



Office of Transport Safety Investigations

FERRY SAFETY INVESTIGATION

SYSTEMIC INVESTIGATION INTO PUBLIC PASSENGER FERRY SERVICES OPERATED BY CAPTAIN COOK CRUISES WITHIN SYDNEY HARBOUR

INITIATED 14 SEPTEMBER 2010



FERRY SAFETY INVESTIGATION REPORT

SYSTEMIC INVESTIGATION INTO THE PUBLIC PASSENGER
FERRY OPERATIONS OF CAPTAIN COOK CRUISES WITHIN
SYDNEY HARBOUR

14 SEPTEMBER 2009 TO 14 SEPTEMBER 2010

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Postal address: PO Box A2616, Sydney South, NSW 1235

Office location: Level 17, 201 Elizabeth Street, Sydney NSW 2000

Telephone: 02 9322 9200

Accident and incident notification: 1800 677 766

Facsimile: 02 9322 9299

E-mail: info@otsi.nsw.gov.au

Internet: www.otsi.nsw.gov.au

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GLOSSARY OF TERMS & ABBREVIATIONS

Air Damper	A mechanically operated device to prevent the flow of air into the engine room on a vessel.
AS/NZ	Australian / New Zealand Standard
Carley Float	A raft constructed to float on the surface of the water with lifelines attached used to support persons in the event of a vessel sinking.
CCC	Captain Cook Cruises
Dogs	Metal latches used to secure watertight hatches and doors.
GPH	General Purpose Hand
LPG	Liquid Petroleum Gas
NSCV	National Standard for Commercial Vessels
NSWMA	NSW Maritime Authority which became part of NSW Roads & Maritime Services when it was amalgamated with the NSW Roads and Traffic Authority with effect 1 November 2011.
OHS	Occupational Health and Safety
OTSI	Office of Transport Safety Investigations
PFD	Personal Flotation Device
POB	Person Overboard
SF	Sydney Ferries
SMS	Safety Management System
Survey Class	The figure in a Survey Class designation identifies the type of vessel e.g., "1" identifies the vessel as passenger carrying. The letter defines the permitted area of operation: A = unlimited offshore operation; B = offshore operation to 200 nautical miles seaward of the coast; C = restricted offshore operations up to 30 nautical miles seaward of the coast; D = sheltered operations (partially smooth water operations); and E = sheltered waters (smooth water operations).
USL	Uniform Shipping Laws Code (aka the "Code" or the "USL Code")

EXECUTIVE SUMMARY

In April 2010, OTSI commenced an investigation into a fire onboard a Rocket Class ferry, the *Jillian*, owned and operated by Captain Cook Cruises (CCC).¹ During the course of that investigation, which was concluded in March 2011, a number of safety issues were identified which gave reasonable cause for concern about the standard of safety onboard that and the other classes of vessels in the CCC fleet.

As a result of a number of specific safety observations and on the basis of reasonable cause, in September 2010 the Chief Investigator initiated a systemic investigation into the public passenger ferry services operated by CCC within Sydney Harbour during the period of the preceding twelve months.

The investigation focused on:

- CCC's safety management systems and their implementation;
- emergency procedures and the conduct of emergency action training; and
- serviceability and maintenance of safety-related equipment and resources.

The investigation established that the types of defects and deficiencies found onboard the *Jillian*, and her two sister Rocket Class ferries, generally existed throughout the entire fleet. Records, in particular vessels' log books, were not being maintained in a comprehensive and consistent manner, with large amounts of safety-related information not being entered.

Examination of the Company's incident reporting documentation revealed that statutory reporting obligations were not being met. At crew level, there was inconsistency between what incidents were actually reported; the incident detail

¹ Refer to OTSI Ferry Safety Investigation, *Fire onboard Captain Cook Cruises' Ferry Jillian, Sydney Harbour, 28 April 2010*, available at www.otsi.nsw.gov.au

contained in reports that were submitted; and the incident detail that was entered in vessels' logs.

Although the Rocket Class fleet repair and maintenance records had been rectified quite satisfactorily during the course of the *Jillian* investigation, the repair and maintenance records for the rest of the CCC fleet provided no convincing evidence of a responsive and effective maintenance system in operation.

There were many examples of non-compliance with the requirements of the Uniform Shipping Laws Code 2009, vessel survey requirements and the Company's own Safety Management System, most concerningly in relation to the maintenance of crew competency in handling emergency procedures.

Inspections of seven of the vessels in the fleet of 14 revealed cause for concern about a significant number of OHS matters and the condition of a range of onboard safety equipment. OHS management and systems were found to be ineffective, including the OHS Committee which had met seven times in the past five years instead of the minimum of eight times per year provided for in the Safety Management System.

As a result of the investigation and the progressive safety advice provided to CCC, some remedial action was undertaken over the eight months to June 2011 but appeared to progress relatively slowly and not in a systematic, prioritised manner. Observations on the remedial action already undertaken or underway as at June 2011 are described in Part 3 of the Report.

On 15 September 2011, CCC reported further progress on the implementation of continuing remedial action. The action completed and under way as reported by CCC substantially addresses the main issues identified in this investigation. Therefore, it is considered only one recommendation is necessary. It is that the owners of Captain Cook Cruises establish and implement a comprehensive plan for periodic spot-checking and auditing of operational safety and occupational health and safety so as to ensure ongoing compliance with legislative and regulatory requirements.

PART 1 ISSUES ARISING FROM THE INVESTIGATION

Introduction

- 1.1 In the course of investigating a fire on the Captain Cook Cruises' Rocket Class ferry *Jillian* on 28 April 2010, a number of safety issues came to OTSI's attention which did not appear to be confined to just the *Jillian* or its class of vessel. On reviewing the evidence, the Chief Investigator determined that a systemic investigation into public passenger services operated by Captain Cook Cruises within Sydney Harbour was warranted in accordance with Section 45A of the *Transport Administration Act 1988* and Section 46BA of the *Passenger Transport Act 1990*.
- 1.2 The Terms of Reference directed that particular attention be given to safety management systems and their implementation, emergency procedures and the conduct of emergency action training, and serviceability and maintenance of safety-related equipment and resources. The period for examination was set as 14 September 2009 to 14 September 2010.
- 1.3 OTSI sought to examine the following documentation:
- log books or copies of log books for all vessels within the fleet;
 - records of all emergency drills performed;
 - reports of all incidents reported by Masters;
 - reports of all incidents reported to NSW Maritime Authority (NSWMA);
 - instructions to Masters, Engineers and GPH relating to reporting defects and incidents, safety check information provided to complete official log books, and other recordkeeping requirements;

- Deficiency Notices issued by NSWMA on all vessels undergoing annual survey inspections, and any other NSWMA notices issued as a result of audits or inspections other than surveys;²
- minutes of OHS Committee meetings and actions taken as a result of these meetings, including reports of any inspections conducted;
- OHS monthly inspection checklists; and
- the Crew Training/Qualification Register.

As part of the investigation process, seven vessels were inspected in detail and a cross section of crew was questioned in their workplace on matters of fact about their training and experience - 11 Masters, five Engineers, 11 General Purpose Hands (GPH) and four Cruise Directors.

Captain Cook Cruises Overview

- 1.4 Captain Cook Cruises (CCC) commenced operation on Australia Day 1970 and had 14 vessels operating on Sydney Harbour at the time of the investigation. The Company also operates on the Murray River in South Australia and in Fiji.
- 1.5 CCC employed a total of approximately 260 staff (110 full time equivalents, variable depending on the season) in Sydney. It carried some 675,000 passengers annually and operated a combination of passenger cruises, charters and ferry services within Port Jackson (Sydney Harbour).
- 1.6 During the period under examination, the Sydney Harbour fleet was made up of the vessels shown in Table 1.

