.
Can I move on to the fourth video.
(Video played)
I think we should have the audio. Perhaps we pause here first. The name of this video is called "Zoom.In_2018-2031. Can you just briefly explain to us what this video is intended to depict?
A. It is a zoomed-in version of the track of the two vessels, and it shows the track of these two vessels during and after the collision. It also shows the

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dialogue between the VTS operator and Sea Smooth on channel 14.
MR SHIEH: Could we now continue playing the video.
(Video played)
I think at this juncture, the volume has to be muted because it involves disclosing a mobile phone number. But the playing of the video can perhaps continue.
Mr Chairman, and perhaps for the benefit of the involved parties, there is actually a transcript both in Chinese and English of the VHF conversation that we have just heard.
THE CHAIRMAN: Could you give me the reference?
MR SHIEH: It's in bundle M1, marine bundle 1, page 170-2 down to page 170-7. That's the Chinese one. The English translation of the same conversation is marine bundle 1, page 170-8 down to page 170-12.
THE CHAIRMAN: Thank you.
MR SHIEH: Following the discussion this morning, soft-copy bundles of everything, including the transcript, will be given. This is the actual transcript which would be in the soft-copy bundles that will be distributed to the parties.
THE CHAIRMAN: Yes. Thank you.
MR SHIEH: Mr Yim, is it correct that all these four videos actually depict the same course, except that each video

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focuses on a particular matter? So the first full-course video shows the entire journey of Sea Smooth from Central down to the point of collision; the second and third videos show the same course but with different information shown on the display; whereas the fourth video, again, same course, but simply zooming in to show the point collision and its aftermath. Is that a fair way of putting these four videos?
A. Yes, but I would like to add that the first video depicts the full course from Central Pier to the point of collision, and then back to the Yung Shue Wan pier.
Q. Just a point of interest. In these videos, as far as Sea Smooth is concerned, we know that the green patch on the top left-hand corner displaying data transmitted from the AIS transponder from the Sea Smooth, that is displayed on the screen.
A. Yes.
Q. The VTS, the system in Mardep, the radars, would actually have got radar data which reflected off Sea Smooth as well; that's correct?
A. Yes.
Q. In the same way as radar data, radar signals actually received or obtained from Lamma IV which actually were displayed in the white patch at the bottom right-hand corner.

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A. Yes.
Q. So am I correct in thinking that the fact that the video that we have seen only showed the AIS data is simply a matter of choice? Because if the compiler of the video had wanted to, he could just as well have removed the green patch and displayed the radar data, for example, not showing the Sea Smooth name but showing the number given to Sea Smooth, in the same format as the Lamma IV data?
A. Basically this is correct. Because it can remove the AIS label and just show the radar label, but it will still show the name "Sea Smooth" because it was received from the AIS transponder of the VTS. So it will still show the name instead of just the radar code. And they can choose to show the radar label.
Q. Thank you. If you look at the screen, you can see near the green patch there are two vessels, one with the name of "Chaple", the other is "R_Deter O". There are two vessels you can see.
A. Yes.
Q. Were they boats that were anchored at the anchor area, from what you can observe?
A. Yes.
Q. Apparently they didn't seem to move. They appear to be anchored.

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A. Yes.
THE CHAIRMAN: Mr Shieh, do we have details of the characteristics of these vessels?
MR SHIEH: We can check. I believe we have a list of the anchored vessels in the area. But I can check whether we have the characteristics of these vessels.
THE CHAIRMAN: Thank you.
MR SHIEH: I believe we do. Mr Beresford is now looking for them.
Mr Yim, can I ask you to turn to the radar data that the Mardep has recently disclosed. In terms of bundle reference, I think the easy way to look at them would be in the expert evidence bundle, page 310. In terms of the original bundle numbering, it would be marine bundle 8, page 2027 onwards. So depending on whichever bundles people are using ...
May I know which version the witness is using?
A. I have both bundles in front of me.
Q. All right. Why don't we use the expert bundle, because that, I think, is most convenient to the involved parties. Page 310. Marine bundle 8, page 2027.
That starts at 20:04 with a label "786".
A. Yes.
Q. 786 is the label for Sea Smooth?
A. Yes.

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Q. This records the radar data?
A. Yes.
Q. If you move on about five pages, down to page 315, in the middle, we begin to see the appearance of the label "7622".
A. Yes.
Q. "7622" we know is the label given by the radar system to Lamma IV?
A. Yes.
Q. Then, from I think 20:17:35 onwards, we see actually 7622 and 786 appearing alternately.
A. Yes.
Q. So is this table, which runs all the way up to page 322, an attempt to really marry up the radar data from the two vessels?
A. Yes. Basically they are the radar datas of the two vessels.
Q. There are some remarks on the "Alerts" column that I would wish you to give us some assistance on. Page 314. At 20:14:17, we begin to see the alert "Collision".
A. Yes.
Q. We know that's not quite the time when the collision in question took place, and at that point in time, Lamma IV hadn't even cleared its berth, I believe. So it can't

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be talking about the collision in question.
A. No. This alert has nothing to do with the collision of Lamma IV.
Q. Pause here. Perhaps in explaining it, you can obviously answer the question in the way which appears most appropriate to you, but you may also wish to explain to us the way this "Alert" column works within the VTS system.
A. The VTS system could provide different alert settings. For example, it can set potential collision alert or in-zone alert or potential grounding or potential striking alert. In the case of potential collision alert, it was calculated according to the CPA and TCPA of two vessels that are heading towards each other, where if they violate the allowed shortest distance, then a collision alert will be issued.
THE CHAIRMAN: What were the parameters set to make this alarm go off?
MS SIT: That's not the question. "Trigger".
THE INTERPRETER: (Chinese spoken).
A. There are three kinds of settings in the VTS. In the inner harbour, if the CPA is less than 90 metres and the TCPA is three minutes, then a potential collision alert will go off. In certain positions, the TSS or the traffic separation scheme is set at 180 metres for CPA,

