SUPREME COURT OF NOVA SCOTIA

Citation: Wolverine Motor Works Shipyard LLC v. Canadian Naval Memorial Trust, 2011 NSSC 308

Date: 20110729
Docket: Hfx No. 226509
Registry: Halifax

Between:

Wolverine Motor Works Shipyard LLC

Plaintiff

v.

Canadian Naval Memorial Trust

Defendant

Judge: The Honourable Justice Glen G. McDougall

Heard: March 15 - 18, 22, 24, 25 and June 4, 2010, Halifax, Nova Scotia

Counsel: Michael S. Ryan, for the plaintiff
Jean-Francois Bilodeau and Matthew Williams, for the defendant

By the Court:

INTRODUCTION:

[1] In the early morning hours of Monday, September 29, 2003, as Hurricane Juan pounded the Nova Scotia coast, the United States-flagged motor and sailing vessel Larinda was struck on her port quarter by the decommissioned steel-hulled corvette Sackville. The vessels had been berthed alongside one another in the same camber, located between Sackville Wharf to the south and the Maritime Museum Wharf to the north. After the Sackville struck her, the Larinda began taking on water and eventually sank coming to rest in a bed of silt and other debris (including raw sewage) on the bottom of Halifax Harbour. The vessel was refloated and sold for salvage after about two weeks under water. The plaintiff alleges that the sinking of the Larinda was entirely attributable to the defendant's negligence.

[2] The owner of all of the shares in the Larinda was Wolverine Motor Works Shipyard, LLC (henceforth "the plaintiff") of Reading, Massachusetts. The Sackville is owned and maintained by the defendant, the Canadian Naval Memorial Trust (henceforth "the Trust"), as a memorial to the brave men and women who fought for the Allies in the Battle of the Atlantic between 1939 and 1945.

[3] Larinda's original owner and principal builder, Captain Lawrence "Larry" Mahan, along with Marlene Mahan, his wife and co-owner of the Larinda, returned to Massachusetts leaving behind the remains of his labour of love. They used the proceeds of the insurance – USD $250,000 – to buy a replacement sailing ship. They found it difficult to get over the loss, particularly Captain Mahan, who died in 2005. Nevertheless, the Larinda, after being raised and repaired, continues to sail on the south shore of Nova Scotia. This is likely cold comfort for Captain Mahan's widow and family. But this case cannot be decided out of sympathy. It will require a determination of facts and their application to the law. The plaintiff has the burden of proving its claim.

SACKVILLE AND LARINDA:

[4] The corvette HMCS Sackville served with the Royal Canadian Navy during the Second World War. Corvettes operated most famously as convoy escorts in the Battle of the Atlantic, although they served in other theatres as well. Sackville went on to serve the navy as a utility vessel after the war until being decommissioned in the early 1980s. She was later restored by the defendant Trust to her wartime configuration but without working machinery or means of propulsion. As a "deadship," Sackville serves as a museum ship in Halifax during the summer months. She spends the winter tied up at the Halifax naval dockyard. Tugs are used to move her back and forth.

[5] In the days before Hurricane Juan struck Halifax, Sackville was moored at her summer berth, on the north side of the "New Wharf" at the Maritime Museum of the Atlantic, and was open to visitors. On September 27, 2003 the replica schooner Larinda arrived in Halifax. Larinda's master intended to display Larinda in the hope of participating in later "Tall Ships" events. Larinda was completed in 1996 in Massachusetts as a replica Boston Schooner. Her hull was constructed of ferrocement. In addition to her sails, Larinda was equipped with a 100 h.p. diesel engine and a diesel generator. On arrival in Halifax Harbour, Larinda moored at the south side of the Maritime Museum Wharf, parallel to and somewhat forward of

Sackville. The two vessels were thus moored at parallel wharves, with only a "camber" of water separating them. Another museum ship, CSS Acadia (a retired hydrographic vessel) was moored on the north side of the Maritime Museum Wharf.

[6] The steel-hulled warship Sackville was a considerably larger and heavier vessel than Larinda. Sackville was some 205 feet long, compared with Larinda's 64 feet, and a breadth of 33 feet, compared to Larinda's 16.5. feet. Sackville displaced a considerably greater gross tonnage than did Larinda. The result of unexpected and unwelcome contact between the two vessels is the subject of this proceeding.

[7] **Sackville's Mooring Arrangements**. The principal witness for the Trust was Commander Wendell Brown, a retired Canadian naval officer who served for some thirty years, becoming command-qualified and serving as Executive Officer on the destroyer HMCS Saskatchewan. He retired in 1995. In 2003 he was maintenance officer for the Trust and acted as liaison with the naval dockyard in relation to maintenance of Sackville.

[8] Cdr. Brown was accompanied on his inspection of Sackville's lines on the day of the hurricane by Lieutenant Commander James Reddy, also a retired naval officer. Lt. Cdr. Reddy had been Executive Officer of HMCS Cormorant and commanded the Fleet School as well as holding the position of Queen's Harbour Master.

[9] Cdr. Brown testified that, being a deadship, with no mechanical line handling ability and no crew as such, Sackville is berthed with her lines secured for the worst weather that might be expected. The line arrangement would have remained the same throughout hurricane season being intended to have sufficient length in the lines to account for the rise and fall of the tide that could be anticipated.

[10] Cdr. Brown described Sackville's line arrangement at the time of the hurricane. Sackville was secured to Sackville Wharf by eight lines including braided nylon rope and steel wires. All of the lines were wrapped in canvas where they ran off the ship (most of them through fairleads, i.e. openings that allow lines to run off the deck to the jetty). The canvas sleeves – known as "scotchmen" – are intended to prevent chafing of the lines where they make contact with the fairleads. Cdr. Brown said Sackville's lines were in good condition. The hurricane hawsers were designed to secure HMCS Cormorant, a vessel twice as heavy as Sackville. The 36 mm lines were destroyer lines intended for ships of twice the weight and almost twice the length of Sackville. Cdr. Brown said these lines were of greater strength than would normally

be provided for a ship of Sackville's size and considered that the lines would have over-secured Sackville for the forecasted hurricane. Lt. Cdr. Reddy said Sackville's mooring arrangement left no doubt in his mind that there was no danger of Sackville striking Larinda, in view of the forecasted weather and his own experience.