² A Deficiency Notice identifies repair/rectification work required and provides a deadline for completion. A vessel may be permitted to operate under survey in the meantime.

Fleet Vessels	Length (m)	Passenger Capacity	Tonnage	Survey Classification	Identifying Number
<i>Sydney 2000</i>	65	700	900	1E	21461
<i>Captain Cook Explorer</i>	55	300	600	1E	18492
<i>John Cadman II</i>	42	420	390	1E	15593
<i>John Cadman III</i>	42	400	420	1D	18070
<i>Captain Cook II</i>	37	250	275	1E	17455
<i>Captain Cook III</i>	43	499	330	1D	18187
<i>Matilda III</i>	25	310	130	1E	15525
<i>Sydney Crystal (1)</i>	20	90	90	1E	18455
<i>Solar Sailor (2)</i>	21	90	35	1E	21180
<i>Aussie Legend (1) (3)</i>	26	180	81	1E	21143
<i>Aussie Venture (1)</i>	20	80	50	1E	17883
<i>Megan (4)</i>	25	148	19	1E	21183
<i>Alice (4)</i>	25	148	19	1E	21122
<i>Jillian (4)</i>	25	148	19	1D/1E	21044
<i>Rocket V</i>	20	104	14	1E	19043
Notes: 1. Denotes both sail and power. 2. Under management and contract not renewed. 3. Under management and contract ended during the investigation. 4. Rocket Class vessels.					

Table 1: Fleet details

Record of Significant Incidents

1.7 Since 2007, CCC vessels had been involved in the following significant incidents:

- *John Cadman III* - collision with and destruction of a work gantry under the Spit Bridge on 3 October 2007;

- *Captain Cook II* - collision with the navigation pile structure at Kirribilli on 9 May 2009;
- *Captain Cook Explorer* - collision with and destruction of the starboard navigation marker off Georges Head on 18 September 2009;
- *Jillian* - fires onboard on 23 January 2010 and again on 28 April 2010;
- *Captain Cook II* - collision with the Ryde Bridge on 10 September 2010;
- *Alice* - collision with Shark Island wharf on 12 September 2010; and
- *John Cadman 3* and *Solar Sailor* - collision between the two vessels on 23 October 2010.

Safety Management System

- 1.8 All vessels in a fleet must be covered by a Safety Management System in accordance with Section 53D of the *Passenger Transport Act 1990*. In the period covered by the investigation, CCC operated with two SMS, one covering the Rocket Class of vessels and one for the remainder of the vessels.
- 1.9 The SMS for the Rockets came with the vessels when Matilda Cruises was acquired by CCC in 2005 and had not been amended since. With the exception of the *Jillian* when it was inspected in relation to the fire on 28 April 2010, no copies of either version of the SMS were found onboard the other vessels that were inspected.
- 1.10 The SMS for the majority of the fleet (and the one primarily referred to in this report) was a large document consisting of 236 pages which covered the whole of the fleet in general terms rather than being tailored to each vessel type, particularly in relation to emergency procedures. Consequently, Masters found it difficult to find information specific to their vessel's operation, especially in emergency situations when speed of corrective action is essential.

Incident Reporting

1.11 Concern about the reporting of incidents arose during the investigation into the fire on the *Jillian* when it was found that the vessel's Incident Reporting Book contained entries recording reportable incidents which had not been reported to either OTSI or NSWMA as required by legislation and by CCC's own SMS.³ Included in these incidents was a passenger injury requiring ambulance attendance and the fire three months earlier.

1.12 The requirement for the reporting of incidents is contained in the *Passenger Transport Regulation 2007* and includes Regulation 213, *Notification of accidents and incidents*, which stipulates reporting requirements to the NSWMA and OTSI in the following terms:

(1) An operator of a ferry service who becomes aware that a ferry used or being used to provide the service has been involved in an accident or incident must notify the regulator or Chief Investigator of the accident or incident, in accordance with this clause, if the accident or incident:

(a) involved or resulted in any one of the following

- (i) a person being injured*
- (ii) a person falling from the ferry*
- (iii) the loss, presumed loss or abandonment of the ferry*
- (iv) a collision involving the ferry*
- (v) the grounding, sinking, flooding or capsizing of the ferry*
- (vi) a fire or explosion on the ferry*
- (vii) a loss of stability affecting the safety of the ferry*
- (viii) the structural stability of the ferry, or*

(b) is, in the reasonable opinion of the operator of the service, otherwise likely to arouse serious public concern.

(2) A notification under subclause (1):

³ CCC has stated that, up until the *Jillian* fire was investigated, their interpretation of the *Passenger Transport Act* was that their "operation in general did not fall into the definition of a *Ferry Service* but rather a *Tourist or Charter Service*". CCC considers the definitions in the *Act* to be complex and difficult to interpret thus leading to misinterpretation. CCC has also expressed the view that, because the *National Standard for Commercial Vessels* is at odds with the *Act* in relation to reportable incidents, this "will continue to cause confusion for all". Additionally, CCC considers it to be "neither useful nor commercially sensible for all non serious injuries to be reported".

(a) must be given as soon as practicable after the operator becomes aware of the accident or incident concerned

- 1.13 The requirements of the *Act* and regulations should be reflected in an organisation's SMS, along with clearly set out internal policy, procedure and processing requirements. Both of CCC's SMS set out procedures to be followed in the event of an incident (includes accidents) and specified that incidents were to be recorded in a vessel's log. Further, the Master, or Cruise Director if the Master was incapacitated, was responsible for preparing and submitting a report. Review and follow-up of major or serious incidents were to be handled at Executive Director and General Manager level and the issue tabled to the Occupational Health and Safety Committee. As written, the procedures did not specify the requirements for reporting to the NSWMA or OTSI.
- 1.14 In response to OTSI's request for copies of all incident reports for the twelve month period, CCC provided only one initially, that of the collision of the *Captain Cook II* with the Ryde Bridge, on the basis that it had been reported to OTSI and "... *the others were not considered of any concern to passenger or crew safety*". More copies of incident reports were subsequently forthcoming from CCC and others were sourced from NSWMA. An examination of the available incident reports and a cross-check against vessel log books revealed that incident reporting had not been in accordance with SMS or legislative requirements in the majority of cases e.g., incidents recorded in logs not having corresponding incident reports and vice versa, and incidents meeting the criteria of Regulation 213 not having been reported externally.
- 1.15 Table 2 lists the number of incidents of injuries sustained by passengers and crew members reported to CCC management on incident/accident report forms in the period under examination. Only four of the 87 were recorded in log books; 86 were reportable in accordance with Regulation 213. CCC stated that a single injury accounted for almost half of the total of 88 days lost as a result of 10 lost time injuries.

Vessel	Incidents	Passenger	Crew
Sydney 2000	40	21	19
Captain Cook II	3	1	2
Captain Cook III	9	1	8
Aussie Venture	2	-	2
Jillian	2	2	-
Megan	3	2	1
Alice	3	2	1
Captain Cook Explorer	9	5	4
John Cadman II	7	5	2
John Cadman III	3	2	1
Aussie Legend	5	2	3
Sydney Crystal	1	-	1
Total	87	43	44

Table 2: Incidents involving injuries

- 1.16 CCC stated that all incident reports were received and reviewed by management; this being evidence of “a strong and open reporting culture” and in accordance with the SMS which stated that: “All incidents will be reviewed by Executive Chairman via the General Manager”. Of the 87 reports provided, nine were signed off by the General Manager, 35 on his behalf by the Operations Manager and 44 were not signed off or contained any evidence of review.
- 1.17 By way of comparison, in the same period Sydney Ferries (SF) recorded 14 passenger injuries and 25 lost time injuries among crew. Sydney Ferries had more than double the total number of staff and carried more than 20 times the number of passengers. An alternative comparison may be made between SF and the CCC Rocket ferries which accounted for one lost time injury of two days and six passenger (“minor”) injuries while carrying less than one-fortieth of the number of passengers.

