



## **River Hamble**

# **Harbour Works Consent Deacons Boatyard Risk Assessments**

**August 2011**

**By Marine Enforcement  
For River Hamble Harbour Authority**

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*The author of this report is the Designated Person required by the Port Marine Safety Code for the River Hamble Harbour Authority. His primary role is to provide independent assurance directly to the duty holder that the marine safety management system is working effectively and that the Harbour Authority continues to comply with the Port Marine Safety Code. He is independent of the Harbour Authority and remains impartial and does not have an interest that conflicts with the requirements of this report.*

## **SUMMARY**

Will the safety of navigation within the River Hamble meet the requirements of the Port Marine Safety Code if the proposed reconfiguration of the berths at Deacons Boatyard is completed?

I find that the risks associated with marine operations on completion of the proposed development are capable of being managed to As Low As Reasonably Practicable (as they are now) and will be commensurate with other modern berthing facilities provided for leisure vessels on the River Hamble and elsewhere. It follows that provided the reasonable precautions that are suggested in this report are implemented the River Hamble Harbour Authority will continue to meet the requirements of the Port Marine Safety Code.

However, I make the following comments and observations;

- 1 The management of risks associated with marine operations within the marina is a matter for the marina owner and operator. The RHHA, quite rightly, requires that all marinas on the River Hamble self-certify that they operate a risk based Safety Management System (SMS). Before completion of the reconfiguration, RHHA should be assured that Deacons Boatyard have amended their existing SMS to reflect the change in layout in the berths and addressed the risks associated with vessels leaving and entering the marina from the main channel in the River. The SMS developed by Deacons Boatyard should meet with the guidance in Chapter 2 sections 1 and 2 of the Code of Practice for the Design, Construction and Operation of Coastal and Inland Marinas and Yacht Harbours.
- 2 The SMS developed by Deacons Boatyard must specifically and robustly deal with the management of the risk of vessels entering and particularly leaving the marina and conflicting with vessels (especially small vessels including kayaks and canoes) using the main channel in the River. This may include signage requiring vessels leaving the marina to give way to vessels in the channel, written advice to all marina berth holders and inclusion in the terms of the berth holder's lease of the requirement to give way coupled with a right of termination in the event of non-compliance. Suitable advice and guidance must also be made available for visiting vessels.
- 3 The RHHA should amend its current risk assessment dated 7 September 2010 entitled "Canoeing, Kayaking and Rowing" to recommend that all

canoes, kayaks and rowing boats should transit the area adjacent Deacons Boatyard by keeping to the east of the “Z berths”. That is they should keep out of the main channel and pass between the Z berths and the training wall. Appropriate signs indicating “Recommended route for paddle and row boats →” should be affixed to the piles at the extremities of the Z berths.

- 4 The RHHA should amend its current risk assessment dated 23 March 2011 entitled “Manoeuvring into and out of commercial marinas” to make it clear that picket boats are only required at specific marinas during particular movements (e.g. RK marina during a boat hoist) and that the SMS of each marina operator must assess the risks of vessels entering and leaving its marina. The annual self-certification given by the marina operators to the RHHA should include that this has been done. The interface at the entrance to marinas creates an overlap between the SMS of RHHA and the SMS of the marina operator and deserves specific attention.
- 5 Some stakeholders have commented that there are no launching sites for small craft in the upper Hamble. We understand that Deacons Boatyard may consider refurbishing the slipway they own at their northern boundary close to the bridge on completion of the works. This may provide an entry point for canoes and kayaks that wish to visit the upper Hamble. Launching here would alleviate the need to pass any of the marina entrances south of the bridge.
- 6 When the PMSC was introduced in 2001 experts assessed the risks in the River Hamble. The risks associated with using tenders were scored worst. There have been recorded instances involving tenders since that time; thankfully none have resulted in fatalities. The present RHHA risk assessment recognises that the likelihood of an incident involving persons in tenders is typically once a month. The reconfiguration of Deacons Boatyard so that all the berths are walk ashore negates the use of tenders as well as the “haul-across” dinghy used to reach some of the pontoons. This, in my view, is a very positive step in reducing the likelihood of an accident. If the trade-off of losing the ability to transit the marina in paddle or row craft is that the use of tenders is negated then it is my view that from a safety perspective that trade-off is very beneficial. The risk assessment includes the use of tenders because I recognise that some may be used to get to other parts of the River or the Jolly Sailor and other such destinations.
- 7 The numbers of vessel movements in and out of the present marina are few. I understand from the applicant that at the height of summer there may be between 5 and 10 movements a day. For long periods there may be no movements. I understand from the harbour master that there are about 200 vessels moored above Bursledon bridge and that not many of them will transit the river in any one day, or particularly, at about the same time. I understand from a canoeist that uses that part of the River that it is (obviously) best to paddle with the tide and therefore go up the River on