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and three minutes for TCPA. In the case of outer harbour, the CPA was set at 360 metres, and the TCPA was three minutes.
THE CHAIRMAN: Thank you.
MR SHIEH: That is for an alert of potential collision?
A. Yes. Apart from these perimeters, other criteria have to be met for the alarm to go off. For example, whether the two vessels that are heading towards each other are VTS-participating vessels. There might be cases where one of them is and the other is not, or both of them are not. If they meet these criteria, then the potential collision alert will be generated. For example, on page 314, from 20:14:17 onwards, up to 20:14:32, the target ship 786 has issued potential warning signals six times. So that means in that course, there is a VTS-participating ship that runs the risk of collision. That means it has violated the conditions of CPA and TCPA, and so it has the potential collision alert. This kind of situation occurs quite frequently, because the traffic at the harbour is very heavy. And afterwards, the CPA and TCPA was no longer violated, and so the potential collision alert went off.
MR SHIEH: Mr Chairman, it's about 1 o'clock now, but perhaps before we take the lunch break I can actually inform the Chairman that we actually have information of

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the anchored vessels.
THE CHAIRMAN: Yes. Thank you.
MR SHIEH: It's in the expert witness bundle, page 292 down to page 299. We've got radar snapshots. In order to actually get the detailed characteristics, one might have to zoom in. But we will try to actually obtain zoomed-in --
THE CHAIRMAN: Presumably these vessels and their characteristics are known by other data as well? If they're anchored in Hong Kong, presumably there's some record of their length overall, whether they are lit up like a Christmas tree, as tankers often are?
MR SHIEH: We will check that out.
THE CHAIRMAN: Thank you. Now, the issue that I raised earlier as to the timetable for the provision of material from Hongkong Electric, has that been resolved by counsel?
MR SHIEH: I informed Mr McGowan and those instructing him as to the precise items of documentation which the Commissioner would need in order for Dr Armstrong to be able to follow up on any matters of ship construction before he departs.
THE CHAIRMAN: Mr McGowan?
MR McGOWAN: We'll make enquiries after over the lunch break and let you know this afternoon.

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THE CHAIRMAN: Yes. It's a question of prioritising the material to be received.
MR McGOWAN: Yes.
THE CHAIRMAN: If it's necessary for Dr Armstrong to inspect the vessel again or to call for more information, then it makes sense that he's given it before he leaves Hong Kong.
MR McGOWAN: Yes, and that's been explained to me by my learned friend. We'll chase that up.
THE CHAIRMAN: Thank you. Please come back to me this afternoon.
MR McGOWAN: Yes.
THE CHAIRMAN: Mr Yim, we're going to adjourn now. We'll resume at 2.30 this afternoon. For your information, we'll sit until 4.30.
Thank you. 2.30.
(1.01 pm)
(The luncheon adjournment)
(2.29 pm)
THE CHAIRMAN: Yes, Mr Shieh.
MR SHIEH: Mr Chairman, I have had a word with those instructed by the Department of Justice about the information sought by Mr Chairman about the anchored vessels, whether or not there is further information about those vessels.

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Obviously I've particularly indicated that perhaps the Commission is interested in the lighting that was on those vessels, because obviously if we start asking for the entire file of those vessels, we will end up getting ship construction plans and all those sorts of things, which is not exactly what the Commission is looking for.
THE CHAIRMAN: No, we don't want that. What is relevant is the length of the vessel; if it is known, what its state in the water was -- high out of the water, low down; factors that might be relevant to issues of interfering with visibility. That's all. Nothing more, nothing less.
MR SHIEH: Yes. That is what I understood to be the line of inquiry, and I have communicated that to the Department of Justice and they are taking instructions.
THE CHAIRMAN: Thank you.
MR SHIEH: Can I now carry on with the questioning?
THE CHAIRMAN: Please do.
MR SHIEH: I have just been reminded to follow up on one question and one answer that had been raised during the morning session.
Can I remind the witness of an answer that he had given about low accuracy in terms of the position of the vessels, which we discussed this morning. In the LiveNote transcript, it is page 41, line 13. We

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discussed the accuracy of the GPS.
THE CHAIRMAN: Perhaps we could have that bit translated. We're dealing, I think, with what is at page 1876 in marine bundle 8, where the reference is to low accuracy and then "greater than 10 metres".
MR SHIEH: Yes, that was the witness's evidence in his witness statement when he was describing the legend.
THE CHAIRMAN: Marine bundle 8, page 1876.
A. Yes.
MR SHIEH: The answer you gave was that it was only a common GPS and not a DGPS, which means a differential global positioning system.
A. Yes.
Q. So is it your evidence that as far as this vessel was concerned, its GPS was only a common GPS and not a differential GPS? And what difference would it have made?
A. Because according to the AIS information, "low accuracy" refers to the -- according to the accuracy standard requirement, its accuracy is higher than 10 metres. But if it is a "high accuracy", that means DGPS equipment, then the document sent should show the letter "H".
The difference between DGPS and GPS is that in the case of a common GPS, it has no correction. But in the case of a DGPS, it can make correction to make it more

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accurate.
THE CHAIRMAN: If it's got that differential GPS, instead of "L", you have "H", is that it, on the transmission?
A. Yes, but according to the recommendation of the AIS, this is what needs to be done. But on the vessel, they can make mistakes by inserting "L" instead of "H".
MR SHIEH: It's entirely a matter for the vessel whether it equips itself with a common GPS or a differential GPS; is that the case?
A. Yes.
Q. Can I move on to another area of answers that you gave in the morning.
You talked about the parameters which were set in order to generate alerts. You talked about the CPA, the TCPA -- do you remember?
A. Yes.
Q. As part of the parameters, you also talked about whether or not one or both of the vessels were participants in the VTS.
A. Yes.
Q. How did that work? Is it the case that alerts about potential collisions between two vessels would only be generated if both vessels were participants, or is it your evidence that alerts would be generated as long as one vessel is a participant, or what?