- 1.18 Although CCC had a drug and alcohol policy which was contained in its main SMS, the policy was silent on the mechanics of testing. There was no provision for the training of staff in the administration of tests. After an incident involving the *John Cadman III* in 2007, a Master was sent to administer a breath test on the Master involved in the collision. The Master dispatched to administer the test had received no training in testing procedures and stated that he relied on his experience “*from being tested by a Police roadside unit*”.

Log Books

- 1.19 CCC used two different types of log book within their fleet: a standard twelve month day-per-page diary and a customised log with duplicate pages. In accordance with the SMS, on completion, the original sheets of the customised log were supposed to be forwarded to CCC administration for filing while the bookfast copies remained onboard. The diary logs were all retained on the vessels. Initially, CCC did not provide logs on request on the basis that the original sheets of the customised logs had been misplaced. These sheets were never presented. Subsequently, CCC provided all logs with the exception of those for Rocket V and not for the full 12 months for four other vessels. The original sheets of some of the customised logs had not been removed for filing.
- 1.20 As stated in CCC’s SMS, the vessel log was “*used by the Master to record all details of the voyage*”. However, CCC’s vessel logs were not being maintained in accordance with this requirement. The standard was variable and dependent on the Master but was generally very poor across the fleet, particularly in relation to adequacy of the records entered and attention to detail. Log entries recording the following were haphazard and often incomplete or not completed at all:
- dates, departure and arrival times, routes and locations;
 - weather forecasts, warnings and tidal information;
 - crew training in emergency procedures and drills;

- passenger numbers (including running empty);
- safety announcements made;
- names of crew members – in most cases only by Christian name or sometimes by nickname; and
- positions of the crew against the crew listing for a voyage.

1.21 By way of example, an examination of the log for the *Sydney 2000* showed that, of the log entries for 360 voyages, only 110 identified the crew members along with their positions. The remainder of the crew were listed but their positions were not identified, even though tick boxes were provided on the customised log, so no differentiation could be made between kitchen staff, wait staff and other ‘hospitality’ crew and the Master, Engineer and GPH. Therefore, from the log, it was not possible to verify compliance with survey crewing requirements. On a number of other vessels, some or all of the crew members were identified only by Christian name. Table 3 provides a summary of the observations on selected log entries for the fleet.

Log Details	Number of entries	Crew identified & position recorded	Crew identified but no position identified	Christian name only	One or more crew not identified	Safety briefings
Sydney 2000	360	110	250			
John Cadman II (1)	77	14	61	75	2	
John Cadman III (1)	172	34	136		1	
Captain Cook II (1)	89	3	86	3	1	
Captain Cook III (2)						
Matilda III	59	56	3			
Solar Sailor	63	2	61	63		
Captain Cook Explorer (3)	19		6	6	13	4

Sydney Crystal	154	3		3	151	
Aussie Venture	52	48	4	52		
Aussie Legend	100		100	100		
Jillian (3)	68	53	15	49		
Megan (3)	72	72		72		
Alice (3)	56	56		56		
Rocket V (2)						
TOTALS	1341	451	722	479	168	4
Notes: 1. It was the Master who was not identified. 2. No logs provided. 3. Not all logs provided. Periods covered varied from 2 to 8 months.						

Table 3: Selected log records

- 1.22 Table 3 also includes the record of safety briefings conducted. A total of four safety briefings were recorded, all on the *Captain Cook Explorer*. This was despite CCC's SMS requiring: "*At the commencement of every cruise the Commentator (or in their absence the Cruise Director or Master or CD recording) will make a safety announcement. ... The Master is responsible to record that this announcement has been carried out*" (Appendix 1: Operational Procedures, 1.3 *Passenger Briefing*).
- 1.23 Masters of the Rocket ferries who were interviewed all indicated that they did not give any safety messages, even though the SMS provides a script (Standard & Procedure No. 1.9 *Pre-Cruise Passenger Briefing*), but that a Cruise Director onboard for a charter run may do so on occasions. If this was the case, no record was being made in the log in accordance with the SMS.
- 1.24 No changes or improvement in the standard of log book keeping and compliance with CCC's SMSs were apparent over the period of the investigation. Additionally, there was no evidence of examination or any type of audit or spot check of log books having been conducted by CCC management.

- 1.25 **Passenger number recording.** As is common with ferry operations, CCC was not able to determine accurately the number of passengers onboard their vessels at a given time other than on booked services which account for passengers through a shoreside ticketing management system. It is particularly difficult to keep track of accurate numbers on busy 'hop on hop off' services. However, it can constitute critical information in the event of an incident resulting in evacuation of a vessel especially at night and in inclement weather. CCC policy required passengers to be counted on every cruise and the number entered into the vessel log. Masters were exercising their discretion and, in the majority of cases, were not recording passenger numbers. CCC has reported that it is investigating means of capturing passenger data on all services.

Emergency Drills

- 1.26 CCC was required by the *Commercial Vessels Act 1979* to comply with the Uniform Shipping Laws Code 2009 (USL) concerning *Emergency Procedures* but was not doing so. It was also not complying with its own SMS which required all onboard crew members to be fully trained on the type of vessel they were crewing. The primary purpose of conducting regular emergency drill practice⁴ is to ensure crews remain proficient in the use and operation of all equipment and systems which may be required in an emergency.
- 1.27 The conduct of realistic drills also serves the very important secondary purpose of providing a regular check on the condition and operability of safety and emergency equipment. The harsh environmental conditions in which a ferry operates can quickly cause deterioration and defects in emergency equipment, e.g., seized valves, faulty securing mechanisms, rust, inlets to fire pumps blocked with marine growth, depletion of pressure in fire extinguishers and damaged lifesaving apparatus.

⁴ Drills are referred to as "*emergency preparedness training*" in the NSCV. The term "drills" is used throughout the Report.

1.28 The National Standard for Commercial Vessels (NSCV) requires drills to be conducted to cover the following emergency situations as a minimum, and that the record in a vessel's log shall include date, persons participating, nature of drill and location where the drill was conducted :

- fire;
- person overboard;
- severe weather;
- personal injury/medical emergency;
- assembly stations;
- collision/grounding/flooding; and
- abandon ship.

The NSCV also notes:

“For optimum training value, the period for repetition of emergency preparedness training should not exceed 2 months.”

These requirements were reflected in the SMS but were not being adhered to.

1.29 Additionally, CCC was not fulfilling vessel survey requirements which specify that:

“The owner must ensure that all crew specified in Appendix B have had sufficient training in the operation of the vessel and are able to safely and efficiently operate it at all times and in all conditions.”

Drill Administration

1.30 CCC's records were not readily available because:

“We are unfortunately unable to locate the hard copies at this stage. These were filed under direction by his assistant, both of whom have subsequently left the organisation.”

Records of emergency drills performed on five of the fleet of 15 vessels were subsequently produced.