the flood and come back down with the ebb. I therefore deduce that the times when a vessel leaving the marina or coming down the River under the bridge may conflict with a small vessel will be infrequent. This infrequency influences the risk assessment.

- 8 Everybody that goes afloat has a responsibility for their own safety. This is especially so for those in charge of vessels and those responsible for children. Skippers of vessels have a responsibility to plan their voyage from berth to berth and canoeists, kayaks, dinghy sailors and boaters should think about and plan what they wish to do. Whilst training, skill and experience all assist in keeping the experience of being afloat safe; common sense is always a pre-requisite. Skippers of vessels using Deacons Boatyard will have a responsibility to keep out of the way of vessels using the main channel in the River. Those in small boats also have a responsibility to look out for themselves. The Harbour Authority and the marinas have a responsibility to regulate, guide and inform but that does not remove the duty from all those that go afloat to act within the law, take reasonable precautions and be sensible.
- 9 Any consent granted should be conditional on Deacons Boatyard complying with the Code of Practice for the Design, Construction and Operation of Coastal and Inland Marinas and Yacht Harbours, such compliance may limit the size of vessels that can use the marina.
- 10 It should be recognised that the proposed reconfiguration of the marina will not alter the current width of the main channel in the River adjacent to the marina.
- 11 As a consequence of this report the harbour master may wish to amend the recommendations he made to the Harbour Board; see agenda item 12 page 5 Harbour Board meeting dated 8 July 2011.

## 1.0 Background

The Harbour Board on behalf of the River Hamble Harbour Authority (RHHA) [and ultimately Hampshire County Council] have a duty to manage, maintain and improve the River Hamble. In doing so it is required to comply with all the appropriate national and local legislation and the Port Marine Safety Code (PMSC).

The PMSC applies to all harbour authorities in the UK that have statutory powers and duties. Harbour Authorities have been created by statute to serve a public interest and the public have a right to use the harbour for the shipping and unshipping of goods and passengers. The public interest is wider than that of harbour users and includes the local community and environment.

Harbour Authorities have a duty to take reasonable care so that all who may choose to navigate it may do so without danger to their lives or property.

The Port Marine Safety Code relies upon the principle that duties and powers in relation to marine operations in ports should be discharged in accordance with a Safety Management System (SMS). That system should be informed by and based upon a formal risk assessment.

In simple terms a Harbour Authority has to assess what accidents may happen, take reasonable precautions to prevent such accidents happening and keep appropriate records. The PMSC requires that a Harbour Authority must take a proactive role in managing safety. It is not expected that a Harbour Authority should eradicate all risks. The PMSC is pragmatic in that it directs that risks should be managed so that they are reduced to As Low As Reasonably Practicable (ALARP). This proactive management of risks must be recorded and subject to continual review and formal audits.

The River Hamble Harbour Authority operates a mature and proportional Safety Management System. Risks are assessed on a function or activity basis rather than a geographical basis. This is sound practice as it allows the harbour authority to assess risks throughout the river rather than at each location where a similar risk may have been identified. We have carefully considered the risk assessments in place.

The assessment of risks is an on-going process. The proposed works are substantial and alter the configuration and direction of the berths within the curtilage of Deacon's Boatyard. Notably, the introduction of hammer heads and finger piers will negate the possibility of small vessels transiting the area by using what is variously referred to as a "secondary" channel or "access" channel.