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A. Yes, if both vessels are participants, then regardless of the length, as long as there is a violation of CPA and TCPA, the alert will still be generated. But if one of the vessels is a participating vessel, then its length must be higher than -- then the vessel that is not participant, its length has to be longer than 35 metres in order for the alert to be generated. If both vessels are not participants, then the alert will not be issued.
Q. A number of questions arise from that. you mentioned the concept of a participant in VTS. How does a vessel come to participate in the VTS? Does it launch a prior application or register with the Mardep?
A. There are criteria for the VTS-participating vessels. But as far as I know, the ocean-going vessels and the large river-trade vessels are usually participants of VTS. But as for the precise definition of the participants, we have to ask the staff of the operation department.
THE CHAIRMAN: Was Sea Smooth a participant in this VTS scheme?
A. As far as I know, it is not.
MR SHIEH: How about Lamma IV?
A. Neither is it.
Q. So, according to what you have just said, the system

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simply would not generate any alerts for potential collisions in respect of these two vessels, although radar signals would be captured?
A. Yes. As far as these two vessels which are heading towards each other are concerned, the warning will not be issued.
Q. Thank you. We will decide whether to pursue this line of inquiry about participating in VTS. But could you let us know which particular section of Mardep would be responsible for this question of participation in VTS, so we could consider the matter?
A. I think the staff of the VTC are able to answer your questions. I mean the staff of the VTC operation.
Q. Is there a particular designated post? If you don't want to mention the officer's name, perhaps a particular post that we could approach?
A. Yes, but I'm only -- I belong to the VTC engineering department, and only the VTC operations staff can answer your questions.
Q. Right. So it's the operation section of the VTC who could provide relevant information or witness statements?
We simply need to approach the VTC operations section in order to obtain the relevant information, as opposed to your section, which is the engineering

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section?
Let me put the question again. Perhaps I am putting it in too lengthy a manner.
Your section doesn't deal with participation in the VTS scheme; the operations section deals with this matter, and we should therefore approach the operations section of VTC in this regard.
A. Yes.
Q. The next question that arose from your answer is that we've been hearing this concept about generating an alert. We have seen the print-outs, but these print-outs that we saw were obviously created after the event.
For example, the one in the expert bundle, page 310 onwards, they were obviously printed out after the event?
A. Yes.
Q. So when you talk about generating an alert, you're not just talking about an alert appearing in the right-hand column in these print-outs generated after the event, are you? You're talking about an alert generated contemporaneously as events unfold?
A. Yes.
Q. So how would those alerts be generated? Would it be an audible alert in the VTC, or would it be a visual

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alert appearing on a monitor, in a textual form like this, or can you describe the way the alert was generated? Or is it an alert generated to the vessels in question?
A. In fact the three ways that you mentioned are possible, except the one pertaining to the VHF channel. It depends on whether such a traffic display setting has been set. In the case of visual alert, the size of the ship and the label will be shown on the screen in red. In the case of audible alert, it depends on whether the setting has been enabled to allow such an alert. As for the textual alert, it can be displayed on the screen.
Q. So who would decide at any particular time what sort of setting is entered into the system?
A. A VTS operator can change the setting, but I would like to add that the visual alert would certainly be shown. In the case of audible alert, an operator can disable it or enable it, depending on the need of operation.
Q. Well, I suppose it may be because if you set the audible alert to be on, then in case of a situation at, let's say, 20:14, when it's alerted to be a collision but which didn't take place, which might be pretty often, if you set it to audible, then the room would be rather noisy?
A. Yes.

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THE CHAIRMAN: Before you move on, when you say that the visual alert is shown in red, is that the vector between the vessels?
A. (In English) Vector and the label as well.
THE CHAIRMAN: Thank you.
MR SHIEH: Mr Mok has kindly supplied copies of what the alert would look like visually.
THE CHAIRMAN: They're available, perhaps we can deal with it now.
(Handed).
These are the waters up by the bridge, Ma Wan, are they not?
A. Yes.
MR SHIEH: We can see a number of red words on display on this print-out, this series of print-outs.
A. Yes.
Q. Is that what you refer to as being the alert in red that would be displayed on the screen?
A. Yes.
THE CHAIRMAN: So vector and label?
A. Yes. If you pay attention to the centre of the course, you will see that there is a vessel with its vector and label shown in red.
THE CHAIRMAN: Yes. Thank you.
MR SHIEH: Thank you. My next question following from that

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is, how would these alerts be used or relied upon or utilised within the VTS?
A. When a VTS operator spots a vessel in which its label and vector has turned to red, he will pay particular attention to this vessel because it is running the risk of colliding with the vessel that is heading towards it. And it will use the very high frequency, VHF, to advise the vessel.
Q. This may be something more relevant to what we call part 2 of the Inquiry, but perhaps I could just follow up. In the print-out that we have seen, the print-out shows that there are quite a number of red alerts or there could be a number of red alerts at any one time.
A. Yes.
Q. So are you suggesting that staff at the VTC would actually be making efforts to contact all vessels shown on the alert as potentially running the risk of a collision?
A. No, because the ships that are shown in red in the Kwai Chung container terminal and the anchorage area, all these vessels are already anchored.
But when the system spotted violations of CPA and TCPA, it will still generate an alert. But in these cases, the alert doesn't have much meaning. But for ships that are running in a course, then they will catch

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the attention of the operators.
Q. This morning again, you had given evidence. We may follow up the operation of the VTC in terms of vessel safety perhaps in a later part of the Inquiry, but can I come back to what you said this morning.
This morning you gave evidence about the parameters in terms of the CPA and TCPA, in order to generate alerts.
A. Yes.
Q. For example, you talked about if it's within harbour, then it's a particular set of parameters, whereas if it's in another area, it would be some other set of parameters.
A. Yes.
Q. In particular, you said in the inner harbour it would be CPA, less than 90 minutes, and TCPA, three minutes.
A. Yes.
Q. Whereas if it's for let's say the outer harbour, you said CPA would be set at 360 metres, and the TCPA, three minutes?
A. Yes.
Q. Perhaps you could assist us on that. How are these various parameters decided?
For example, to a layman, 360 metres could appear to be quite far off.