- 1.31 CCC's SMS placed the responsibility for drills with Masters who "*must conduct Drills as frequently as necessary to ensure all crew are competent at their duties*" and practice was "*mandatory when any new crew are employed*". The SMS indicated that: "*In general this will be twice per month on each vessel in the fleet and as indicated on the fortnightly roster*". On completion of a drill, the Master had to "*make a complete record of the drill*" on a Safety Training Record Sheet ('drill sheet') indicating persons present and date, and then return the record to the Office. In addition, a corresponding record should have been made in the vessel's log but this was seldom the case.
- 1.32 Furthermore, when rosters were cross-checked against the drill sheets and vessels' logs, it was found that no drills entered on the drill sheets or in the logs coincided with the requirements advised to Masters through their fortnightly roster. The rosters showed requirements only for fire drills rather than the full range of regulated drills. This was reflected in the records which showed that drills other than fire drills were seldom performed on vessels. It was also noted that rosters did not contain any time allocation specifically for the conduct of drills.
- 1.33 All Masters interviewed were of the opinion that too little time was available for the conduct of drills. Masters indicated they were often requested to conduct drills prior to the commencement of a charter when the time available was insufficient as the crew were busy preparing the vessel. Similarly, on occasions when Masters were requested to perform drills on return to the berth at the completion of a charter, drills were not done or not done properly because of the requirements for cleaning and preparation for finishing duty.
- 1.34 As members of the hospitality staff are not involved in a vessel's navigational operations, they are not required to participate in drills. However, in the event of a potential life-threatening emergency, it is unlikely that passengers would be able to readily identify the vessel's operational crew when looking for assistance. This could be particularly so on a large vessel such as the *Sydney 2000* which may have up to 60 employees onboard, most of whom would be hospitality staff. Therefore,

it is considered to be a safety imperative for all vessel “staff” to be familiar with their vessel’s key emergency procedures. However, CCC holds the view that *“hospitality crew are more than adequately trained in their role”* and that *“further training in emergency response ... is unwarranted and will not improve safety outcomes”*.

- 1.35 Time constraints resulted in the curtailment of drill practices thereby diminishing their effectiveness. As an example, at no time had any vessels launched or attempted to simulate the launch of their Carley floats or rescue boats as required in an abandon ship drill. Two Masters stated they may have briefly discussed a collision with crew but had never carried out an actual practice. However, when asked about these discussions, they could not recall any details such as when or on which vessel the discussion took place.
- 1.36 Masters on the Rocket ferries indicated that they would sometimes receive a text message on their mobile phone instructing them to perform a drill. They considered the time available was usually too short to conduct a full drill and they were only able to perform part of a drill. This resulted in fire drills being favoured. Rocket crews stated that they would not be able to retrieve the anchor if it was dropped, so anchor drills were not conducted.⁵
- 1.37 The CCC SMS states that:

“Drills should last approximately ½ to ¾ hour, with a practical component and a debrief.”

By way of comparison, Sydney Ferries (SF) allocates periods of four and a half hours for crew to perform drill practice on the large Freshwater Class (Manly) vessels and one and a half to two hours on the smaller inner harbour vessels. SF drills cover all emergency situations and practices usually revolve around a scenario which facilitates the practice of a number of drills. A register is maintained and used to determine if crew competencies are being maintained on all vessels.

⁵ The anchor system is difficult to recover after deployment as it is designed for emergencies only and not for use in training. CCC advises that a change of system is not warranted due to cost but is confident the existing system would be effective in the event of an incident.

1.38 The CCC SMS record-keeping procedures identified a crew training/qualification register as being held at the Circular Quay Office. However, this register did not exist as a single document. CCC management described the record keeping as “*copies of their qualifications are held and updated in each individuals payroll file*”. This would have made it very difficult to readily retrieve consolidated information to establish compliance with survey crewing requirements and satisfaction of SMS requirements for individual crew competence.

1.39 Though evidence was not provided on request, CCC management advised:

“However a spreadsheet of Masters, Engineers and Deck hands qualification to work on each vessel in the fleet is held in the operations office. This is updated once personnel have been passed out on the respective vessels”.

If this was the case, it would have provided the only ready reference for Masters to be able to determine the competency of assigned crew, if they chose to do so. It would have been essential information on which to base decisions on what drills needed to be practiced.

1.40 The task of maintaining accurate records in an organisation such as CCC is complicated by the comparatively large size and turnover of the onboard employee base; the extent of movement of crew among vessels; logs not being complete; and the recording of crew particulars by a single nomenclature identifier. However, maintaining correct, accurate records can be achieved by large organisations and the incentive remains the imperative to be compliant with statutory requirements.

1.41 A structured approach to the conduct of drills and monitoring of compliance with the USL Code was not evident from the records that were provided. In the absence of accurate and comprehensive record keeping onboard and within a central, readily accessible repository of training and competency data for all staff, it was difficult to determine how Masters went about fulfilling their stated responsibilities.

1.42 Masters did not have the benefit of independent assessment or oversight by a qualified assessor to assist them in the process of conducting drills. Masters assessed both their own and their crew’s performance subjectively. No robust recording procedures were in place to identify crew competencies in performing emergency procedures. CCC had no organisational element with primary responsibility to conduct or support training and development related administration.

Drill Analysis

1.43 The following table lists the drills performed over the twelve months by the vessels in the fleet as taken from the vessels’ logs and the drill sheets provided.

Drill Records	Fire	POB	Steering failure	Anchor	Flood	Ground	Abandon ship	Collision
Sydney 2000	4							
John Cadman II	1	1					1	1
John Cadman III	4	1		3				
Captain Cook II	3			1			1	
Captain Cook III (1)	5	2		2		2	3	2
Matilda III	3							
Solar Sailor	2	1					1	
Captain Cook Explorer (2)								
Sydney Crystal	2		2	2	2	2	2	2
Aussie Venture	1			1				
Aussie Legend	3							
Jillian (2)	8	1						
Megan (2)	7	2						
Alice (2)	13	3						

Rocket V (1)	1							
TOTALS	57	11	2	9	2	4	8	5
Notes: 1. No logs provided. 2. Not all logs provided. Periods covered vary from 2 to 8 months.								

Table 4: Drill records

1.44 The propensity for fire and person overboard (POB) drills was consistent with CCC’s risk assessment which was stated as having identified these two scenarios as posing the highest operational risks. However, although fire drills were recorded as having been performed on all but one vessel, ten vessels did not comply with the USL requirements in either number performed or regular intervals of two months. CCC indicated that drills were performed on the *Captain Cook Explorer* every time the vessel went out on the weekend overnight cruises but there were no documented records to verify this.

Drill Observation

1.45 **Sydney 2000.** The scenario for a drill observed on the *Sydney 2000* in November 2010 consisted of a fire in the food preparation area on the main deck. It commenced with a briefing by the Master to the Engineer, Cruise Director and three GPH. The large hospitality crew were not included as the vessel was carrying passengers at the time.

1.46 When the drill was initiated, the crew brought fire extinguishers to the food preparation area then connected two fire hoses to the hydrants and simulated cooling the bulkheads. The hoses were not charged or discharged overboard which is standard practice to ensure the systems are operating correctly. The Engineer called that he had closed ventilation intakes to the area and had started the fire pump but without physically attending to these areas. The air conditioning units were not shut down or such action simulated. Crew engaged in food preparation went about their normal duties but wandered in and out of the exercise area while the drill was underway.

1.47 The area immediately next to the food preparation area was the kitchen. No crew attempted to close down this area, close air inlets or cool the

common bulkhead, or simulate same. The gas supply was not turned off or such action simulated. No simulation of methods of containing a fire was undertaken such as closing the hatch to the engine room below or closing the doors in the passageway running from the stern to the bows. Throughout the drill the Master and Cruise Director encouraged the remaining participants to hurry so that the cruise could keep to schedule.

