

Accident Report  
COLLISION  
*Quickcat & Doctor Hook*  
04 January 2005  
Class A



**VESSEL NAME:                    *QUICKCAT***

<b>Vessel Name:</b>	<i>Quickcat</i>
<b>Ship Type:</b>	Passenger
<b>Certified Operating Limit:</b>	Inshore
<b>Port of Registry:</b>	Auckland
<b>Flag:</b>	New Zealand
<b>MSA No.:</b>	100491
<b>Built:</b>	1986
<b>Construction Material:</b>	Aluminium
<b>Length Overall (m):</b>	33.38
<b>Maximum Breadth (m):</b>	13
<b>Gross Tonnage:</b>	456
<b>Net Tonnage:</b>	199
<b>Registered Owner:</b>	Fullers Group Ltd
<b>Classification Society/SSM Company:</b>	Dunsford Marine Ltd



**VESSEL NAME:                    *DOCTOR HOOK***

<b>Vessel Name:</b>	<i>Doctor Hook</i>
<b>Ship Type:</b>	Passenger
<b>Certified Operating Limit:</b>	Inshore
<b>Port of Registry:</b>	Auckland
<b>Flag:</b>	New Zealand
<b>MSA No.:</b>	124271
<b>Built:</b>	1997
<b>Construction Material:</b>	Aluminium
<b>Length Overall (m):</b>	8.7
<b>Registered Owner:</b>	Mr Bruce Newberry
<b>Classification Society/SSM Company:</b>	Plunket & Falconer
<b>Accident Investigator:</b>	Ian Howden

## SUMMARY

On 4 January 2005 the fast speed passenger vessel **Quickcat** was en route from Auckland to Waiheke Island via the Motuihe Channel. The Master observed a number of smaller vessels on his starboard side east of the port hand channel markers. He determined it was safe to maintain his course and speed through the channel as there were no vessels on his intended track.

As **Quickcat** approached the channel, the charter vessel **Doctor Hook** moved clear of the smaller vessels on the east side of the channel and ventured out into the channel. Shortly before collision, the passengers on **Doctor Hook** warned the Skipper on a number of occasions that both vessels were on a collision course.

The Skipper of **Doctor Hook** failed to see **Quickcat** until a final warning was given. Seconds later both vessels collided.

The Skipper and all but one passenger on board **Doctor Hook** suffered injuries. One of the passengers remained hospitalized and subsequently died of complications from injuries caused by the collision.

## NARRATIVE

**Quickcat** is a fast speed ferry that operates a scheduled service between Auckland and Waiheke Island within Auckland Harbour. The vessel is owned and operated by Fullers Group Ltd. The vessel has operated between Auckland and Waiheke Island since 1986. The vessel held a Safe Ship Management (SSM) Certificate allowing it to operate inshore and enclosed limits. It was surveyed to carry not more than 650 passengers within inshore limits. The vessel had a total crew of eight at the time of the accident and 337 passengers.

The Master held a Commercial Launchmaster's Certificate issued in 1993 and a New Zealand Offshore Watchkeeper's Certificate of Competency issued in 2004. He has worked for Fullers for 15 years and has worked as a Master for 11 years. He has been Master of **Quickcat** for approximately four years.

**Doctor Hook** is a commercial fishing charter vessel that has operated in the Motuihe channel since it was built in 1997. The vessel held a SSM Certificate for enclosed water limits and was surveyed for eight passengers. Among other lifesaving equipment, the vessel was equipped with 12 lifejackets.

The Skipper held a Local Launchmaster's Certificate issued in 1999. He has worked as a commercial charter skipper for approximately four years.