[11] Line number one was a hurricane hawser, that is, a 7/8 inch steel wire rope with a 15-foot length of 36 mm braided nylon rope connecting two lengths of wire. The nylon rope acts as a shock absorber and insulator. Line number one was attached to bollards on the starboard side of the ship's forecastle, running out through a bullring in the bow, and was secured on shore to the second post or bollard from the shore end of the jetty.

[12] Line number two was a hurricane hawser, like line number one, secured to the third post from the end of the jetty. It ran onto the ship through a fairlead to the port side of the winch (referred to by Lt. Cdr. Reddy as the windlass) and was secured around the warping drum on the winch. Cdr. Brown said he did not consider possible rotation of the drum, as the "french kiss" arrangement by which the line was looped with reverse turns was designed to prevent it from coming free, and any rotation of the drum would be immaterial. Line number three was a tripled line (that is, it consisted of three rope lines running together). It was secured to the fourth post on the jetty and ran onto the ship through a fairlead to a set of bollards on the after-end of the forecastle forward of the break and the gun. Cdr. Brown indicated that the post on the jetty was closer to the stern than the diagram included in Mr. Rudolph's report indicated.

[13] Line number four was a tripled rope line running to the same post on the jetty as line number three. It went through a fairlead slightly ahead of the post and back to the bollards on deck. Cdr. Brown said line number four acted as a breast line. As noted above, Cdr. Brown testified that he made a mental note in the morning that the number four line would need more scope in anticipation of high tide at 22:45; and this was done by that afternoon. If there was insufficient slack on the line, it could snap or heel the ship. Cdr. Brown said the crew had given the line adequate scope to deal with the tide and the surge based on observation of the line and of the position of the ship relative to the jetty.

[14] Lines number five and six were doubled rope lines running through fairleads on the bulwark of the ship to bollards on the port side near the stern. Lines number

seven and eight followed the same lead around the stern. One was a hurricane hawser like lines one and two. The other was braided nylon.

[15] **Larinda's Lines to Sackville.** On September 27, Larinda moored to the South Wharf by two breast lines and two spring lines on her starboard side. More lines were put out on Sunday, September 28. Most notably, Larinda ran two lines to the north side of the New Wharf just ahead of Sackille. In addition, Larinda ran two lines onto Sackville, one through a fairlead to a bollard and another to the forecastle. Cdr. Brown noticed these lines at noon on Sunday but said he did not have any great concern about them. He said they were on a reasonably long lead to Sackville and, on the basis of the forecast, he was not concerned that they would cause any serious loading on Sackville. Lt. Cdr. Reddy, similarly, said he saw nothing to be particularly concerned about in Larinda's lines to Sackville.

[16] **The Lead-up to the Hurricane**. Hurricane Juan struck on a Sunday night. Cdr. Brown testified that he walked around the ship on Thursday or Friday with David Bechard, the shipkeeper employed by the Trust. He returned around 8:30 Sunday morning, and remained for about half an hour. At that time, he checked the lines. He returned again around 12:30, and checked on the duty watch, as well as checking for open portholes, in anticipation of the heavy rain and wind expected for that night. The duty watch had already lengthened the number 4 line to deal with the expected tide and surge. He said he himself had made a mental note that morning that this would be necessary. Lt. Cdr. Reddy also described inspecting the lines on the Friday before the hurricane.

[17] **The Anticipated Weather**. The weather forecasts which Cdr. Brown and Lt. Cdr. Reddy testified they were monitoring before the hurricane were those issued by Environment Canada. Hurricane Juan began as a tropical depression southeast of Bermuda, developing into a tropical storm by September 25, and a hurricane the next day. At 3 p.m. ADT on Saturday, September 27, the Canadian Hurricane Centre of Environment Canada predicted that Juan would make landfall "over or just west of Halifax" on the evening of Sunday, September 28, around 6 p.m. or 7 p.m. Winds were predicted to "gust up to 140 km/h with sustained speeds near 90 km/h in the Halifax area." At 9 p.m. Saturday night, the Hurricane Centre raised the possibility of "a landfalling hurricane or strong tropical storm anywhere from the west end of Halifax County to the east end," but the forecast decision was "to bring Hurricane Juan over or just west of the City of Halifax around 6/7 PM Sunday night." Through the night, the hurricane's landfall was forecast to be more westerly.

[18] The Hurricane Centre information statement issued at 9 a.m. ADT on Sunday, September 28, predicted that Juan would "weaken somewhat" that day, but nevertheless forecast landfall "near Halifax or just west of Halifax later this evening," with "damaging wind gusts of up to 150 km/h with sustained speeds near 120 km/h" expected in areas close to landfall. The "best estimate" for the storm surge was forecast as "1.0+ metres to the west of Juan and 1.5+ metres to the east of its projected landfall." In its 3 p.m. information statement, the Hurricane Centre predicted "damaging wind gusts up to 150 km/h with sustained speeds near 120 km/h ... in areas close to the storm landfall." The 9 p.m. statement predicted that Juan would "weaken rapidly" to tropical storm strength in the next few hours, but maintained the prediction of "damaging wind gusts of up to 150 km/h with sustained speeds near 120 km/h ... in areas close to the storm landfall."

[19] Cdr. Brown and Lt. Cdr. Reddy both recounted Environment Canada forecasts calling for winds from the east or southeast with gusts of up to 75 knots. Environment Canada's marine forecast for Halifax Harbour and approaches issued at 10:00 ADT on the 28th called for winds rising to gale force through the day "increasing to easterly gales 55 to 65 [knots] with gusts to 75 in the approaches," and diminishing in the evening to "southeast gales 35 to 45 overnight and to southwest winds 20 Monday morning." The 3:30 p.m. and 8 p.m. forecasts, similarly, called for easterly gales of 55 to 65 knots with gusts to 75 knots in the harbour approaches.