I am confident that the risks associated with marine operations are presently managed to (ALARP). What is required by the Code is that any new risks associated with the proposed works are assessed. This process is not designed to determine whether the proposed development will be any less safe than it is now, it is to determine whether it is possible to identify and then manage the risks so that they are ALARP. It has to be accepted that there will always be some residual risks; the challenge is whether precautions can be put in place so that the risks remain ALARP.

It is against this background that I have been instructed by the Harbour Board to assess the new risks associated with marine operations should the works be completed.

## **2.0 Overview**

There are plans to develop Deacons Boatyard on the River Hamble. It is proposed that the existing layout of berths (which are mostly alongside pontoons laid parallel to the riverside) is replaced with finger piers with hammerheads that provide walk ashore berths. The papers and plan accompanying agenda item 12 of the River Hamble Board meeting held on 8 July 2011 refer.

The Harbour Board have a duty to manage, maintain and improve the River Hamble. They are the “duty holders” under the PMSC and are accountable for managing operations within the River Hamble safely and efficiently. However, it is for each marina operator to manage the safety of operations within the marina because the duty of care falls to the site operator. Where marine operations inter relate (such as when vessels leave and enter a marina) the RHHA must satisfy themselves that the risks are being appropriately managed by the site operator and that the SMS they employ does not conflict with the SMS of the harbour authority.

The aim of this report is to assist the Harbour Board when considering whether to grant their consent for permitting the works proposed at Deacons Boatyard. In deciding whether to grant their permission for works it is my view that the Harbour Board should firstly determine that any risks associated with marine operations are capable of being managed to ALARP and then they should consider the works in the light of their duty to manage, maintain and improve the harbour, always considering any impact on the environment. This should include that the facilities provided to all who use the River are kept up to date and that sites on the River may need to redevelop in order to modernise their operations. It is for the Harbour Board to decide how they wish to manage, maintain and improve the River and it is for them to decide what will influence their decision although they are obligated to refer such matters to the Management Committee.

Notwithstanding that the Harbour Authority has to grant its consent for works Planning Permission will also be required. History has shown that

the Planning process and the consents granted by the Harbour Authority and others are not always comfortable bedfellows. This is understandable especially where local planning policies stipulate criteria that overlap those issues within the ambit of a harbour authority and/or the Marine Management Organisation. This is the case at Eastleigh Borough Council where planning policy clearly includes such things as the movement of craft on the River and the safety and ease of navigation. However unsatisfactory the present regime, it is my view that the Harbour Board should make its decision on whether to grant consent for the works on its own volition based on the merits of the application. The Harbour Board is responsible for the management, maintenance and improvement of the River and should discharge that responsibility as it sees fit. The planning authority has its own responsibilities and it is a separate matter how they go about doing that.

### **3.0 Consent granted by the Marine Management Organisation**

The Marine Management Organisation (MMO) is the relatively new organisation responsible for considering applications for marine licences and for granting consents. They state they will act in accordance with government policy statements and guidance and with the principles of sustainable development, namely:

- achieving a sustainable marine economy
- ensuring a strong, healthy and just society
- living within environmental limits
- promoting good governance
- using sound science responsibly.

The MMO has granted consent to undertake marina improvement works at Deacons Boatyard. In doing so it concluded that:-

***“the proposed works and their operation will not cause or be likely to result in obstruction or danger to navigation, or have any effect on designated sites of environmental significance.”***

It is my view that the findings of the MMO should be persuasive and they deserve appropriate recognition by the Harbour Board (and the Local Planning Authority).

### **4.0 Methodology**

In compiling this report, we have complied with the principles of the PMSC and have considered the guidance in the Code of Practice for the Design, Construction and Operation of Coastal and Inland Marinas and Yacht Harbours published by the Yacht Harbour Association Ltd. This Code of Practice sets out guidelines for the design and operation of yacht harbours and marinas used for recreational boating.