# THE INCIDENT

## Evidence of *Quickcat*

*Quickcat* was on her second scheduled run for the day when the collision occurred. At approximately 1006 hours New Zealand Daylight Time, the vessel departed her berth at Auckland. As *Quickcat* passed south of Rangitoto Island the last of two crew that had been on the bridge with the Master, left the bridge. As the vessel approached the southern entrance of Motuihe Channel and was abeam of Emu Point on Motutapu Island, the Master left the helm seat and looked over the crane on the starboard foredeck to determine if the channel ahead was clear of vessels. He observed the channel was clear, noting the presence of approximately 20 small vessels on the east side of the channel and a few on the west side, close in to the shore of Motutapu Island. The vessels on his starboard side were east of a line between the two port hand channel marks (See Appendix 1 – NZ Chart 532 – Showing estimated route of *Quickcat* and *Doctor Hook*).

The Master then returned to his seat and as *Quickcat* entered the channel he periodically moved his position at the helm position in an attempt to determine if any vessels were obscured behind the crane and window frames (See Photos 1, 2 & 3 – showing visibility from the helm position the day after the accident as *Quickcat* approached the northern most of the two port hand channel marks).



PHOTOGRAPH 1



PHOTOGRAPH 2





PHOTOGRAPH 3

As *Quickcat* passed to the north west of the northern most channel mark, the Master observed *Doctor Hook* at close quarters, fine on his starboard bow. As he pulled the throttles back and attempted to turn to port, both vessels collided. Due to the close proximity of *Doctor Hook* the Master's actions had no effect on the course and speed of *Quickcat* at the time of collision. *Quickcat* was travelling between 23 and 24 knots at the time of collision.

The Master immediately reversed *Quickcat* and went to *Doctor Hook's* aid. After *Doctor Hook* was made fast alongside, medical assistance was given to passengers on *Doctor Hook*. Shortly after, Coastguard and Police vessels arrived on the scene and the injured passengers and Skipper were transferred to the Police vessel *Deodar 2* and taken to hospital.



## Evidence of *Doctor Hook*

*Doctor Hook* departed Westhaven Marina in Auckland harbour at 0945 hours for the Motuihe Channel. A safety briefing was given before departure including the location of lifejackets. On board were the Skipper and seven passengers.

After arriving at the south coast of Rangitoto Island and examining various fishing locations, the vessel proceeded to Motuihe Island and proceeded north along the east side of Motuihe Channel examining different fishing locations on the way. *Doctor Hook* passed the northernmost port channel mark to starboard at a distance of approximately 25 metres on a NNW course.

After the Skipper examined one possible fishing location, the vessel altered to a NNE course with the intention of dropping anchor approximately 100 metres north of the channel mark. As the Skipper altered course he received a call on his cellular phone. At this time he was monitoring the Global Positioning System (GPS) and observing the depth sounder for fish.

Approximately 1½ minutes after receiving the phone call, one of the passengers on the stern shouted to the Skipper asking him if he had seen *Quickcat* bearing down on them. He turned and looked astern, but could not see *Quickcat*. He then continued on his course and speed of approximately 5 to 6 knots.

Immediately after, the same passenger screamed at him. He turned again and saw *Quickcat's* starboard hull bearing down on *Doctor Hook's* port transom. He immediately turned to port and immediately after doing so, both vessels collided. The impact knocked the Skipper and passengers to the deck. The Skipper made a Mayday call on channel 16 VHF (Very High Frequency). The call was acknowledged by Auckland Maritime Radio.

The Skipper observed **Quickcat** was going hard astern at a distance of approximately 50 metres from **Doctor Hook**. After **Doctor Hook** was secured to **Quickcat's** port quarter, the Coastguard and Police arrived and the Skipper and his passengers were taken to hospital (See Photograph 4 – **Quickcat** & **Doctor Hook** after collision).



PHOTOGRAPH 4 (COURTESY KEITH INGRAM)



### Evidence of the Passengers on board **Doctor Hook**

The passengers first saw **Quickcat** as it passed south of Rangitoto Island approximately three miles distant. They observed the vessel was on a collision course with **Doctor Hook** but assumed it would alter course to clear them. As **Quickcat** headed towards **Doctor Hook** at a distance of 400 to 500 metres, they asked the Skipper if he had seen the vessel and were acknowledged.