- 1.48 The drill could not be considered an effective exercise given the manner in which it was conducted. The extent of the procedures practised was limited to the bare minimum and no equipment was tested. It did not appear to be an opportune time to schedule a drill and the emphasis was clearly on the sailing schedule at the expense of the drill.
- 1.49 NSWMA also conducted an inspection of drills performed onboard the *Sydney 2000* on 23 September 2010. The drills were considered to have been of a poor standard. Fire hoses did not reach the intended area and crew members actively avoided participation. As a result, NSWMA issued CCC with a notice to show cause as to why the survey certificate for the *Sydney 2000* should not be withdrawn.
- 1.50 **Master incapacitation.** Master incapacitation is considered a critical event in any situation. In such an event, CCC's SMS stated that:

".. it is essential that all of the other safety crew aboard the vessel are able to take command of the vessel and bring the ship to a complete stop",

and placed responsibility for carrying out the emergency procedures on:

"either the deckhand or the Cruise Director or in their absence any other crew member ..".

- 1.51 The GPH on the *Sydney 2000* did demonstrate his ability to stop the vessel during the aforementioned drill observation. However, from interviews with deckhands it was apparent that, with the exception of him and those on the Rockets, GPH would not have been able to stop a vessel or navigate one to a safe place because they had no knowledge of how the vessels' operational controls worked. Additionally, some deckhands indicated they had no knowledge of the working of the radio

or frequencies used to contact Harbour Control, and most had never dropped anchor at any time.

- 1.52 The deckhands onboard the Rockets did have knowledge of the controls as, being a two person operation, the Masters could readily train the deckhands to operate the main controls. Some had even berthed the vessel under instruction at wharves. However, these deckhands indicated they had never dropped an anchor but were well aware of the procedures to do so if required.
- 1.53 Observations onboard the larger vessels showed that the deckhands did not have a presence on the bridge with the Master and there was rarely any communication between the Master and deckhands except when arriving and departing wharves. The deckhands were seldom sighted during a voyage unless assisting with hospitality duties.
- 1.54 **Life jackets.** No crew members wore life jackets during the *Sydney 2000* drill. During discussions onboard with 31 other crew members, all indicated that at no time had they been in a crew that donned life jackets for a drill. Feedback from the crews indicated that the life jackets onboard all ferries were too bulky and did not allow them easy movement when moving around the vessel while conducting drills. While wearing of life jackets during drill practices is not a requirement, it would seem prudent to do so.
- 1.55 Inflatable Personal Flotation Devices (PFD) are a less restrictive alternative which Sydney Ferries now provides to all afloat staff.⁶ PFDs are comfortable to wear and, unlike the standard coastal life jacket provided for passengers' use, do not restrict movement or entry into small openings and hatches.
- 1.56 **Refresher Training.** If Masters or Engineers moved onto a vessel new to them or returned to a vessel after a lengthy absence, they relied on following "*a comprehensive checklist for arrival, pre-departure and post*

⁶ Refer to OTSI Ferry Safety Investigation, *Systemic Investigation into Training of Ferry Crews, Operational Procedures and Emergency Drills, Sydney Ferries, November 2007 – May 2009*, available at www.otsi.nsw.gov.au

arrival” to ensure they were “*fully refreshed on all systems, controls and procedures aboard the vessel and in relation to the crew*”. From a competency and safety perspective, it may be prudent to consider conducting a period of mandatory training and competency confirmation following a specified lengthy period of absence or prior to taking over responsibilities on an unfamiliar vessel.

Vessel Maintenance

- 1.57 Two documents were used to record repairs and maintenance matters for the Rocket fleet: the Daily Check List Duty Engineer and the Defect Book. In addition to recording a number of operating parameters and routine maintenance checks, the engineer checklist had provision for recording the nature of repairs and maintenance carried out (by the Engineer) and ‘Defects’ which could not be repaired and needed “*follow-up by shoreside team*”. In the area provided for repairs/maintenance carried out, all engineer checklists had entries which appeared to be crew shift details in addition to some repairs and maintenance related entries.
- 1.58 Defect sheets for the Rocket fleet for the 12 month period recorded 108 entries for the *Megan*, 94 for the *Alice*, 64 for the *Jillian* and 64 for the *Rocket V* (not a Rocket Class vessel but used when a replacement boat was required). Examination of the defect books revealed an apparent lack of attention to maintenance requirements and limited correlation with the engineer checklist records.
- 1.59 The investigation into the fire onboard the *Jillian* identified issues associated with vessel maintenance, mainly lack of a robust preventative maintenance system, lack of responsiveness to the reporting of defects through the log and/or defect book, and lack of adequate feedback or records enabling Masters to ascertain what maintenance and repairs had been completed.
- 1.60 Defects reported on the *Jillian* included nine reports of exhaust leaks on the port engine, seven reports of the engine room fan not working and two reports requesting the ferry be withdrawn from service as it “*was an*

accident waiting to happen” and “*the vessel needs to come off the run ASAP.*” If there had been a system in place providing oversight of logs and Deficiency Notices, serious problems such as the fires may have been averted.

- 1.61 The same situation was found to apply to the other Rockets. They experienced similar types of maintenance problems including some serious enough to require immediate attention, such as bilge pumps not working, excessive vibration, rudder misalignment and exhaust leaks. However, there were no endorsements against the defect book records to indicate action taken on any entries.
- 1.62 Masters of the Rocket ferries confirmed that they did not receive feedback at all. If they had entered a defect in the log or defect book, they were unable to ascertain if the defect had been rectified until they next operated the ferry. They reported that many significant defects went unattended for many days.
- 1.63 For the fleet other than the Rockets, defects were handled through the Daily Check List Duty Engineer. Most of the repairs and maintenance were handled onboard by the engineers. Problems they were unable to rectify were directed shoreside and the Neutral Bay Yard⁷ or King Street Base Manager would attend to the necessary replacement or repair work. However, an examination of copies of the original engineer checklist sheets submitted to administration and the bookfast copies retained on vessels revealed that the practice of signing off on work done was limited and inconsistent.

Vessel Inspections

- 1.64 Inspections were made of a number of the vessels in CCC’s fleet during the investigation. Apart from the *Matilda III*, all vessels inspected needed priority attention to a range of safety related equipment and OHS

⁷ CCC operates two service bases, one at Neutral Bay Marina and the other from King Street wharf, both located within Sydney Harbour.

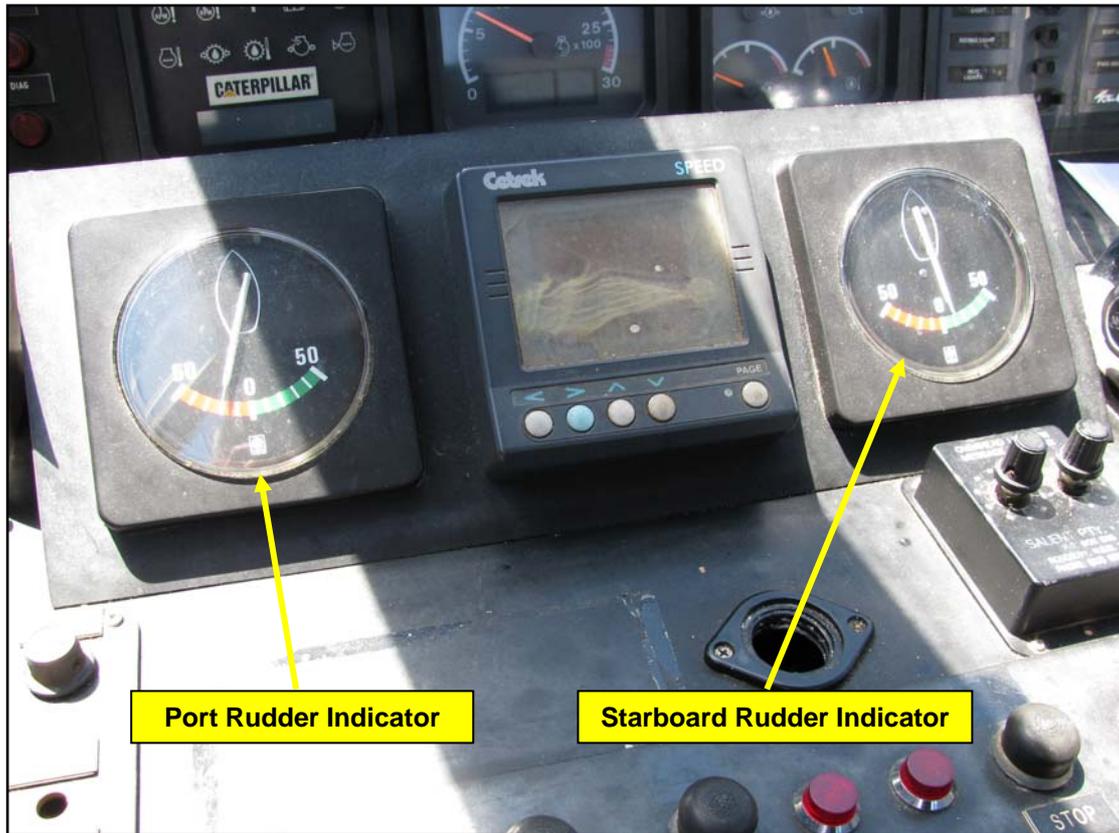
matters.⁸ Some matters were common to the majority of the fleet, for example, emergency exit signage and regular inspections of electrical equipment. The *Matilda III* had undergone a major refit and its safety equipment and signage were compliant and in very good order and condition.