I understand from the Harbour Authority that consultation with all stakeholders and staff that has met the requirements of the Port Marine Safety Code has been carried out. I attended the Harbour Board meeting on 8 July 2011 and heard the representations made. I have read the minutes of the River Hamble Harbour Management Committee of 24 June 2011. I have visited the site and met with the Managing director of Deacons Boatyard and his consultant.

I have considered and agree with (subject to the comments I make in this report) the risk assessments that inform the RHHA SMS.

## 5.0 Risk Assessments - General

The aim of a risk assessment is to define and minimise the risks that have to be managed. A **hazard** is something with the potential to cause harm, loss or injury. **Risk** is a combination of frequency of occurrence and consequence. A risk assessment should aim to identify the hazards that may occur, the events that may cause them and the risk control measures (or precautions) used to mitigate them.

In general, when performing any risk assessment, legacy statistics are drawn upon to assist in indicating the likelihood of a hazard occurring. As the risk assessments performed in this case are based on a proposal this has not been possible.

I have attempted to determine:

- Whether the perceived risks associated with marine operations are ALARP

and;

- If not ALARP, what additional control measures (precautions) can be put in place to reduce the risk to ALARP.

The risks are assessed using a simple matrix and clearly show whether a risk is ALARP or not. The Port Marine Safety Code has been recently refreshed and the 4 criteria of harm to Persons, Environment, Asset and Port Use should be assessed individually. The risk assessment proforma used reflects this change.

**Risk estimator definitions and table**

**Likelihood.**

Very Unlikely (1)	Unlikely (2)	Likely (3)	Very Likely (4)
< 1% chance of being experienced over 30 year period	Typically experienced once every 10 years	Typically experienced once every year	Typically experienced once every month

**Harm**

	Slight Harm (1)	Moderate Harm(2)	Extreme harm (3)
Person	Superficial injuries; cuts and bruises	Minor fractures; burns; concussion	Major fractures; multiple injuries; fatal injuries
Asset	Superficial hull damage; no water ingress	Vessel holed; ingress of water	Major damage; loss of vessel
Environment	Minor pollution <50 litres of pollutant	Moderate pollution <250 litres of pollutant	Major pollution >250 litres of pollutant
Port Use	Incident dealt with internally. Minor inconvenience.	Bad local publicity Minor loss of revenue. Some restrictions to navigation.	Bad widespread publicity. Prolonged restriction to navigation

**The risk factor is expressed as the likelihood multiplied by the severity of harm**

Likelihood of Occurrence	Severity of Harm		
	1. Slight Harm	2. Moderate Harm	3. Extreme Harm
1. Very Unlikely	Very Low Risk	Very Low Risk	Medium Risk
2. Unlikely	Very Low Risk	Medium Risk	High Risk
3. Likely	Low Risk	High Risk	Very High Risk
4. Very Likely	Low Risk	Very High Risk	Very High Risk

**Very low, low or medium risk - (1 - 4) = ALARP**  
**High Risk - (6)**  
**Very High Risk - (8 - 12)**

Very Low Risk	No action is required. Control Measures are adequate. Record and re-assess annually
Low Risk	No additional controls are required. Consideration may be given to a more cost effective solution or improvement that imposes no additional cost burden. Monitoring is required to ensure that the controls are maintained
Medium Risk	Efforts should be made to reduce the risk, but the costs of prevention should be carefully measured and limited. Risk reduction measures should be implemented within a defined time period. Where a moderate risk is associated with extremely harmful consequences, further assessment may be necessary to establish more precisely the likelihood of harm as a basis for determining the need for improved control measures.
High Risk	The act should not take place until the risk has been reduced. Considerable resources may have to be allocated to reduce the risk. Where the risk is extant urgent action should be taken
Very High Risk	The act should not take place until the risk has been reduced. If it is not possible to reduce the risk, even with unlimited resources, the evolution has to be prohibited.
Note:	Very Low Risk, Low Risk and Medium Risk indicates that the risk has been managed to ALARP.