At that time, the Skipper was in the cabin seated at the helm chair. He was talking on a cellular phone and looking at the vessels depth sounder. As **Quickcat** closed on **Doctor Hook** to 200 to 300 metres the passengers again warned the Skipper, but as before, no action to avoid collision was taken.

With collision imminent, one of the passengers screamed at the Skipper and hit him on the shoulder. The Skipper then turned and saw the ferry. The passengers observed the Skipper pull the gear control back. Approximately four seconds later, the collision occurred. Right up until the final warning, the passengers believed the Skipper had seen **Quickcat** and had deliberately chosen not to take any action.

Weather conditions were overcast with variable winds. Visibility was good.

## COMMENT & ANALYSIS

The Maritime Safety Authority (MSA) (subsequently re-named Maritime New Zealand) commenced an investigation on the day of the accident. The masters of both vessels were interviewed at the MSA office in Auckland. Documentary evidence from both vessels was obtained. The passengers of *Doctor Hook* were also interviewed. Statements and comments from witnesses on *Quickcat* were taken and evidence obtained by the Police was received.

GPS units from both vessels were examined to determine if evidence had been stored that would establish the track of both vessels before the collision. Due to the lack of data this was not possible.

### *Quickcat – Vision from the Helm*

A helmsman who stands on the bridge of *Quickcat* is offered reasonable vision (See *Photograph 5 – vision from standing position to starboard bow* & *Photograph 6 – vision from seated position*). In the centre of the bridge are two pneumatic chairs, one of which allows the helmsman to steer the vessel whilst seated (See *Photographs 7 & 8 – chairs & bridge*). Vision from the helm chair is compromised by a combination of the crane on the starboard foredeck, the window mullions and the top of the radar screen. There is an approximate 15° sector, when the crane and window mullions are combined, that compromises vision from the helm seat. In addition, any small vessel that is close under *Quickcat's* starboard bow can be hidden behind the radar screen.



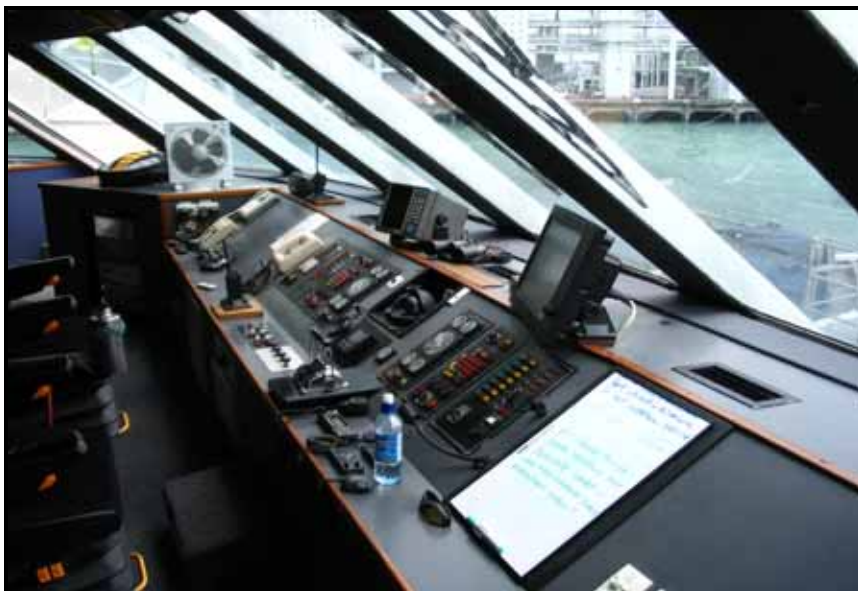
PHOTOGRAPH 5





PHOTOGRAPH 6

PHOTOGRAPH 7



PHOTOGRAPH 8

Initial findings determined that the location of the cargo crane on the starboard bow was a contributing factor in this accident. As a result, MSA served a notice of Imposition of Conditions on the operation of **Quickcat** on 7 January 2005, requiring that two watchkeepers be on duty at all times whilst the vessel is operational, until the crane is removed from the deck. This procedure was initiated by the Company immediately after the accident. During the investigation, company management stated that a collapsible crane for the foredeck had been ordered prior to the accident as the current crane was in need of replacement due to its mechanical condition.