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A. Yes. In the case of outer harbour, setting the perimeter at 360 metres won't pose a major problem. But in the case of the inner harbour, if the perimeter is set at 360 metres, then a large number of vessels will run the risk of collision of the alert, and that is why it was set at 90 metres. But as for why it is 90 metres or 360 metres, it is due to the need of the operational staff.
Q. So the operation section again would be able to assist us as to the thinking behind let's say choosing 90 metres for inner harbour, and as to how these parameters are decided upon.
A. Yes.
Q. Can I ask you to look at the expert bundle, page 314.
I've been reminded by my learned friend Mr Mok that in terms of the translation, I think what the witness meant to say at page 70, line 5, was that if the parameter is set at 360 metres, then a large number of vessels would not -- it shouldn't be "run the risk of collision", I think it's probably "run the risk of triggering the alert".
THE CHAIRMAN: I think he made that clear. Even in the translation, that was clear.
MR SHIEH: Thank you.
Page 314, Mr Yim, you see the collision alert being

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displayed.
A. Yes.
Q. But you told us that Sea Smooth was not a participant in the VTS. So did this alert arise because the other vessel was a participant?
A. Yes. As far as I understand, this is the case.
Q. But on this print-out, we wouldn't know who the other vessel was?
A. Yes, we don't know. Yes, we can't tell that from the print-out.
Q. Fine. Can I then ask you to look at page 318, which shows the other type of alert that you mentioned, the in-zone alert. Can you explain to us what this in-zone alert is?
A. In the inner harbour, some areas will attract special attention when some vessels come in. The system will allow the users to define a special zone in the waters where, when a vessel comes in, it will trigger the alert.
Q. Right. So that is actually not to do with any collision, but it's got to do with the positioning of a particular vessel in or near a particular zone?
A. Yes.
Q. Could I now ask you to look at certain radar plots produced by Mardep, which are in the expert bundle at

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page 356. The reference for the marine bundle is marine bundle 8, page 2073. This is a radar plot at a range of 0.21 nautical miles.
A. Yes.
Q. The red represents Sea Smooth, and the blue represents Lamma IV?
A. Yes.
Q. On the left-hand side, we can see "786", and that is the label given to Sea Smooth?
A. Yes.
Q. Just to confirm this, the various items of data shown or displayed on this plot for both vessels were in fact taken from the radar data that we could see shown in the previous pages, the track records; is that correct?
A. Yes.
Q. But the particular interval in question actually only started here at 20:19. Around about 20:19:56, I think.
A. (Chinese spoken).
Q. The same goes for the blue line?
A. (In English) Yes.
(Chinese spoken).
THE CHAIRMAN: Could we have the translation?
MR SHIEH: I'm sorry.
A. In this plot, the label was shown as 20:19:56, but in actual fact, we can see some red dots on the red line.

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It was because this information corresponds to the radar track record. It's only that we haven't shown the label -- the dots.

It's only that we haven't shown the label.

THE CHAIRMAN: Yes. If we look at page 358, we've got an earlier period included, do we not?

A. Yes.

MR SHIEH: Could I just see whether or not I have any other questions for you, Mr Yim. Just give me a minute.

Could the witness be shown expert evidence bundle page 292.

A. Yes.

Q. Page 292 is a page of narrative providing information on vessels that were anchored in the vicinity of the Lamma Channel between 7 pm and 9 pm on 1 October.

A. Yes.

Q. If you turn over to the next few pages, it goes up to page 299.

These were all radar snapshots taken at various points in time of the area in question.

A. Yes.

Q. Can you just confirm that these are all records that are retrieved or generated from the VTS?

A. Judging from these snapshots, I believe that it is the case.

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Q. Thank you. By way of illustration, if we look at page 297 --

A. Yes.

Q. The bottom snapshot shows the situation about anchored vessels in the vicinity at 20:20 pm.

A. Yes.

MR SHIEH: Are we able to blow that up? Any one of those green patches.

For example, the Chaple, the one about the Chaplet. Does that give us any information about the measurements of the vessel, length and breadth?

A. The second row, the letter shown on the row is the label. In the first column, the number 254.0 is the call of the vessel, but it is only a pure calculation, because the vessel is already anchored. But the system continued to make the calculation.

On the first row -- the second cluster of numbers shows the speed. The third one shows the length, which is 119. The fourth row shows the breadth, which is 32 -- sorry, the fourth group, with the number 32, it indicates the breadth.

Q. Basically we decipher these green patches in accordance with the table that you helpfully produced at page 4 of your witness statement top-up? Marine bundle 8, page 1876. It is item 2 of that particular part.

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A. Basically this is true, but I would like to supplement some information. In the previous page, you see that the information provided by the AIS, it was sent from the vessel. It depends on how much information has been inputted into the transponder and how much equipment has been attached to the system. But I can see that the information here is more substantial than that of the Sea Smooth, because you can see that here the number 6.5 indicates the ship's draft, and the 4.1 indicates the air draft of the vessel.

But the information we received from Sea Smooth did not indicate the draft and the air draft.