[20] Cdr. Brown said that when a storm threatens, one prepares for the worst conditions that one anticipates. Put differently, he said, it is necessary to prepare for the forecasted conditions with redundancy; thus, if a storm is forecast for 50 knots, one would not use lines that will break at 51 knots. Both he and Lt. Cdr. Reddy understood from the forecasts (broadcast, as Lt. Cdr. Reddy noted, on CBC radio) that they should expect gusts of 75 knots in the approaches to Halifax Harbour. Sackville, Lt. Cdr. Reddy noted, was in the inner harbour.

[21] **Sunday Afternoon**. Lt. Cdr. Reddy inspected the ship on Sunday afternoon sometime around 2:30 or 3:00 and spent about 45 minutes checking (among other things) the bollards, lines and bitts, as well as Larinda's lines to Sackville. He and Cdr. Brown agreed to meet at the ship around the time of expected high tide and arrival of the hurricane, around 9 p.m. Lt. Cdr. Reddy added that by the time of high water, which he placed between 9 p.m. and 10 p.m., the storm would have arrived, and it would be possible to see its effect on the ship. At 8:30 p.m. they agreed to postpone

this meeting. When they met around 9:30 p.m., Cdr. Brown said, the wind was brisk and the tide was rising. Water was splashing up through the deck planks of the jetty. They checked the lines and Lt. Cdr. Reddy left after about half an hour. At that time, Cdr. Brown said, the ship was riding comfortably. Lt. Cdr. Reddy described the wind at between 9:15 p.m. and 10 p.m. as being out of the southeast on Sackville's aft port quarter.

[22] After Lt. Cdr. Reddy left, Cdr. Brown positioned himself in the lee of the gift shop and periodically walked around the ship and up and down the wharf. A passerby, Don Kydd, joined him briefly. After that, Fred Cox, Acadia's Shipkeeper, came over from Acadia and they spoke and observed the ship and the wharf. Mr. Cox and Stephen Reed, Acadia's Assistant Shipkeeper, had come down Sackville Wharf at 9:30 p.m. Mr. Cox returned alone between 10:30 p.m. and 11 p.m., when he met Cdr. Brown and offered assistance if needed. He informed Cdr. Brown that Acadia had extra lines if Sackville required any which Cdr. Brown refused. They walked the jetty observing Sackville's lines.

[23] It is clear that Mr. Cox did not express any concerns to Cdr. Brown about the state of Sackville's lines. While Mr. Cox testified that he felt at the time that more mooring lines could have been put on Sackville, he said he believed it would be overstepping his bounds to take measures to secure Sackville without being asked. Mr. Reed, similarly, said he felt that Sackville did not have enough lines out although he qualified this by saying it was the first full-scale hurricane he had experienced. Both Mr. Cox and Mr. Reed testified that, while they had concerns for Sackville, they did not foresee Sackville posing any threat to Larinda.

[24] Mr. Cox said he was reassured by Cdr. Brown's presence but was also concerned for his safety. The floating docks to the south side of Sackville Wharf were bouncing around and water was breaking over the wharf. Cdr. Brown also testified that his own biggest concern at this time was with the floating platforms which he said were very active in the water and which he was concerned could come inboard. Cdr. Brown said the jetty was nearly awash by 11 p.m., and, concluding that the jetty was no longer a tenable position, he moved to the catwalk around the interpretation centre. Around 11:20 p.m. he went home to get his "floater suit" returning around 11:50 p.m.

[25] Cdr. Brown said the weather deteriorated rapidly between midnight and 12:15 a.m. and visibility was reduced to zero by 12:30 a.m. At midnight, he believed, the wind was blowing east to east-southeast. Conditions developed so that he could not

see horizontally through the wall of water that was being raised but from his position on shore he could see Sackville's mast sitting steady. He could not see the rest of the ship.

[26] Cdr. Brown said the weather was at its worst between 12:30 and 12:45 or 1 a.m. Mr. Cox, similarly, placed the peak of the storm at between 12:30 a.m. and 1 a.m. and Mr. Reed recalled an increase in the wind between midnight and 12:45 a.m. According to Cdr. Brown, the wind at that time was across the jetty from the south. Sackville Wharf was underwater and the floating docks had broken up. Cdr. Brown was standing by his car in his flotation suit. He could see Larinda's mast (across the top of the interpretation centre) and Sackville's mast; Larinda's was oscillating while Sackville's appeared steady. He had the impression around 12:30 a.m. that the wind was directly across the jetty with a south wind on Sackville's port beam for between fifteen minutes and half an hour. Mr. Reed said the winds were initially south-southeast, on Acadia's port beam. Between 11:30 p.m. and midnight, they were almost due east, then moved back southerly, then picked up and blew from the east, a little off Acadia's stern, almost at a right angle to the ship's side. Both Mr. Cox and Mr. Reed said the winds peaked while blowing south-southeast.

[27] Cdr. Brown testified that around 1 a.m. the wind dropped very quickly and visibility improved. Mr. Reed also described a drop in the wind just before 1 a.m. and said the wind died considerably by 1:30 a.m. Around 1 a.m. Cdr. Brown saw Sackville's bow moving away from the jetty and concluded that it was about this time that the lines broke. There was a port beam wind at the time. He could see that the ship had lost a line and her bow was moving toward Larinda. He did not see or hear any lines parting due to the noise and extremely poor horizontal visibility.

[28] After trying and failing to get through to the dockyard's Operations Centre to request a tug, Cdr. Brown reached Lt. Cdr. Reddy by telephone at 1:12 a.m. The tug arrived to move Sackville back to the jetty around 1:55 a.m. Sackville's bow was against Larinda's port quarter partly held by one of Larinda's lines. Sackville was tied up. The jetty was a "disaster area," said Cdr. Brown, with its planks forced up and the floating docks thrown onto it. A tug moved Sackville to the dockyard the next morning. The usual berth was not available and the corvette was placed in a temporary berth. Cdr. Brown said he did not take particular notice of the condition of the lines the morning after the hurricane due to the urgency of moving the ship.