The positioning of any object either within the bridge or on the foredeck that obstructs vision from the helm position should, if practicable, be avoided. This is especially so if the obstruction compromises the helm vision to starboard. There were three objects, all within close proximity of one another that were capable of compromising the helmsman's vision to starboard. The crane was the primary obstruction followed by the window frame and the top of the radar screen.

There was no documentation available to MSA from company records indicating that company masters had recorded the crane as a hazard. A MSA Inspector had, on previous Flag State Inspections, asked Masters if they considered the crane compromised visibility and was told it did not. There is evidence however that some masters have voiced concerns to management in the past. The



Master involved in this accident had done so some years previously to a former Operations Manager. He believed other masters had identified the crane as a hazard. One Master stated it had been a “bone of contention” in the past and that he and other masters had advised management of their concerns. He had filed an incident report with the company approximately 10 to 12 years ago after a near miss with a small vessel.

Many smaller and medium sized vessels have comfortable helm seats from which the vessel can be controlled. The danger of having such seats is that helmsmen tend to remain in them for long periods and as result are often less likely to properly monitor any blind spots that may exist from the helm position. On many larger vessels, such seats are not permitted for the very reason that the helmsman must remain on his feet, remains more alert and is better able to keep a proper lookout.

### *Doctor Hook – Vision from the Helm*

Vision from the helm of **Doctor Hook** was good. Large windows afforded reasonable visibility fore and aft. The Skipper stated there were small blind spots when looking aft caused by the coach house supports. He believed that when he initially turned after being warned that **Quickcat** was approaching, he failed to see the vessel as one of the passengers was standing in front of the port aft deck coach house window, blocking his vision (See *Photograph 9 – damaged interior of house & Photograph 10 – coach house viewed from aft*).



PHOTOGRAPH 9





PHOTOGRAPH 10

## LOOKOUT

The most important duty of keeping a navigational watch is keeping a proper lookout. Both masters failed in this fundamental duty. Both were seated at the time of collision and one allowed himself to be distracted by a phone call and reading electronic equipment. The other was aware of a blind area behind the crane, but took inadequate steps to ensure that there was no vessel behind it.

## Company Management

The Company had a hazard register for **Quickcat** that incorporated a risk assessment matrix that allocated identified hazards to levels of seriousness and likelihood of occurrence. Compromised visibility from the helm caused by the crane and other visual obstructions was not identified as a hazard. Recent MSA Flag Inspection records and Safe Ship Management did not record deficiencies identifying the crane as a hazard due to vision restriction.

The Operations Manager stated he had heard loose talk of the crane compromising visibility but stated it had not been listed on the hazard register by any of the Masters. In his experience as a former master of **Quickcat** he did not consider the crane compromised visibility.

The company has no operational procedures requiring more than one watchkeeper on the bridge or that the radar be utilised in the Motuihe Channel.

The SSM manual for **Quickcat** required the Master and crew to identify hazards under the watchkeeping standards section:

*“The owner and Master of a vessel to implement procedures addressing: (1v) the use of navigational equipment and;*

*The crew of a vessel must comply with watchkeeping procedures established under Rule 31B.18(1) Alert Navigational Watch is to be Maintained by Competent Personnel.”*

*(See Appendix 2 – SSM Manual Excerpts 1 to 6)*

**Doctor Hook** was extensively damaged. The hull was breached on the port side, just forward of amidships. A 0.9 metre gash extended from just above the waterline to below the forward section of the cabin. The force of impact shunted the house approximately 14cm to starboard and most of the windows were shattered (See Photographs 11 & 12 – damage to **Doctor Hook**).