Q. Right. So all these green patches come from information generated by the AIS transponder on individual vessels?

A. Yes.

Q. But the Marine Department would have its own information about vessels anchored in that vicinity at any one time, wouldn't it?

A. Yes. Yes, as far as I understand, this is the case.

Q. Which particular section in the Marine Department would be responsible for keeping or handling those files or information?

A. I'm not sure, but we can ask the staff of the VTS operation.

Q. I can simply ask the lawyers instructed for Mardep.

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Now that you have brought up this point that the information that we find on these radar snapshots may not correspond entirely with the eight points that you mentioned in your witness statement, because obviously these depend on the manner in which each ship sends the AIS signal, perhaps I may have to trouble you to explain to us in greater detail the information on each of the anchored vessels on that snapshot.

Just now we are looking at Chaple. Chaplet. I think the "T" is actually left out. Chaplet.

THE CHAIRMAN: Mr Shieh, it occurs to me that a more expeditious way of approaching this would be to ask the witness outside the hearing room to produce a supplementary statement in which these codes are broken down so that we can follow them, and it would be a one-page statement.

MR SHIEH: Perhaps, yes. It's simply the case that whilst he's in the witness box, and to avoid having to ask him to produce a statement subsequently, because I'm not sure whether my learned friends would wish to ask him any questions now or whether they are going to ask to defer anyway. Because if they're going to ask to defer anyway, then the suggestion from you would be sensible.

THE CHAIRMAN: I can't imagine that this is controversial, as to what the decoding of these labels mean.

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MR SHIEH: Mr Yim, would it be possible for you to look at the snapshot at 20:20, and perhaps for assistance 20:15 as well, because that is the five minutes before the collision, to look at these two snapshots at page 297 for the anchored vessels, to produce something similar to what you have done at page 1876 of the Marine Department bundle, that is to say, in your witness statement? Do you think that is a task that you are prepared to do; not now, but after you have gone out of the witness box.
A. Yes, I think so.
MR SHIEH: That's very kind of you, thank you. Because I think with that assistance, and also with the information that we might be able to get from the Marine Department as to the characteristics and measurement of the vessel, we should have a fair picture of the nature of the vessels anchored in that vicinity.
Thank you very much, Mr Yim. I don't have any further questions for you.
THE CHAIRMAN: Mr Shieh, before you sit down, I'm looking in the expert's report at page 268.
It's headed "Hong Kong Marine Police", and it produces data as to what I think is the passage of the Sea Smooth. "8038" is the label number. There is in the "Alerts" column, picking it up from the five-minute

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period before the collision, the reference "speed high", presumably meaning "high-speed vessel", "collision", and then that is repeated all the way through, and beyond what I understand to be the actual collision.
MR SHIEH: Yes.
THE CHAIRMAN: Is a Marine Police officer going to speak to that information?
MR SHIEH: Yes, I'm going to ask a Marine Police officer to speak to it because this is generated from the Marpol system.
THE CHAIRMAN: Thank you very much.
MR SUSSEX: Mr Chairman, I wonder if I can ask what page it is. I was looking at page 268 of the expert's bundle.
THE CHAIRMAN: Perhaps I gave you the wrong page number. It's page 288.
MR SHIEH: Mr Chairman, the plan is to ask the Marpol witness questions equivalent to --
THE CHAIRMAN: No, I follow that. I just wanted to make sure that we don't lose the witness if there was something else he could deal with.
MR SHIEH: Yes.
MR McGOWAN: Thank you, Mr Chairman. I've got some questions.
THE CHAIRMAN: You're asking for leave to cross-examine the witness?

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MR McGOWAN: Yes, please.
THE CHAIRMAN: On what basis do you ask for leave?
MR McGOWAN: There are one or two matters I'd like him to expand on.
THE CHAIRMAN: How is it relevant to your case?
MR McGOWAN: Well, I think it's relevant to the depth of the information which is available from the VTC figures on which other witnesses will be placing reliance.
THE CHAIRMAN: By that you mean specifically Captain Pryke?
MR McGOWAN: Well, yes, in particular.
THE CHAIRMAN: We're satisfied that that is an area which you are entitled to cross-examine. Please proceed.
THE INTERPRETER: I'm sorry, the witness has something to say.
A. There is something I would like to add concerning this set of print-outs.
THE CHAIRMAN: Yes.
MR McGOWAN: Perhaps I can hand the lectern back to Mr Shieh.
THE CHAIRMAN: Yes, very well.
MR SHIEH: Yes, Mr Yim?
A. In fact the print-out -- just now we have seen items 1 to 4, which are the videos. We can see clearly the course and the situation pertaining to the collision of the two vessels. But in fact these are just the

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cleaned-up versions, and in fact they were particularly made for these two vessels afterwards. In fact, what the officers on duty in the VTC saw on that particular night is what we see on this set of print-outs, and there are three displays, namely DP03, DP04 and DP05. The first two snapshots were taken from DP03, at 20:20 and 20:20:17.
We can also see that in DP03, it doesn't show the area in the vicinity of Lamma Island. As for the following two snapshots, it is taken from DP04. It shows 20:20:00 and 20:20:17.
We can see from the bottom of the snapshot that we can see Lamma Island, but the site of the incident is just out of sight. Also, we can see from the subwindow that Lamma Island was shown, but the site of the incident was also out of it.
The last two snapshots were taken from the traffic display. They were taken from DP05. The time shown was 20:20:00 and 20:20:17. We can see Lamma Island on the subwindow on the lower left-hand side, bottom.
The snapshots pertaining to time 20:20:00, we can see in the subwindow on the lower left-hand side that there are two dots on top, above the Lamma Island. In fact, these are the two vessels in the incident. And the last one, showing the time 20:20:17, we can actually