[29] While Cdr. Brown did not agree that Sackville's berthing arrangements were his direct responsibility – he said this was the responsibility of Chief Bosun's Mate David Bechard, who reported to 1st Lt. Ian Urquhart, or Captain Bill Gard, who, in turn, reported to the Board – he agreed that he was probably the most experienced seaman available to the trust and that he had assumed responsibility for Sackville's well-being and berthing arrangements between 08:30 Sunday and 04:00 Monday. Lt. Cdr. Reddy agreed that he and Cdr. Brown, as active members of the Trust with seamanship experience, undertook to make sure Sackville was secure in consultation with the Shipkeeper.

[30] **The Number Two Line and the Warping Drum.** Lines one, three and four broke, while line two paid out. Cdr. Brown agreed that the warping drum on which the number two line was looped had rotated at least part of a turn, between 45 degrees and a half turn, counterclockwise. He said this would have allowed, at most, two feet of the line to go out. However, for Sackville's bow to swing out to Larinda, it was necessary to pay out about 40 feet of the line. His view was that the turning of the drum was not a significant factor in paying out the line.

[31] **Hurricane Preparation.** Cdr. Brown agreed on cross-examination that he knew from experience that a hurricane has a definite wind pattern and that the speed with which it will change speed or direction depends on one's position relative to the hurricane. He agreed that wind can change suddenly, even in the absence of a hurricane, although he took issue with the characterization that it changes "on a dime." He said a hurricane is an organized circular flow of wind; to change "on a dime," he said, it would be necessary to be located in a very narrow position almost directly ahead of the inner wall or eye. Toward the outer edge, he said, wind change is predictable. It turned out that Sackville was in that narrow area where the wind could change quickly, contrary to the forecast, which had placed the eye further to the west. Cdr. Brown added that there was not only a change in the wind direction but a major increase in velocity, beyond the expected limits. He said the expectation was that the wind would decrease in velocity as it shifted to the south.

[32] Cdr. Brown noted that the forecast at 8 p.m. indicated that the wind would come from the east and would work around to the south and west and diminish. He disagreed with the suggestion that he gave no thought to the possibility of the wind changing direction. He said he expected the wind to change in a manner consistent with a hurricane passing as predicted by the forecast, with the wind shifting from south to west and then diminishing. When he and Lt. Cdr. Reddy met at 9:30 p.m.,

he said, they were of the view that the worst of the wind had not yet arrived but they still anticipated a hurricane within the bounds of the forecast. The winds to that point had been consistent with the forecast and Cdr. Brown said their observations were consistent with the forecast to that point. The highest wind was forecast at 75 knots but in fact it exceeded 100 knots. Later analysis by the Canadian Hurricane Centre indicated that Juan made landfall as a category two hurricane (rather than the expected category one) with maximum sustained winds of 85 knots, or 158 km/h, estimated from McNab's Island. In addition, sustained winds of 99 knots were recorded on an oil rig in Halifax Harbour (at an elevation of 62 metres) before the instrument stopped recording.

[33] Cdr. Brown agreed that he knew that the total storm surge could be more or less than forecast but not greatly more or less; he suggested 3/4 m on either side. He said the total water rise of water was in the range they expected for the tide and surge. The tide was forecast at 1.9 m and the surge 1 or perhaps 1.5 m. As measured at the harbour buoy, he said, the total water rise was 2.9 m. Tide and surge, he said, are particularly significant in relation to a breastline such as the number four line. He said, however, that the other lines were at angles and there would not necessarily be a "domino effect" if line number four broke. Cdr. Brown said they allowed for the forecasted rise plus a margin of error. He agreed that the lines could cope with an additional two feet of surge.

[34] **Subsequent Adjustment of Sackville's Lines.** Either one or two years after Hurricane Juan, in the face of another impending hurricane, the Trust strengthened Sackville's mooring arrangement. Most notably, two heavy towing hawsers retrieved from a decommissioned destroyer were added, running through the hawse pipe alongside the port anchor. In addition, the number two line was quadrupled and a line was secured to the first post on the jetty (during Juan, line number one was secured to the second post). Cdr. Brown said this arrangement was designed to cover any contingency and to secure against any wind that might be encountered including a port beam wind or wind from the storm.

[35] **The London Offshore Consultants Report.** The defendant provided a report by London Offshore Consultants Ltd. (LOC). The LOC report calculated the wind force on Sackville when the wind was from the east (on Sackville's stern) at 115 knots (the highest recorded wind speed in the area) as 14.008 tonnes. With the wind from the south, on Sackville's beam at 68 knots, the calculated force was 29.03 tonnes. These calculations did not account for increased force on the lines from gusts, storm

surge and tide forces, or movement of the ship due to the sea state, all of which would likely impart additional momentary force. Based on the calculations of forces arising from the steady winds state, LOC calculated that the static wind loadings were "well within" the Minimum Breaking Load (MBL) of the smallest line (that being line number six).

[36] The LOC report concluded that the eye of the hurricane passed between 01:00 and 01:15 on 29 September, and that at that time the wind force on Sackville's port beam "would have increased nearly instantly, producing a shock loading on the mooring lines," which "would already have a reasonable amount of force acting on them due to the raised sea level caused by the storm surge, and the motion of the vessel caused by the steep, confused sea associated with the passage of the hurricane eye" (LOC report, para. 3.8.9). LOC considered it possible that the force on the lines from the "earlier stronger wind from the east may have already caused the failure of, or weakened," Sackville's number three line, which would have "taken the majority of the loading imparted by the easterly wind prior to the arrival of the eye" (LOC report, para. 3.8.10). LOC's conclusion as to how Sackville's lines parted was set out as follows, at paras. 3.8.11-12:

> The sudden increase in wind speed and change to a southerly direction which was associated with the passage of the eyewall boundary, together with the associated sea state creating movement of "SACKVILLE", would impart considerable shock loading on the lines. I consider that this would have caused the failure of the forward hurricane hawser (line #1) reported at about)1:00. The rapid variation in line loading would then be imparted to the second hurricane hawser (line #2). This would cause failure of the seizing, and with the variation in loading the line could be expected to work back and forward and consequently work itself loose on the warping drum. Turning the wire back on itself on the warping drum and using a seizing would be considered to be more than adequate in virtually all circumstances. However the load imposed on the line would have varied greatly due to the heavy seas being experienced (about 8 feet high). Such seas would not be expected in such a relatively sheltered area even in the event of a hurricane. The movement of the warping drum, which is directly connected to the steam winch, shows that a considerable force must have been exerted on the system, as it had not moved for some twenty years. The piston(s) would invariably have been seized within the cylinder(s). The gearing, being open, would also have been heavily corroded. When line #2 had slackened itself, this would only have left the short forward breast line (line #4) preventing the bow of "SACKVILLE" from moving off the berth. With only this line attempting to restrain the movement, under the influence of the southerly wind, toward the north of the forward part of "SACKVILLE", it would have then parted. This would then leave the spring line (#3) as the remaining forward line. Being the only line

> attempting to restrain the movement of the bow of "SACKVILLE" against the wind and the motion of the seas, it would inevitably fail at some stage during the movement of the bow.

[37] LOC also expressed the view that the photographs of Sackville's lines suggested that they had failed "in a 'catastrophic' manner and not as a result of chafing. Parting of double braided lines through chafing will usually manifest itself as longer, untidy, unravelled ends and the inner and outer cores parting at different places. The photographs of the failed lines show a 'bursting' of the line in one place which is indicative of failure through shock loading" (LOC report, para. 3.8.13).

[38] The LOC analysis came to the conclusion that the stronger than expected wind and wave effects of the hurricane caused "progressive failures in situations where preparations could not be improved upon" (LOC report, para. 4.1). In short, the report said, at para. 4.3:

> I consider that the moorings of "SACKVILLE" were adequate for the weather that was expected. They were certainly of sufficient strength for the forecast wind. They had been adjusted for the surge in water level that had been forecast. The wave conditions that occurred during the passage of the eye of the hurricane may not have been anticipated. I consider that this factor, in addition to the sudden increase in wind force during the passage of the eyewall, caused additional loading on the lines. This then resulted in the initial failure of #1 line and the subsequent failure of the other lines. The lines were certainly of adequate strength and survived the easterly wind, which was forecast to be the direction of the strongest wind.

[39] John Simpson, a Master Mariner and Marine Consultant, who is Associate Director of LOC was qualified as an expert, based on training and experience, capable of giving opinion evidence on Sackville's mooring arrangements (in consideration of the impending hurricane) on the night of 28-29 September 2003. While he was not the author of the LOC report (although he was one of the signatories to it), he was qualified to give opinion evidence with respect to the report on the basis of his input into the drafting of the report and his involvement in the peer review. He confirmed his agreement with the report's conclusions. He did not claim expertise in the calculation of mooring loads as found at Appendix F of the LOC report.

[40] Mr. Simpson said there was no chafing to the lines and took the view that the lines broke because of the tension caused by the extreme wind and surge. He concluded that Sackville's moorings were adequate for the weather that was expected;

he stated that the use of hurricane hawsers in itself meant that Sackville was moored for hurricane season. While it appeared that the maximum sustained wind out of the south (on Sackville's port beam) was 68 knots, Mr. Simpson was of the view that Sackville's moorings would have been able to withstand this force; the LOC analysis did not account for the additional forces of tide, surge and waves.

[41] In essence, Mr. Simpson's view was that Sackville was moored appropriately for the expected strength of the hurricane. The unexpected factor was that Juan did not weaken as it headed north, as hurricanes usually do, and struck Halifax with greater force than expected.

[42] There was no expert evidence on Sackville's mooring arrangements offered by the plaintiff.

ISSUES:

[43] The issues are (1) on liability, whether the defendant Trust took all reasonable measures in the circumstances to secure Sackville in anticipation of the hurricane; and, if not (2) what is an appropriate measure of damages.

LIABILITY:

[44] The plaintiff's position is that the defendant failed to take all reasonable measures to secure Sackville in anticipation of Hurricane Juan. The plaintiff says a *prima facie* case of negligence is made out if it is established that Sackville broke free in circumstances that could be reasonably anticipated by the Trust. The onus, the plaintiff submits, then shifts to the defendant to lead evidence that the moorings were consistent with good seamanship in view of the coming hurricane.

[45] The Trust rests its defence on the doctrine of inevitable accident. The Trust's position is that it was aware of the approach of Juan and did everything it could to secure Sackville but her moorings broke nevertheless at the height of the storm.

[46] The doctrine of "inevitable accident" was described by Dr. Lushington in **The Thomas Powell** v. **The Cuba** (1866), 14 L.T. 603 (Adm.) at 603:

> ... To constitute an inevitable accident it was necessary that the occurrence should have taken place in such a manner as not to have been capable of being prevented by

> ordinary skill and ordinary diligence. We were not to expect extraordinary skill or extraordinary diligence, but that degree of skill and that degree of diligence which is generally to be found in persons who discharge their duty....

[47] In **Tremblay** v. **Hyman** (1920), 56 D.L.R. 608, 1920 CarswellNat 46 (Exch.), a schooner was torn from her moorings in a gale and collided with a steam barge that was moored to the same wharf. The schooner had put out extra lines but the storm was "one of the worst which had occurred within the memory of the witnesses on the Gaspé coast" (para. 5). The court held that the fact that "the plaintiffs' barge was moored to the wharf when the defendants' schooner broke loose from its moorings and collided with the barge" was sufficient to constitute "a *prima facie* case against defendants, and the onus of proof was then shifted and the defendants were called upon to explain the cause of the collision and that it was due to inevitable accident" (para. 6). In considering the defence of inevitable accident, the court considered, *inter alia*, **The Thomas Powell**, as well as **The Europa,** 14 Jurist 627, where Dr. Lushington said, at 629:

> Inevitable accident is where one vessel, doing a lawful act, without any intention of harm, and using proper precaution to prevent danger, unfortunately happens to run into another vessel But it should be observed, that the caution which the law requires is not the utmost caution that can be used. The law is not so extravagant as to require that a man should possess that mind, and understanding, and firmness of purpose, as always to do what is right to the very letter. If it were so, it is obvious that the demands of the law would be seldom satisfied. It is sufficient that a reasonable precaution be taken, such as is usual and ordinary in similar cases — such as has been found, by long experience, in the ordinary course of things, to answer the end — the end being the safety of life and property.