PHOTOGRAPH 11



PHOTOGRAPH 12

*Quickcat* sustained paint damage to the starboard hull (See *Photograph 13 – Damage to Quickcat*).





PHOTOGRAPH 13



The emergency procedures section of *Doctor Hook's* SSM Manual had a collision procedures section and a section for reporting an accident or emergency situation. The manual identified collision and personal injury as potential emergency situations (See Appendix 3 – SSM Manual Excerpts).

The Skipper and all but one of the passengers on *Doctor Hook* suffered minor to serious injuries. These included bruising, lacerations, concussion and head injuries.

Emu Point, where the Master of *Quickcat* last stood, to determine that there were no vessels on his intended track, is approximately 0.6 nautical miles (nm) from the position of collision. At 24 knots, it would have taken *Quickcat* 1 minute 30 seconds to cover that distance.

A witness on board *Quickcat* who first observed *Doctor Hook* 100 metres distant on a collision course with *Quickcat*, stated that he saw both vessels on converging courses (See Appendix 4 – Witness diagram showing vessels on a converging course).

*Quickcat* has three joysticks on the bridge. One is positioned on the arm of the helm chair. The other two are on the bridge wings. Telegraph controls are located forward of the helm chair and on the bridge wings.

The radar on *Quickcat* was set on  $\frac{3}{4}$  mile. The Master did not monitor the position of any of the vessels in the channel by radar after *Quickcat* passed Emu Point. He had never plotted multiple vessels on the radar or used the guard alarm function.

The crane on the bow of *Quickcat* is a Palfinger PK9700 model. Its dimensions are 2.65 metres in height and 1.40 metres in width (seat included).

One of the passengers on *Doctor Hook* commented that he was expecting the Skipper to turn to starboard and accelerate rapidly away from *Quickcat*. He believed the Skipper had time from when he first saw *Quickcat* to turn hard to starboard and take successful evasive action. The evidence of the

Skipper was that he did not have time to alter course to starboard and that had he so, the collision point would have been on his transom. He believed that impact on the transom would have endangered the passengers, in particular the children, who were aft at the time. He stated he deliberately turned to port to ensure impact was amidships in the belief this would minimise the danger to persons on board.

## **Motuihe Channel**

The Motuihe Channel is a popular fishing area. During summer months, recreational and commercial charter fishing vessels and other vessels frequent the channel in large numbers. On occasions, the concentration of vessels is such that ferries travelling from Auckland to Waiheke and return are required to take the alternate route via Sergeant Channel south of Motuihe Island. For some years there have been incidents concerning fast ferries and other smaller vessels operating in the channel. These have included dangerous wakes and close quarters situations. With the increasing numbers of commercial and recreational vessels in the inner Hauraki Gulf and Harbour there is a heightened risk that incidents will occur, particularly in congested areas such as the Motuihe Channel.

## **Maritime Rules**

### **Maritime Rule 22.5 Look-Out**

*“Every vessel must at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions, so as to make a full appraisal of the situation and the risk of collision”.*

### **Maritime Rule 22.6 Safe Speed**

*“Every vessel must at all times proceed at a safe speed so that proper and effective action to avoid a collision can be taken and the vessel can be stopped within a distance appropriate to the prevailing circumstances and conditions”.*

*In determining a safe speed, the following factors must be among those taken into account:*

- (1) *For all vessels –*
  - (a) *The state of visibility;*
  - (b) *The traffic density, including concentrations of fishing vessels or any other vessels (MSA emphasis);*
  - (c) *The manoeuvrability of the vessel, with special reference to stopping distance and turning ability in the prevailing conditions;*
  - (d) *At night, the presence of background light such as from shore lights or from the back scatter of the vessel’s own lights;*
  - (e) *The state of wind, sea and current, and the proximity of navigational hazards;*
  - (f) *The draught in relation to the available depth of water.*