1.65 Both the *Megan* and the *Jillian* were inspected on 23 November 2010, and the *Megan* again on 25 November 2010. On both vessels, the strobe light attached to the life ring was not working and the “Lifejackets” sign was still attached to the door under the wheelhouse although all life jackets had been relocated to storage bins at the front of the saloon. Subsequent inspections of the *Jillian* on 29 March 2011 and the *Megan* on 7 April 2011 revealed that no action had been taken despite the matters having been reported.

1.66 The initial inspection of the *Jillian* also revealed:

- the rudders were 30 degrees out of alignment (see *Photograph 1*);
- the bilge alarm had been reported out of operation by all Masters since 15 November 2010 (resulting in the need for the GPH to visually check the engine room bilge every 30 minutes and engage the pump);
- the VHF radio needed to be replaced;
- washboards required for the Survey Class 1D could not be located; and
- a number of trip hazard and signage matters needed attention.

⁸ A vessel operating in NSW on which persons are employed provides a workplace for the purposes of compliance with the *OHS Act 2000*. The owners' responsibilities towards crew and passengers are described in s8 of the *Act*. The provisions to be made in the event of emergencies are set out in s17 of the *OHS Regulation 2001*.



Photograph 1: *Jillian* Rudder Misalignment

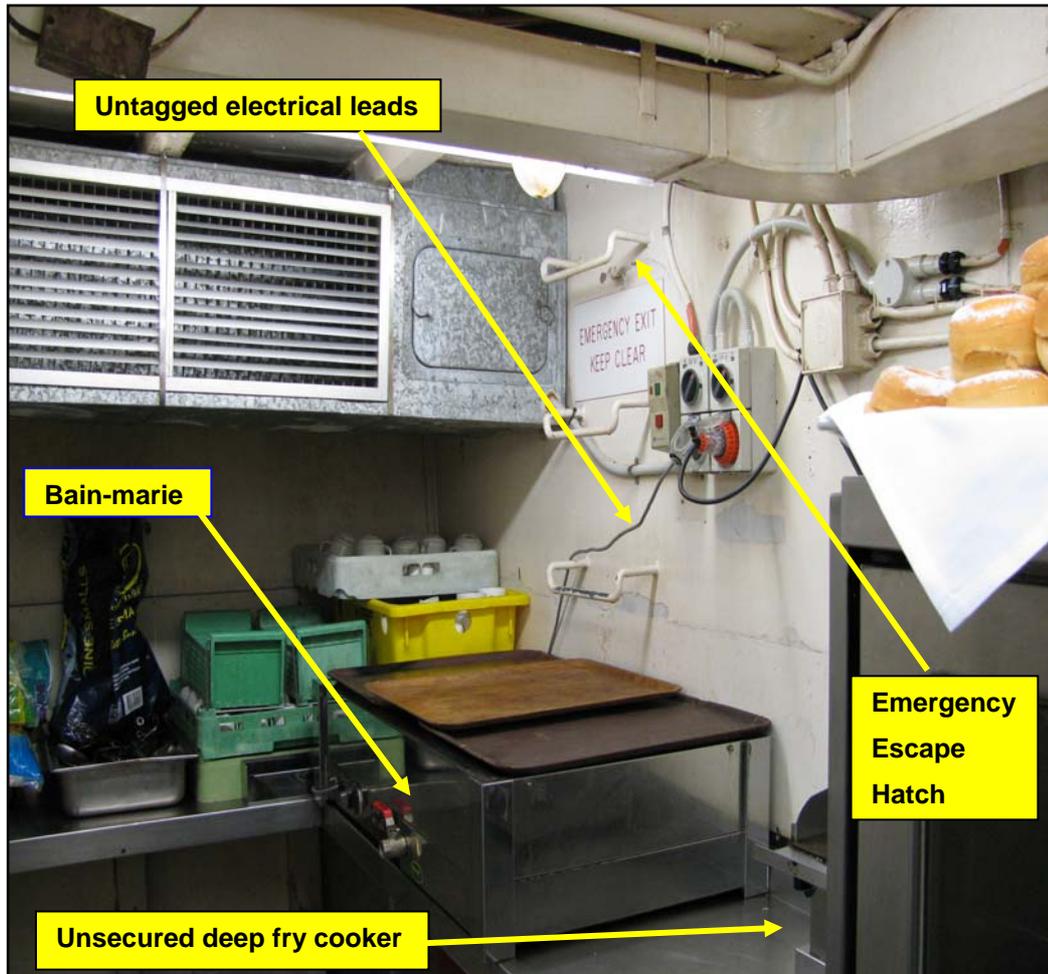
1.67 The inspection of the *Jillian* on 29 March 2011 noted action had been taken on all these matters with the exception of the trip hazards and signage matters. A number of issues had been brought to the attention of management in November and December 2010, particularly those concerning trip hazards and signage.

1.68 An inspection of *Rocket V* found that:

- there were no emergency exit signs in the saloon;
- the high coaming step was not marked to identify it as a trip hazard;
- there was no signage to warn of the hazard due to low headroom on entry and exit from the saloon;
- the strobe light attached to the life ring was not working;
- the VHF radio needed to be replaced; and
- there was no SMS or emergency flip chart onboard.

- 1.69 An inspection of the *Captain Cook III* was conducted on 24 November 2010. The emergency exit sign on the upper deck did not comply with AS/NZ Standard 2293.3, *Emergency evacuation lighting for buildings*, and there were no emergency exit signs in the main deck galley.⁹ Also, there was no emergency muster signage and the SMS onboard was out of date.
- 1.70 The *Captain Cook II* was inspected on 29 and 31 March 2011 and found to have a significant number of defects and deficiencies.
- 1.71 Life jackets were not located on the main deck as indicated on the displayed emergency plan but in a cupboard near the exit onto the starboard side rear deck. The only indication of their location was a small sign on the cupboard door which could only be read from a position close by.
- 1.72 The hatches on the foredeck could not be fully closed to obtain a watertight seal because of the build-up of paint and rust. Most of the securing dogs were frozen by rust. The same problem applied to the bulkhead hatch leading to the engine room and so, in the event of an engine room fire, an airtight seal could not have been achieved. This hatch was left open when the vessel was underway crossing the heads.
- 1.73 In the galley, the interior emergency escape hatch into the main saloon deck had no signage indicating its purpose or warning to keep the area clear of obstructions (see *Photograph 2*). Further, access to the hatch was obstructed by a bench on which there was a bain-marie. A deep fry electrical cooker was sitting unsecured on another bench.