[48] The court in **Tremblay** cited **The Merchant Prince** (1892), 1892, P.D. 179 (C.A.), as "the leading English case on the defence of inevitable accident and has been followed in a number of cases in the Canadian Courts" (para. 14). The court said, at paras. 12-13:

> In *The Merchant Prince* in the Court of Appeal, Lord Esher, M.R., at page 187 said:
>
> > The great object of the judges in Admiralty cases has been to lay down a plain rule to govern the acts of sailors, and not to have niceties of argument about what they are to do; and the plain rule which they have laid down is this: — Unless you can get rid of it, it is negligence proved against you that you have run into a ship at

> anchor. The only way for a man to get rid of that which circumstances prove against him as negligence is to show that it occurred by an accident which was inevitable by him, that is an accident the cause of which was such that he could not by any act of his have avoided its results. He can only get rid of that proof against him by showing inevitable accident, that is by showing that the cause of the collision was a cause not produced by him, but a cause the result of which he could not avoid. Inevitable means unavoidable. Unavoidable means unavoidable by him.

Fry, L.J., p. 189, said:

> The burden rests on the defendants to show inevitable accident. To sustain that the defendants must do one or other of two things. They must either show what was the cause of the accident, and show that the result of that cause was inevitable; or they must show all the possible causes, one or other of which produced the effect, and must further show with regard to every one of these possible causes that the result could not have been avoided. Unless they do one or other of these two things, it does not appear to me that they have shown inevitable accident.

An inevitable accident is, according to the law laid down in the case of *The Marpesia*, Law Rep. 4, P.C. 212, that which cannot be avoided by the exercise of ordinary care and caution and maritime skill.

[49] The court in **Tremblay** held that the immediate cause of the collision was the irresistible force of the wind and the waves which caused the schooner's moorings to break leaving the Court to decided whether the schooner's Master, "on the evening preceding, exercised ordinary care, caution and maritime skill when he tied up his schooner for the night with five lines and an anchor leading forward and four lines leading aft? Were these all the reasonable and ordinary precautions, in the circumstances of the case, which a Master in his position and for a vessel of the size of the defendants' schooner, should have taken to ensure her safety? " (para. 15). The court concluded, at para. 16:

> This case has to be considered in the light of the situation on the evening before the accident, and I have to decide if the Master of the schooner omitted to do something which a person exercising ordinary care, caution and maritime skill in the circumstances would not have left undone. The violent storm with the tidal wave which came on some hours later could not have been foreseen. The additional moorings in the circumstances were more than sufficient under ordinary

> circumstances, they were in fact extraordinary precautions against the possibility of a bad night, but unfortunately proved insufficient and, in my opinion, it would be going too far to hold the owners responsible because the Master had not the extraordinary foresight to take some additional measures which would have withstood the force of the wind and sea in one of the worst storms ever known on the coast.

[50] The defendant says the principle that in a maritime collision case the onus shifts to the defendant to rebut a *prima facie* case of negligence has been modified or rendered doubtful by later caselaw. The doctrine of *res ipsa loquitor*, of course, has been displaced as a separate component of negligence actions: **Fontaine** v. **British Columbia (Official Administrator)**, [1998] 1 S.C.R. 424, at paras. 26-27. The defendant cites S. Gault, ed., Marsden on Collisions at Sea, 12th edn. (Toronto: Carswell, 1998), where the doctrine described in **The Merchant Prince** is called into question. For instance, in **The Kite**, [1933] All E.R. Rep. 234, where the defendant's barge hit a bridge, Langton J. found that a *prima facie* case of negligence arose (pp. 239-240), but added, at p. 240, that "it does not follow that the onus of proof is equally heavy in each case." Rather, the plaintiff was required to ultimately prove that the defendant was negligent and that the defendant was not required to disprove negligence, but only to raise an explanation that "may leave the matter in doubt as to exactly how the occurrence did happen – may leave an equal possibility that it happened without negligence as with negligence" (p. 241). Finally, Langton J. said, at 241:

> ... [W]hat the defendants have to do here is not to prove that their negligence did not cause this accident. What they have to do is to give an explanation, and a reasonable explanation, which, if it is accepted, is an explanation showing that it happened without their negligence. And they need not even go so far as that because, if they give a reasonable explanation, which is equally consistent with the accident happening without their negligence as with their negligence, they have again shifted the burden of proof back to the plaintiff to show – as he always has to show from the beginning – that it was the negligence of the defendant that caused the accident.

[51] The defendant also cites **The Star of the Isles**, 62 Lloyd's 139 (Ct. Sess.), where one trawler broke away from her moorings during a gale and damaged another vessel. Lord Moncrieff said, at 147:

> In the case of a defence of "inevitable accident" the defender underlies the heavy burden of acquitting himself of negligence and acquitting himself of want of skill. If he succeeds in discharging this burden of proof, he does not, however, further

> require to demonstrate that, no matter what additional precautions might have been taken, the accident would have happened. He is in fact a professor of diligence, but not an insurer of safety. A defender in my opinion discharges the burden which he so underlies if there be no evidence against him of want of diligence or want of skill and positive evidence in his favour to show that he has exercised both diligence and skill in the discharge of his duties. Of the measure of diligence and skill demanded in particular circumstances, where a technical qualification such as seamanship is in question, it is for qualified experts to advise. It is not open to the pursuer, through the medium of argument addressed to Judges, to suggest that any particular action or non-action on the part of the defender in such affairs as seamanship may be assessed by such Judges as evidencing a failure in seamanship or a failure in diligence. Such an argument must be supported by expert evidence or have the assent of a nautical assessor.