### **Maritime Rule 22.7 Risk of Collision**

- (1) *Every vessel must use all available means appropriate to the prevailing circumstances and conditions to determine if the risk of collision exists. If there is any doubt, such risk must be considered to exist.*
- (2) *Proper use must be made of radar equipment, if fitted and operational, including long-range scanning to obtain early warning of the risk of collision and radar plotting or equivalent systematic observation of detected objects.*
- (3) *Assumptions must not be made on the basis of scanty information, especially scanty radar information.*
- (4) *In determining if the risk of collision exists, the following considerations must be among those taken into account –*



- (a) such risk must be considered to exist if the compass bearing of an approaching vessel does not appreciably change; and
- (b) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

### **Maritime Rule 22.13 Overtaking**

- (1) Despite anything contained in subsections 1 and 2 of section 1 of this Part, any vessel overtaking any other must keep out of the way of the vessel being overtaken.
- (2) A vessel will be considered to be overtaking when coming up to another vessel from a direction of more than 22.5 degrees abaft its beam, that is, in such a position where at night the sternlight, but neither of the sidelights of the vessel being overtaken, would be visible.

### **Maritime Rule 22.17 Action by Stand-On Vessel**

- (1) If one of two vessels is to keep out of the way, the other must keep its course and speed.
- (2) As soon as it becomes apparent to the stand-on vessel that the vessel required to give way is not taking appropriate action in compliance with this Part –
  - (a) it may take action to avoid collision by its manoeuvre alone; and
  - (b) if it is a power-driven vessel in a crossing situation, if the circumstances of the case allow, it must not alter course to port for a vessel on its own port side (MSA emphasis)
- (3) When, from any cause, the stand-on vessel finds itself so close that collision cannot be avoided by the action of the give-way vessel alone, it must take whatever action will best avoid collision (MSA emphasis)
- (4) This rule does not relieve the give-way vessel of its obligation to keep out of the way.



## **Maritime Transport Act 1994**

### **S.65 Dangerous activity involving ships or maritime products –**

- (1) Every person commits an offence who-
  - (a) Operates, maintains, or services; or
  - (b) Does any other act in respect of –  
Any ship or maritime product in a manner which causes unnecessary danger or risk to any other person or to any property, irrespective of whether or not in fact any injury or damage occurs.
- (2) Every person commits an offence who-
  - (a) Causes or permits any ship or maritime product to be operated, maintained, or services; or
  - (b) Causes or permits any other act to be done in respect of any ship or maritime product, - in a manner which causes unnecessary danger or risk to any other person or to any property, irrespective of whether or not in fact any injury or damage occurs.

## **Health & Safety in Employment Act 1992**

### *S.6 Employers to ensure safety of employees*

*Every employer shall take all practicable steps to ensure the safety of employees while at work; and in particular shall take all practicable steps to-*

- (a) *Provide and maintain for employees a safe working environment; and*
- (b) *Provide and maintain for employees while they are at work facilities for their safety and health; and*

- (c) *Ensure that plant used by any employee at work is so arranged, designed, made, and maintained that it is safe for the employee to use; and*
- (d) *Ensure that while at work employees are not exposed to hazards arising out of the arrangement, disposal, manipulation, organisation, processing, storage, transport, working, or use of things-*
  - (i) *In their place or work; or*
  - (ii) *Near their place of work and under the employer's control; and*
- (e) *Develop procedures for dealing with emergencies that may arise while employees are at work.*