**6.0 RISK ASSESSMENT OF HARBOUR AFTER DEVELOPMENT**

Hazard Ref: 001/11	Date: 17 August 2011				
Title:	(Navigation) Inbound & outbound vessels to/from Deacons Marina				
Location:	Deacons Marina				
Hazards associated with activity:	Collision/Allision/Grounding				
Causes	1. Weather/tidal current influence 2. Reduced and restricted visibility 3. Mechanical failure 4. Traffic concentration/congestion 5. Poor seamanship/unfamiliarity				
Risk categories identified	Person	Environment	Asset	Port Use	
	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	
Controls to be in place	1. Clear written instruction to all berth holders				
	2. Dead slow speed limit in the marina				
	3. Deacons Marina visitor guide				
	4. Harbour Authority advice to paddle and row boats to use east side of river				
	5. Marina SMS requiring vessels exiting the marina to give way to all vessels using the channel in the river.				
	6. Warning signs to give way when leaving the marina				
	7. Maintained channel depths				
	8. COLREGS				
	9.No large vessels on hammerheads and no rafting				
Resulting Likelihood	Person	Environment	Asset	Port Use	
	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	
Resulting Severity of Harm	Person	Environment	Asset	Port Use	
	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	
Risk Factor	Person	Environment	Asset	Port Use	
	<b>4</b>	<b>2</b>	<b>3</b>	<b>2</b>	
ALARP in all relevant categories	<b>YES</b>		<b>x</b>	<b>NO</b>	
Additional measures required	Person				
	Environment				
	Asset				
	Port Use				
Resulting Likelihood	Person	Environment	Asset	Port Use	

Resulting Severity of Harm	Person	Environment	Asset	Port Use
Final Risk Factor	Person	Environment	Asset	Port Use
Hazard Ref: 002/11	Date: 17 August 2011			
Title:	(Navigation) – Kayaks, canoes, tenders and other small craft using Navigable Channel in the river and tenders in the marina			
Location:	Marina and adjacent navigable channel in the river			
Hazards associated with activity:	Collision/Allision/Swamping/Capsize			
Causes	1. Weather/tidal current influence 2. Mechanical failure 3. Traffic concentration/congestion 4. Poor seamanship 5. Overloading 6. Poor design			
Risk categories identified	Person	Environment	Asset	Port Use
	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
Controls to be in place	1. COLREGS 2. Speed limits in the river and marina 3. Small craft recommended to use the channel east of Z berths 4. Deacons slipway available to launch/recover small craft 5. Advice from Harbour Authority regarding lifejackets and overloading			
Resulting Likelihood	Person	Environment	Asset	Port Use
	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Resulting Severity of Harm	Person	Environment	Asset	Port Use
	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>
Risk Factor	Person	Environment	Asset	Port Use
	<b>4</b>	<b>1</b>	<b>2</b>	<b>4</b>
ALARP in all relevant categories	<b>YES</b>		<b>x</b>	<b>NO</b>
Additional measures required	Person			
	Environment			
	Asset			
	Port Use			
Resulting Likelihood	Person	Environment	Asset	Port Use
Resulting Severity of Harm	Person	Environment	Asset	Port Use

Final Risk Factor	Person	Environment	Asset	Port Use

These risk assessments should be considered with those in the SMS of RHHA.

### 7.0 PHOTOGRAPHS

**It is recommended that all Board members should undertake a site visit.**

Photo 1. The main channel in the River as it passes Deacons Boatyard.



Photo 2. The channel between the Z berths and the eastern side of the River that small craft should be recommended to use.



## 8.0 CONCLUSION

The PMSC provides the guidance for the RHHA to determine whether the risks on the River Hamble can be managed to acceptable levels. If the berths at Deacons Boatyard are reconfigured as proposed and the Safety Management Systems of the harbour authority and the marina operator are amended in line with this report I find that the risks can continue to be managed to those levels.

Respectfully submitted on behalf of regs4ships Ltd

Handwritten signature of Mark G Capon in black ink.

Designated Person required by the Port Marine Safety Code

Mark G Capon

Master Mariner LLB  
Managing Director

*The following forms part of this report:*

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