⁹ In the absence of any specific or equivalent shipbuilding and marine standards, AS/NZ Standard 2293.3 applies despite it referring to "*buildings*" in its title.



Photograph 2: Galley area of *Captain Cook II*

1.74 Other conditions affecting safety included:

- badly rusted anchor chains with the linkage on the port side chain reduced by 40-50%;
- frozen valves on the fire hose sea suction amidships on the port side main deck which appeared to have been inoperable for a long time;
- no exit signs anywhere on the vessel; and
- no inspection tags on any electrical leads as required by the AS/NZ Standard 3760, *In-service safety inspection and testing of electrical equipment*.

1.75 The *John Cadman II* was inspected on 7 April 2011 at Neutral Bay Marina with the Operations Manager to whom deficiencies were pointed

out. Many were the same or similar to those found on the *Captain Cook* // including:

- no emergency exit signs;
- inadequate signage identifying the location of life jackets;
- seized dogs on the engine room emergency escape hatch on the starboard side prevented exit onto the deck; and
- tagging and testing of power leads did not comply with the AS/NZ 3760 (one three phase lead was due for retesting in 2006).

1.76 Additional matters affecting safe operations included:

- a number of cigarette butts on the rear main deck aft of the galley around the gas bottle storage which was clearly marked “No Smoking”;
- fire hydrants not identified with signs or by the colour coding of pipes;
- seized port side engine room air damper; and
- no signage warning of numerous trip hazards throughout.

1.77 Similar deficiencies were identified on inspection of the *Captain Cook Explorer* on 13 April 2011:

- emergency exit signs did not comply with AS/NZ 2293.3;
- necessary exit signs were not installed in a number of areas, particularly below the main deck;
- four 9kg LPG gas bottles were located unsecured under a bench in the galley contrary to NSCV requirements;
- tagging and testing of power leads did not comply with the AS/NZ 3760 (one lead was due for retesting in 2004) which also applied to the tools of tradesmen working on deck;
- Carley floats were lashed together which would have prevented them from floating free if the vessel had floundered or would have interfered with their deployment in an emergency situation; and

- no signage warning of trip hazards on staircases throughout.
- 1.78 Although the vessel was out of service for the replacement of the Sky Lounge timber decking, employees were still working onboard. However, hallways and passageways were obstructed by items such as mattresses, and trip hazards existed on one set of stairs because the tread had been removed and there was torn carpet on the step treads.

OHS Committee

- 1.79 CCC's policy stated that it was "*committed to a proactive and positive approach towards the management of occupational health and safety (OHS)*" and indicated its OHS Committee would "*play a significant role in driving the OHS system*". However, little evidence of active OHS management was identified at any level.
- 1.80 The policy provided for a representative committee with a term of office between elections of two years. For the first six months of their term, routine meetings were to be held monthly, thence every six weeks. From the meeting minutes provided, it was found that OHS committees had met only twice in 2006, 2007 and 2010, once in 2008 and not at all in 2009.
- 1.81 CCC's Risk Management Program included a requirement for all vessels to be "*inspected monthly using the CCC OHS checklists*". Further, it was a requirement that the OHS Committee "*review all findings from inspections as a standard item on their agenda*". Copies of monthly checklists for all vessels for the period under examination were sought from CCC but none were forthcoming.
- 1.82 There were a number of sections in the SMS which made reference to reporting to the OHS Committee for follow-up action but this could not be effective without the committee meeting regularly. When interviewed, some Masters expressed disappointment that the OHS Committee was not functioning because, when it had been convened, it allowed them to voice concerns to management about many safety issues they encountered in the operation of the vessels.

NSW Maritime Authority

- 1.83 The NSW Maritime Authority (NSWMA) was the regulator responsible for marine safety in NSW at the time. As such, it was responsible for ensuring operators met their obligations in maintaining crew proficiency in baseline emergency drills and procedures mandated by the *Commercial Vessels (Emergency Procedure and Safety of Navigation) Regulation 1986*.¹⁰ NSWMA was also responsible for the surveying of all commercial vessels.
- 1.84 NSWMA conducted an audit of the *Sydney 2000* on 23 September 2010. It issued a report on 30 September 2010 which recommended CCC's SMS structure be reviewed in order to make it easier to navigate and consequently more user friendly. It also recorded that an observed drill practice did not demonstrate that necessary levels of competence were being met.

¹⁰ The Regulation was repealed on 1 January 2011 and replaced by the *Marine Safety (Commercial Vessels) Regulation 2010*.

PART 2 FINDINGS

- 2.1 A number of issues were identified from an examination of incident reporting documentation. Statutory reporting obligations were not being met which CCC's management has explained as being due to a "*misunderstanding*" of legislative requirements. At crew level, there was inconsistency between what incidents were actually reported; the incident detail contained in reports that were submitted, and the incident detail that was entered in vessels' logs. Though CCC's management avers that all incident reports were received and reviewed, half of the 87 reports of incidents involving crew and passenger injuries were not signed off and only nine were signed off in accordance with the SMS.
- 2.2 Log books were not maintained in accordance with the prescribed requirements or to an acceptable standard. Many items were entered haphazardly and much detail was omitted altogether. By way of example, on most vessels crew details were recorded inconsistently in that crew positions were not always recorded and crew members were often identified only by a single first name or nickname. Such omissions and incomplete entries would unnecessarily complicate any check of compliance with survey requirements.
- 2.3 Specific requirements set out in CCC's SMS included the provision of safety briefings on every passenger-carrying voyage. The only record of this having been done was in the log of one vessel on four occasions on that vessel. Similarly, in the majority of cases, Masters were not recording the number of passengers in accordance with policy, so the only ongoing accurate accounting was for tickets sold for cruises.
- 2.4 CCC's SMS reflected the USL Code and survey requirements in relation to maintaining crew competency in emergency procedures. However, in practice, very little effort and no priority was given to meeting the requirements. There was no time allocation in rosters for drill practice and time actually available was claimed by Masters to be far from

adequate. Therefore, drills were either not conducted fully and properly or not conducted at all, which was more often the case.

- 2.5 The vessel repairs and maintenance systems did not appear to be responsive and effective and, hence, major problems and trends did not get priority attention. Records were such that it was often not clear if, when and by whom repair work had been undertaken.
- 2.6 Inspections of vessels gave rise to concern about the condition of a range of safety equipment and a large number of OHS matters. Some of these safety deficiencies were common to most vessels such as emergency exit signage and frequency of electrical equipment inspections either not meeting governing standards or not having been conducted.
- 2.7 No effective OHS management and systems were found to be in place. The OHS Committee had met seven times in the past five years instead of the minimum of eight times per year provided for in the SMS.
- 2.8 In summary, the safety of CCC's public passenger ferry services on Sydney Harbour in the period September 2009 to September 2010 was below an acceptable operational standard and did not comply with the requirements of its own SMS.

Captain Cook Cruises' Response

- 2.9 As the investigation progressed and while the report preparation was in progress, CCC undertook a number of remedial actions. This is recorded in Part 3 of this Report – *Initial Remedial Action* – which records OTSI's observations as at early June 2011 and Part 4 – *Subsequent Remedial Action* – which summarises CCC's advice on further progress up to mid September 2011.