[52] The Trust notes that neither Mr. Cox nor Mr. Reed testified as experts, yet these are the principal witnesses upon whom Wolverine relies to support its position that the Trust negligently failed to put out additional lines on Sackville. The Trust maintains that the law demands expert evidence.

[53] The Trust submits that it put out lines suitable for any weather conditions that could be expected in Halifax. Lt. Cdr. Reddy and Cdr. Brown checked the lines Friday and Sunday, respectively, and both concluded that Sackville's line arrangements were sufficient for the anticipated weather. Both men monitored the lines in the days leading up to the hurricane and each of them attended at Sackville's berth more than once on Sunday the 28th, the day the storm struck. In the course of the day, the lines were monitored and given slack where necessary in order to prepare for the rising water level that was anticipated to accompany the storm surge and high tide. Cdr. Brown and Lt. Cdr. Reddy both viewed the ship and the lines at 9:30 that evening, and found that the lines were working and the ship was well-secured. At that point, the weather they experienced on the jetty appeared to accord with the forecast; the wind direction and force, the tide and the surge were as they had expected. The last forecast they received called for gusts of 75 knots in the harbour approaches and 55 to 65 knots in the harbour itself. Cdr. Brown and Lt. Cdr. Reddy confirmed that they prepared for winds of 75 knots. Hurricane Juan made landfall as a marginal category two hurricane with maximum sustained wind speeds of 85 knots. It was significantly stronger than anticipated and it strengthened, rather than diminished, as the evening went on.

[54] The Trust says the view formed by Mr. Reed and Mr. Cox that Sackville had not put out extra lines was based on a misconception because the sufficiency of the lines had been considered. Mr. Simpson, too, took the view that the line arrangement was satisfactory in view of the expected weather. Mr. Cox inspected the mooring and the wharf with Cdr. Brown around 10 p.m., and did not express any concerns (although he told Cdr. Brown that Acadia had more lines available, if needed). The plaintiff notes that the fact that Mr. Cox and Mr. Read did not express any concern about Sackville's lines does not mean they believed the lines were adequate and counsel speculates about why Mr. Cox would not mention his concern while inspecting the lines with Cdr. Brown. None of this bolsters the case for giving their view more weight than that of the personnel in charge of Sackville. It should also be noted that Mr. Read and Mr. Cox described an inaccurate view Sackville's lines although the plaintiff submits that this should not affect the value of their evidence.

[55] With respect to the number two line which did not part but slipped from the winch on which it was looped, the evidence of Cdr. Brown, Lt. Cdr. Reddy and Mr. Simpson was to the effect that this was a common manner of using a winch.

[56] The plaintiff suggests that the "shock-loading" theory as an explanation for the manner in which the lines broke is not supported by evidence. Mr. Simpson noted that there was no chafing or damage to the lines. Rather, they appeared to have broken due to tension caused by extreme pressure from the wind and the surge which exceeded their breaking limit. Counsel for the plaintiff suggests that there is no way to know whether the rope snapped as Mr. Simpson suggested, pointing out that there is no specific evidence of the state of the lines before the hurricane.

[57] The plaintiff also submits that the Trust should have had Sackville moved to the Naval Dockyard before the hurricane made land and that the failure to do so left Larinda a "sitting duck." Setting aside the practical issues of arranging for a tug to move Sackville, it is not clear why Sackville should have been expected to leave her berth simply because Larinda had berthed alongside the day before.

[58] **Post-Juan Changes to Sackville's Lines.** The plaintiff says the evidence of a subsequent change in Sackville's mooring arrangements supports an inference that those in charge of Sackville agreed that the previous mooring arrangement was inadequate. The plaintiff points to Moir, J.'s comment in **Cheevers** v. **Halifax Regional Municipality**, 2005 NSSC 153, that evidence "of post-accident measures is now admitted generally to prove negligence and is not restricted to proof of what

could have been done in response to foreseeable risk" (para. 63). In **Driscoll** v. **Crombie Developments Ltd.**, 2006 NSSC 79, such evidence was admitted, although Wright, J. held that it "should not be treated as akin to an admission of negligence, nor should an inference of negligence be drawn from the mere fact that post-accident changes were made," but the evidence could go to show the steps that could have been taken before the accident to meet the requisite duty of care (paras. 20-21).

[59] The Trust submits that post-hurricane changes to the line arrangements are immaterial to the issue of negligence at the time of the hurricane. As defence counsel says, "once burned, twice shy." The relevant determination is whether the line arrangement was proper at the time of Juan. The defendant notes the following comments of Saunders, J. (as he then was) in dealing with an objection to post-incident evidence in **Horne** v. **Industrial Estates**, [1997] N.S.J. No. 243, 1997 CarswellNS 266 (S.C.), affirmed at 167 N.S.R. (2d) 363, 1998 CarswellNS 80. Saunders, J. said, at para. 37:

> ... Not surprisingly counsel objected to the introduction of such evidence as being irrelevant and inadmissible to the issue of negligence. The objection, as far as it goes, is well taken but it doesn't end the matter. Naturally, evidence of taking steps after a mishap to remedy the situation or improve the condition of the thing thought to have caused the injury, or given rise to the claim, may be objectionable. The reason is that it might encourage a belief, in some, that the injury was caused by the defendant's negligence. Such evidence (and the inferences to which I have referred) are declined for reasons of logic, proof and public policy. First, the assumption is false; injuries may well be caused by inevitable accident or the plaintiff's own contributory negligence. Further, to allow such evidence would discourage owners or occupiers of the things from ever improving the location or objects said to have caused the injury out of fear that the use to which evidence of such remedial acts might be put, would work to their disadvantage.

[60] As the Ontario Court of Appeal noted in **Sandhu (Litigation Gurdian of)** v. **Wellington Place Apartments**, 2008 ONCA 215, where such evidence is offered, the court must balance its probative value with its prejudicial effect.