## **Duties of employers in relation to hazard management**

### *S.7 Identification of hazards*

- (1) *Every employer shall ensure that there are in place effective methods for-*
  - (a) *Systematically identifying existing hazards to employees at work; and*
  - (b) *Systematically identifying (if possible before, and otherwise as, they arise) new hazards to employees at work; and*
  - (c) *Regularly assessing each hazard identified, and determining whether or not it is a significant hazard*
- (2) *Where there occurs any accident or harm in respect of which an employer is required by section 25(1) of this Act to record particulars, the employer shall take all practicable steps to ensure that the occurrence is so investigated as to determine whether it was caused by or arose from a significant hazard.*

### *S.8 Significant hazards to employees to be eliminated if practicable.*

*Where there is a significant hazard to employees at work, the employer shall take all practicable steps to eliminate it.*

### *S.9 Significant hazards to employees to be isolated where elimination impracticable.*

*Where-*

- (a) *There is a significant hazard to employees at work; and*
- (b) *Either-*
  - (i) *There are no practicable steps that may be taken to eliminate it; or*
  - (ii) *All practicable steps to eliminate it have been taken, but it has not been eliminated,-*

*The employer shall take all practicable steps to isolate it from the employees.*



## **CONCLUSIONS**

*N.B. These are not listed in order of importance.*

- The Master of **Quickcat** failed to keep a proper lookout.
- The Master of **Quickcat** failed in his duties to keep clear of **Doctor Hook**. His was the overtaking vessel and was required to keep out of the way of **Doctor Hook**.
- The Skipper of **Dr Hook** failed to keep a proper lookout.
- The Skipper of **Doctor Hook** failed to carry out his duties as Skipper of a stand on vessel. He was required to take whatever action would best avoid collision as soon as it was apparent that collision with **Quickcat** could not be avoided by the actions of **Quickcat** alone.
- The Company failed to identify the crane and other visual impairments in the bridge of **Quick cat** as hazards that compromised visibility from the helm position.

## SAFETY RECOMMENDATIONS

1. It is recommended that the Master of **Quickcat** be prosecuted under s.65 of the Maritime Transport Act 1994 for operating a ship in a manner that caused unnecessary danger and risk to other persons.
2. It is recommended that the Skipper of **Doctor Hook** be prosecuted under s.65 of the Maritime Transport Act for operating a ship in a manner that caused unnecessary danger and risk to other persons.
3. It is recommended that Fullers Group Ltd be severely censured for failing to take proper steps to eliminate, isolate or minimise the hazard presented by the crane and other visual impairments obstructing vision from the helm position.
4. It is recommended that the Auckland Harbourmaster give consideration to designating part of Motuihe Channel a fast ferry/fast vessel lane to effectively separate smaller vessels from high speed passenger transport vessels. This is currently being undertaken by the Auckland Harbourmaster.
5. It is recommended that Fullers Group Ltd give urgent consideration to implementing a safe operational strategy that identifies, by way or risk analysis, areas of high risk operation, such as the Motuihe Channel. Such analysis may require operational constraints such as speed restrictions within specified areas of fleet operations and the permanent placement of two qualified watchkeepers on the bridge of **Quickcat** and other high speed passenger vessels operated by the Company at all times.



## ACTION TAKEN

1. The Master of **Quickcat** pleaded guilty to two charges under the Maritime Transport Act 1994.
2. The Skipper of **Doctor Hook** pleaded not guilty to two charges under the Maritime Transport Act 1994 and three charges under the Maritime (Offence) Regulations 1998. He was found not guilty on all counts.
3. Fullers Group Ltd was severely censured for failing to take proper steps to eliminate, isolate or minimise the hazard presented by the crane and other visual impairments obstructing vision from the helm position.
4. On 3 May 2005 2006, the Auckland Harbourmaster promulgated regulations creating a fast ferry/fast vessel lane to effectively separate smaller vessels from high speed passenger transport vessels in the Motuihe Channel.
5. Fullers Group Ltd has implemented safe operational strategies to identify areas of high risk operation, such as the Motuihe Channel.