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see that the two vessels are starting to collide into each other. And all these snapshots were the images that the operators who were on duty that night sees, and not made up afterwards.
THE CHAIRMAN: On that snapshot, the bottom left-hand corner, that's Cheung Chau, is it not?
A. Yes.
THE CHAIRMAN: The Adamasta Channel, on the far side?
A. Adamasta Channel.
THE CHAIRMAN: Is that what you want to tell us? That's what you wanted to tell us, that information?
A. Yes, because I was afraid that there would be a misunderstanding that the operators on duty on that night could see a very clear image.
THE CHAIRMAN: I think we understand what the real picture is.
MR SHIEH: It's probably something relevant to what we call part 2, where we may actually enquire as to what the screen would actually look like on the relevant display processor.
THE CHAIRMAN: Yes.
MR SHIEH: But perhaps not for immediate purposes.
THE CHAIRMAN: Thank you.
Mr McGowan?
Examination by MR McGOWAN

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MR McGOWAN: That's really dealt with my first question. Mr Yim, the videos you've shown us and described in your statement are in fact created for the purpose of the investigation into this collision; that's correct, isn't it?
A. Yes.
Q. What just happened is you've taken the data which was available in the VTC computer and historical computer system, and extracted it to produce those videos to assist the Commission and other people investigating the incident?
A. Yes.
Q. What the operators in the VTC would be watching while they were on duty would be the radar picture?
A. Yes, which are the snapshots I have in hand.
Q. If they wanted to, they could then access the computer system to give them the CPAs, for example, or the AIS information or other material which you've displayed to us separately?
A. Yes.
Q. And the computer system in the VTC centre produces the course and speed over the ground using historical information from previous radar sweeps?
A. Basically the historical data was taken as a reference in the tracking system in predicting the position of the

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next scan, but it was not the -- but they don't solely rely on it because they would also measure the echo point and also take the error, and then multiply by a parameter to produce the next scan. And the historical data do have some influence, but they don't solely rely on it.
Q. I'm not suggesting that it's totally historical, but it's a combination of position dots which have been joined up in the past, and a prediction of where the next ones are going to be, to give the course and speed information?
A. Yes, basically the historical factor does have its influence.
Q. Despite the sophistication of your radar, you cannot tell what the actual heading of any particular vessel is, can you?
A. I agree that since the echoes of the radar can only calculate the COG and SOG, but the heading -- but the radar is not able to tell the accurate heading of the vessels. But as for the AIS data, it can be -- it can input the heading information and send them to us.
Q. Yes, but that wouldn't appear on the radar picture; that would appear on the AIS information facility?
A. Yes, it won't be shown on the radar label, but it will be shown on the AIS label.

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Q. Your radar system works on three-second sweeps; is that correct?
A. Yes.
Q. And if a vessel alters course, the system is going to take some time to catch that alteration of course or turn?
A. Yes.
Q. I don't know whether you can help us, Mr Yim, but how many sweeps of the system, the radar scanners, do you think are required for the system to catch up with an alteration of course?
A. I am not able to tell you how many number of scans is needed to catch the turn, because it depends on the rate of the vessels and whether it is an abrupt change in the course, and also whether the system -- there is an initial setting to catch up such change that has been set in the system.
Q. Yes. It's probably not a very -- it's not an unfair question, but not a very clear question. It will take some time for any radar, including the VTS system, to re-establish the particular after a vessel alters course, particularly if it comes round and makes a substantial alteration?
A. I agree.
Q. If a vessel is particularly manoeuvrable and can alter

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course rapidly without going forward an advanced distance, a lengthy advanced distance, that's going to be even more difficult to be caught on the VTC system?
A. Basically I agree with what you said, but it is not about -- but it doesn't mean that it is more difficult. Instead, it needs more time and needs to make more scans to catch it up.
Q. Yes. So there's going to be a delay between the alteration of course, and that alteration of course being reflected on the VTC information?
A. Agree.
Q. If that alteration of course is accompanied by an increase or particularly a reduction in speed, that again is going to require more time for the picture to catch up?
A. It can be shown on the radar data, but it takes more scans before it could be reflected on the tracking data.
Q. Yes, and the consequence of that is that there will be a delay in determining whether a vessel, using the VTC radar system or any other radar system, has in fact altered course?
A. Yes.
Q. And the same, certainly to a degree, if a vessel has altered speed?
A. Yes.

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Q. Perhaps you can just help us on another matter which I don't think you mentioned in your statement.
What is the accuracy of the VTC system in determining, for example, range? I think the technical expression is "range discrimination". Is there an error factor that's been calculated in the system?
A. As far as the accuracy of the VTC system is concerned, according to the site acceptance test result, the average position is better than 10 metres, and the average speed is better than 1 knot, and the average course is better than 2 degrees. But we are just talking about the average value and not the instantaneous value. If you take a particular instance, it can be larger than 10 metres.
Just now, sir, you have mentioned about the difference between the range discrimination, and accuracy. But in fact they are two different matters. There is a set of values pertaining to accuracy, but I don't remember off-hand the criteria for the range discrimation. But as for the range discrimination, we are talking about the range of the distance for the two vessels that enables them to be identified, to be discriminated by the radar.
Q. The figures you've given us for the accuracy are, as you've said, average figures.