PART 3 INITIAL REMEDIAL ACTION

- 3.1 OTSI's Investigator in Charge (IIC) and staff of CCC were in regular communication throughout the investigation and CCC was kept abreast of progress and emerging findings in the investigation. Some remedial action was undertaken or put in train but an inspection of several vessels in June 2011 indicated there were still a number of issues yet to be addressed.
- 3.2 As a result of the NSWMA audit in September 2010, CCC commenced rewriting its SMS in December. A Master was appointed to undertake the work with a commitment to one day a week on the task. NSWMA's auditing of CCC's performance of drills and compliance with its own SMS was ongoing and, through this activity, NSWMA's Periodic Survey Team was assisting CCC to improve its operational safety.
- 3.3 CCC indicated it had compiled a register of all crew required to perform emergency drills. However, this register did not identify which drill had been undertaken and there was no evidence of a system of recording the competencies held by crew members in compliance with the *Commercial Vessels Act 1979*.¹¹
- 3.4 Following the fires onboard the *Jillian*, CCC changed the reporting and maintenance processes for the Rockets. The Manager of the Neutral Bay Marina, the base location for the Rockets, now inspects all defect reports daily and endorses each entry. An external company was also contracted to inspect all Rocket ferries before crew start each day. Listed defects are examined and an independent evaluation made of each vessel's condition prior to commencement of service.
- 3.5 The *Captain Cook II* was inspected on 9 June 2011 in order to assess the extent of remedial action undertaken to date. The following action was noted:
- securing dogs on all hatches had been repaired;

¹¹ The Act was repealed on 1 January 2011 and replaced by amendments to the *Marine Safety Act 1998*.

- the emergency plan had been revised now correctly indicating the position of life jackets;
- the SMS had been replaced with a draft dated December 2010; and
- frozen valves on the portside fire hose sea suction had been repaired.

3.6 However, no action on the following matters was evident:

- installation of emergency exit signs;
- unblocking of the emergency escape hatch from the galley where the position of a bain-marie made emergency escape impossible;
- securing of deep fryers;
- inspection and tagging of electrical appliance cords;
- signage identifying trip hazards on the aft stairway to the upper deck; and
- signage identifying the location of the emergency escape hatch in the engine room.

In addition, the most recent 68 entries in the vessel's log did not record the full names and positions of crew, and the only record of drills conducted in the previous six months was of two emergency fire drills.

3.7 The *John Cadman II* was also inspected on 9 June 2011. It was noted that action had been taken to free the port side air damper and the seized dogs on the engine room emergency escape hatch, and the fire hydrants had been correctly identified. However, no action had been taken in relation to the following:

- installation of emergency exit signage;
- installation of emergency escape signage to the engine room;
- inspection and tagging of electrical appliance cords;
- the installation of an Emergency Plan displaying the location of emergency equipment onboard; and
- correct entry of crew details in the vessel's log.

The log recorded only one drill, a fire drill, having been completed between 26 November 2010 and 29 May 2011.

- 3.8 On the *Megan*, the strobe light on the lifebuoy had been replaced and “crew only” signs had been installed on engine room hatches. However, log entries still did not identify the crew, give details of journeys or record the conduct of safety briefings. Emergency exit signs still did not comply with Australian Standards.
- 3.9 On the *Rocket V*, the VHF radio had been replaced but the strobe light attached to the lifebuoy was still inoperable and there was no signage identifying trip hazards for passengers entering the main saloon.
- 3.10 In the follow-up inspections of a sample of the fleet vessels, it appeared that action in response to identified safety deficiencies had been slow and not been addressed in a systematic manner working to a deliberate, prioritised plan.

PART 4 SUBSEQUENT REMEDIAL ACTION

- 4.1 As part of the consultation process associated with finalising the report on this investigation, CCC took the opportunity to report progress on the implementation of continuing and further remedial action. The following summary is as reported on 15 September 2011. Action completed and under way substantially addressed the recommendations that were contained in the draft investigation report.
- 4.2 CCC has adopted a re-designed vessel log book format to be used on all vessels of the fleet. Log books are reported as being “*completed within management’s requested guidelines in the majority of instances*”. When they are not, Masters are sent “*reminders immediately by text (message) to improve*”.
- 4.3 The defect management process has been documented step by step. The process includes notations on the vessel operation logs when work has been carried out. Management reports this provides “*an effective closed loop system which is proven to work*”.
- 4.4 A verbatim extract from the *Passenger Transport Regulation 2007* in relation to notification of accidents and incidents has been included in CCC’s revised SMS. The incident reporting process is noted on a laminated card displayed on the bridge of every vessel.
- 4.5 CCC’s management is of the view that “*there is more than sufficient time to conduct drills adequately*” and that “*subsequent review of drills conducted by Masters (and recently appointed Safety Officer) has verified this to be the case*”. However, a review of the conduct of drills has begun “*to ensure appropriate and efficient use of the time allocated*”. Further in relation to drills, CCC reports that:
- Wharf Operations rosters drills;
 - drill scenarios have been developed to assist Masters;
 - a new drill form, *Safety Training Record Sheet*, has been implemented;

- all relevant safety drill completion information is captured and recorded electronically in the payroll system; and
 - a Safety Officer has been appointed who now “*views, audits and coaches drills*”.
- 4.6 The SMS is reported as having been “*reviewed, reworked and updated*” and remains “*under continual review*”. Further updating of the SMS is underway to ensure “*safety procedures are made more vessel specific*”.
- 4.7 A number of steps have been taken to rejuvenate the OHS Committee including establishing a long term meeting schedule, attendance at all meetings by the risk management trained Company Safety Officer and encouraging the Committee to conduct regular reviews and audits of both vessels and safety drills. An additional eight employee representatives have been nominated and trained to cover absences of other representatives.
- 4.8 A program of installing Exit signs in accordance with AS/NZ Standard 2293.3 has commenced.
- 4.9 CCC engaged a firm of safety specialist consultants to undertake a “*systemic investigation*” of their operations and their report was delivered dated 12 September 2011.

PART 5 RECOMMENDATIONS

When current remedial action in response to this investigation is substantially completed, it is recommended that the owners of Captain Cook Cruises establish and implement a comprehensive plan for periodic spot-checking and auditing of operational safety and occupational health and safety so as to ensure ongoing compliance with legislative and regulatory requirements.

PART 6 SOURCES AND SUBMISSIONS

Sources of Information

- NSW Maritime Authority
- Captain Cook Cruises

References

- AS/NZ Standard 2293.3, *Emergency evacuation lighting for buildings*
- AS/NZ Standard 3760, *In-service safety inspection and testing of electrical equipment*
- Commercial Vessels Act 1979
- NSW Maritime Authority Audit Report 30 September 2010
- Occupational Health and Safety Regulation 2001
- OTSI Ferry Safety Investigation Report: *Fire onboard Captain Cook Cruises' Ferry Jillian, Sydney Harbour, 28 April 2010*
- OTSI Ferry Safety Investigation Report: *Systemic Investigation into Training of Ferry Crews, Operational Procedures and Emergency Drills, Sydney Ferries, November 2007 – May 2009*
- Passenger Transport Act 1990
- Passenger Transport Regulation 2007
- Transport Administration Act 1988
- Uniform Shipping Laws Code 2009

Submissions

The Chief investigator forwarded a copy of the Draft Report to the Directly Involved Parties (DIPs) to provide them with the opportunity to contribute to the compilation of the Final Report by verifying the factual information, scrutinising the analysis, findings and recommendations, and to submit recommendations for amendments to the Draft Report that they believed would enhance the

accuracy, logic, integrity and resilience of the Investigation Report. The following DIPs were invited to make submissions on the Draft Report:

- Captain Cook Cruises
- Independent Transport Safety Regulator
- NSW Maritime Authority

Submissions were received from all three DIPs.

The Chief Investigator considered all representations made by DIPs and responded to the author of each of the submissions advising which of their recommended amendments would be incorporated in the Final Report, and those that would not. Where any recommended amendment was excluded, the reasons for doing so were explained.