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A. Yes.
Q. So if you're dealing with a moving target, one which is turning rapidly, the accuracy figures will decrease; that's correct, isn't it, Mr Yim?
A. Yes. Yes, during the period of the abrupt change.
Q. Yes, and that's true of range and bearing?
A. Yes, as far as the range refers to the distance and the positioning. In that case, yes.
Q. I think just one other thing. You mentioned discrimination, range discrimination. If targets are too close together, again, the VTC system has difficulty tracking them, doesn't it? There's a merging of targets?
A. (Chinese spoken).
A. (In English) Yes.
Q. And it can take again some time for the VTC to rebuild its picture after two vessels come too close together?
A. It's not that it depends on the time needed for the VTC to rebuild, but it depends on the time for the two vessels to disengage from each other.
Q. Yes. I accept that. And then as they move apart, again, some time is required to work out which one is which perhaps.
A. Yes.
MR McGOWAN: Mr Yim, thank you very much. You've been very

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helpful.
MR SUSSEX: Mr Chairman, I don't apply to question Mr Yim at this stage but, as you know, we've received a lot of evidence at a very late stage and I have experts working day and night on the matter. It is just conceivable that I may have questions for Mr Yim at a later stage.
THE CHAIRMAN: When?
MR SUSSEX: Well, when our experts have provided me with the information.
THE CHAIRMAN: When?
MR SUSSEX: That will probably be sometime after we rise on 21 December, the way things are going at the moment.
THE CHAIRMAN: Any reason why there should be that delay?
MR SUSSEX: Yes, because there's a great deal of material that the experts are working through.
THE CHAIRMAN: Forgive me for interrupting. The experts assisting the Commission have been working against the same timetable.
MR SUSSEX: My Lord, that's not strictly true because we received --
THE CHAIRMAN: Well, a timetable.
MR SUSSEX: We received information last Thursday. So there's been less than a week so far that our experts have been working on the material. And we received supplemental report from Captain Pryke after that.

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THE CHAIRMAN: He's been working on supplemental material that was provided to him late by the Marine Department.
MR SUSSEX: Yes, but he has approached that from a running start, as it were. He was apprised of more information beforehand.
THE CHAIRMAN: Very well. You'll make your application, if you have one, in due course.
MR SUSSEX: Thank you.
THE CHAIRMAN: Mr Mok?
MR MOK: We have no questions.
THE CHAIRMAN: Mr Shieh?
MR SHIEH: Mr Chairman, we don't have any follow-up questions.
THE CHAIRMAN: Thank you, Mr Yim, for coming here to assist us. We'd be grateful if you could assist us with the other information we asked you about, those anchored vessels. If you could provide that in short form. All we're interested in is finding out what kind of vessels they were, how long, how beamy, things that go to the issue of whether or not they were a factor in visibility. That's all. Thank you very much.
(The witness withdrew)
THE CHAIRMAN: You're welcome to stay if you wish, Mr Yim. It's up to you.
Mr Shieh, the documents that you obtained from

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Mr Mok to which reference has been made, they ought to be in due course --
MR SHIEH: Given an exhibit number?
THE CHAIRMAN: Well, scanned and paginated. I think that's all we need to do. So give that thought and tell us tomorrow where they've been put.
MR SHIEH: Yes, very well.
I now propose to call the second witness for the Commission, Mr Ma Chi-tak, also from the Marine Department.
THE CHAIRMAN: Very well. Where do we find his statement?
MR SHIEH: His statement is in Marine Department bundle 8, page 1878.
Could the witness be shown his own statement.
THE CHAIRMAN: Have you got your statement?
Before that happens, let me ask you to take the oath or the affirmation as you choose. Would you stand to do so.
MR MA CHI-TAK (affirmed in Punti)
(All answers via interpreter unless otherwise indicated)
Examination by MR SHIEH
MR SHIEH: Mr Ma, please look at the document in front of you from Marine Department bundle 8, page 1878, which is a statement that you made on 29 November. You signed it on the next page at 1879. Do you recognise this?

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A. (In English) Yes.
Q. What I propose to do is to ask you whether or not you agree with the contents of this statement or whether you have anything to add or supplement, and then I'm going to ask you to comment very briefly on the attachments.
A. There is an amendment that needs to be done in the attachment, which is there is an amendment that needs to be done pertaining to supervisor log.
Q. The supervisor log which is in the bundle at page 1880?
A. Yes.
Q. What amendment do you wish to make?
A. On that page, on the upper left-hand corner of that page, in the third box, there is a space next to point 22. On that day, there were four persons on duty, but the supervisor has left out two. He put that in afterwards.
There should be six persons on duty, but only two were put on that log. Two of them have been left out.
Q. You are talking about the 22:00 entry in the "Time on" column, are you? Or are you talking about the box below that?
A. I am talking about the space below that.
Q. The box or the table which starts with "Weather Signal"?
A. Yes.
Q. In that table, at the bottom right-hand corner, there is

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an entry of 22:00.
A. Yes.
Q. Could you explain to us, perhaps more slowly, how the supervisor had added or amended or added in the two missing names?
A. After he discovered that two staff, the names of two staff had been left out, he put it back and put in the signature afterwards.
THE CHAIRMAN: Is that the original book you have in front of you?
A. (In English) Yes, that's right.
THE CHAIRMAN: May we have a look at that? Because that might even be legible.
(Handed).
If you don't mind, we'll copy it with a proper copying machine.
A. Okay.
MR SHIEH: Mr Chairman, the proposal is that we will have a separate bundle comprising documents that are handed up during the hearing. It's almost like an exhibit bundle.
THE CHAIRMAN: Proceed as you wish, although there is some merit in -- well, certainly paginate documents. That's the way to keep track of them.
MR SHIEH: Yes, yes.

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THE CHAIRMAN: There is merit, of course, in having documents in areas -- where you have lots of paper -- where they should fit, rather than just putting them in an extra bundle.
MR SHIEH: Yes.
THE CHAIRMAN: Then you find you have things that, for example --
MR SHIEH: There may be a hodgepodge of documents belonging to one bundle which make it rather more difficult later --
THE CHAIRMAN: So if we're interested, for example, in VTC data, it should be in --
MR SHIEH: In the Marine Department bundle, rather than a separate bundle called "Documents handed up". We'll take stock on that.
THE CHAIRMAN: Give that some thought.
MR SHIEH: Yes.
Mr Ma, what you are saying is that the document at page 1880 in front of you is different from the original book that you have just handed up and which we will be seeing in due course?
A. Yes.
Q. Because that book contains entires which were subsequently added?
A. Yes, correct.

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Q. Very well. But perhaps we can actually proceed with our your evidence in the absence of that book, because what I'm interested in is actually the content of the logs.
Can I direct your attention to page 1880, in the middle, where your box helpfully described the four columns: 20:25, VHF-14, Hai Tai, and VTC. Do you see that?
A. Yes.
Q. Can you identify which individual it was who actually wrote them in? Was it you?
A. Yes, it was written by me.
Q. Right. Because the box in the next column, the substance of the remarks were identified as being made by you.
A. Yes.
Q. So do I take it that this entry in the log was actually made by you as a result of you receiving a VHF call on channel 14 from the vessel Sea Smooth?
A. This was written by me according to the information provided to me from my colleagues.
Q. I see. So you were not the person who received the VHF call; your colleague received the call and he passed information to you, and you logged the entry?
A. Yes.
Q. Perhaps you can read out the handwritten log for the record, because some of the handwriting is a little bit illegible.

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A. (In English) "Reported that she had collision with Lamma IV off north Lamma Island. A number of passengers on board Lamma IV were falling overboard. HPS, Marpol and FSD were informed. MRCC carried search and rescue operation. TTT-186 in place. SMO/VTC and AD/PC informed."
Q. A number of questions arise. Mr Ma, you mentioned in that entry "HPS", in the second line. Could you help us with what "HPS" stands for?
A. It stands for "Harbour Patrol Section". It is a patrol team of the Marine Department.
Q. The next line, "MRCC"?
A. (In English) Are you saying "Marpol" or "MRCC"?
Q. The next line.
A. (In English) Next line, okay.
A. It stands for Maritime Rescue Co-ordination Centre.
Q. Maritime Rescue Co-ordination Centre, thank you.
"TTT-186" is?
A. It is the serial number of the safety message. This one is the number 186 notice of this year.
Q. "SMO/VTC"?
A. (In English) Senior marine officer of Vessel Traffic Centre.

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Q. When you mentioned TTT-186, you said that it is a safety message.
A. Yes.
Q. What sort of safety message is it?
A. It is a message broadcasted to the vessels on the sea that this incident has happened, and they were reminded to exercise more caution and to report any abnormalities to the Marine Department and to escalate their look-out.
Q. So it's a broadcast made to vessels in immediate response to this incident, on the spot?
A. Yes.
Q. Thank you. "AD/PC" stands for what?
A. That means our assistant director of port control.
Q. Thank you. Can I ask you to move on to the next page, 1881. This is the Port Management Office log; is that right?
A. Yes.
Q. Where is this Port Management Office located?
A. It is located in another room on the same floor as the VTC.
Q. Right. And the relevant entry is entered by someone called Mr Andrew Kwok, right?
A. Yes.
Q. So Port Management Office received a fax notification at 20:50 from VTC, whereupon Andrew Kwok made this log?

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A. Yes, correct.
Q. I know it's not your handwriting, but could you help us in reading out what you think to have been written there, "Received" what?
A. I am going to read from this original copy, because it is quite illegible in the copy:
"Received IIR from VTC regarding a collision between 'Hai Tai' and 'Lamma IV' near Shek Kok Tsui (Lamma Island)."
Q. What is "IIR"?
A. (In English) Initial incident report.
Q. Initial incident report?
A. (In English) Initial incident report.
Q. "Incident"?
A. "Incident".
MR SHIEH: Mr Chairman, since the witness is actually referring to the original log, and I'm going to actually ask him similar questions about what's been entered into the log in relation to the next log, which is also rather illegible, I wonder whether there's a better way of dealing with it? That is to say, he could actually hand over the original log for better copies to be made now, so that we could actually --
THE CHAIRMAN: How much more by way of questioning do you have of him?

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MR SHIEH: I'm simply going to ask him to identify the relevant entries and tell us what they are and then explain the relevant abbreviations.
THE CHAIRMAN: Very well.
How many of these logs do you have with you, Mr Ma?
A. Three copies.
THE CHAIRMAN: Would you be kind enough perhaps to mark the relevant page with a Post-it sticker, if someone could give you one, and then overnight we'll copy them and we'll ask you to speak to the original tomorrow.
A. Yes.
THE CHAIRMAN: Thank you very much.
It follows then that we're going to have to ask you to return tomorrow to continue your evidence, because we've now reached the end of our day. We'll resume tomorrow at 10 o'clock, if you'd be kind enough to be here in good time so that we can start at 10 o'clock. Thank you.
MR SHIEH: Mr Chairman, after Mr Ma, I'm going to call Mr Yau Wing-hang, who is from the Marine Police, who will speak to the equivalent of what Mr Yim has spoken to this morning in relation to the print-out from the Marine Police system. Then after that we are going to call the gentleman from the service supplier, the equipment supplier, to explain any possible discrepancy

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between the systems --
THE CHAIRMAN: And then?
MR SHIEH: -- followed by Captain Pryke.
THE CHAIRMAN: Very well.
Yes, Mr McGowan?
MR McGOWAN: Sir, you were asking me this morning about materials for the naval architect. We can let the restricted request dealing with --
THE CHAIRMAN: Documents?
MR McGOWAN: -- those sort of items. We should be able to let Lo & Lo have all the ones that we have that are being asked for by Friday noon.
THE CHAIRMAN: Thank you very much. That will enable our experts to examine them and see if there are other enquiries they need to make as a result. Thank you for your co-operation.
10 o'clock tomorrow.
(4.31 pm)
(The hearing adjourned until 10 am on the following day)

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