[61] I am satisfied that the evidence of post-Juan changes to Sackville's mooring arrangements is relevant; however, I am not convinced that this evidence carries significant weight. While the strengthening and supplementing of the lines in anticipation of a later hurricane was certainly prompted by the experience of Hurricane Juan, it does not follow that there was necessarily negligence at the time of

Juan. On the other hand, it would have seemed absurd for the lines not to have been strengthened before the next hurricane after the events of September 2003.

[62] **Alternative.** As an alternative to its main argument, the Trust submits that even if more people had been available aboard or around Sackville on the night of 28-29 September, this would not have made any difference when conditions became excessively dangerous. Cdr. Brown, Mr. Cox and Mr. Read all indicated that conditions became too dangerous to remain in the wind and that they were forced to take shelter, whether aboard Acadia (in the case of Mr. Cox and Mr. Read) or ashore, away from the wharf (in the case of Cdr. Brown). By the time Sackville lost her first line the storm was at its peak and the jetty was submerged. To put out more lines at that point would have meant having people on the wharf and on Sackville's bow, all of which was by then too dangerous, if not impossible.

[63] **Conclusion.** It is clear that the defendant, as the institution in charge of Sackville, owed the plaintiff a duty of care when the two vessels were moored alongside one another (and *vice versa*). I am not convinced that the Trust personnel failed to meet their duty of care, however. I find the statement of the law from the **Star of the Isles** (already quoted above) to be helpful. In order to establish the defence of "inevitable accident," the defendant must show that there is "no evidence against him of want of diligence or want of skill and positive evidence in his favour to show that he has exercised both diligence and skill in the discharge of his duties." The court went on to say:

> ... Of the measure of diligence and skill demanded in particular circumstances, where a technical qualification such as seamanship is in question, it is for qualified experts to advise. It is not open to the pursuer, through the medium of argument addressed to Judges, to suggest that any particular action or non-action on the part of the defender in such affairs as seamanship may be assessed by such Judges as evidencing a failure in seamanship or a failure in diligence. Such an argument must be supported by expert evidence or have the assent of a nautical assessor.

[64] The defendant's representatives were cognizant of the approaching hurricane, and turned their mind to preparing for it. The personnel in charge of Sackville were experienced seamen who monitored Sackville (and the moorings) in the days and hours before the hurricane. Sackville's moorings were designed with heavy weather in mind, since Sackville was a deadship without a full crew and without working machinery or propulsion systems. As such, the failure to put out additional lines in anticipation of the hurricane was not in itself a failure of duty. There is no evidence

that the lines were in poor condition and the LOC report and Mr. Simpson, in his evidence, suggested that the lines broke due to sudden shock rather than chafing. Nor is it reasonable to suggest that Sackville ought to have been moved to the dockyard at the last minute. Hurricane Juan was a storm of unforeseen intensity, and I am satisfied that Sackville's keepers could not have anticipated the severity of the combined forces of wind, tide, surge and waves that the ship would be exposed to.

[65] Given the absence of expert evidence on seamanship from the plaintiff, I cannot find that the defendant failed to exercise the required level of diligence and skill in the circumstances. In the specific circumstances of this case, the lack of such contrary evidence is of great concern. While it is not necessary to decide here whether expert evidence would be required in every marine collision case, I conclude that it would be required in order to establish a lack of diligent seamanship in setting out Sackville's lines in these circumstances. Without it, the plaintiff's case essentially amounts to a form of *res ipsa loquitor* argument: Sackville's lines broke, therefore there must have been negligence. In any event, even if it is accepted that the failure of Sackville's lines establishes a *prima facie* case of negligence, I find that the defendant's representatives discharged adequate skill and diligence in the circumstances to establish their defence.

DAMAGES:

[66] In the event I am wrong in my assessment of liability, I will address the issue of damages.

[67] **Valuation of Larinda.** The plaintiff claims that Larinda should be valued at USD $815,000. In addition to the stated value, the plaintiff seeks to recovery the cost of refloating Larinda (CDN $110,000.00) and general damages for lost anticipated revenues. The defendant does not dispute the figure of $100,000.00 for salvage costs, but does note that the proceeds of the subsequent sale of the ship would have to be subtracted from any award of damages. More significantly, the Trust disputes the valuation advanced by the plaintiff.

[68] The plaintiff submitted a valuation of Larinda by Doug Prothero, a maritime historian and Transport Canada-certified ship's Captain. Mr. Prothero has experience in schooner and sailing expedition companies, as well as in sail training and the international "Tall Ships" community. He has served, *inter alia*, as Chairman of the Canadian Sail Training Association.

[69] Mr. Prothero wrote in his report that tall ships tend to sell on the basis of quality of construction and commercial viability. He took the view that Larinda's ferrocement hull was constructed "in keeping with the highest standards known to the trade," and that Capt. Mahan, the builder, was "considered an industry leading authority on the topic of ferrocement construction." The interior craftsmanship, he wrote, was of a very high quality, adding that "[w]hile the theme of the vessel's interior is unique to the owner's personal taste. [*sic*] It's appeal is not limited in this way." As to Larinda's rigging, Mr. Prothero wrote, "[l]ike most ships, the Larinda was finished to the tastes and style of the owner. Her junk style rig is not found in other schooners in the Americas. Yet it was attractive, popular with the public and enabled a small crew to handle the ship in all weather conditions. This further contributes to the ships [*sic*] viability as a business." Describing the schooner's machinery, Mr. Prothero wrote:

> The Larinda's electrical system is a 24v DC design driven by a 3 cyl. Kubota. The installation was professional, efficient, and practical for the size of ship.
>
> Her 100 hp Wolverine engine was the ship's signature piece. This is perhaps the one place where the owner indulged his personal hobbies. The engine is not typical of what would be found in anything but a museum vessel. Certainly not what a potential buyer would necessarily be looking for. At the same time it provided a curiosity that contributed to the ship's line of business.

[70] Mr. Prothero concluded by assigning Larinda a value at the time of her loss of USD $815,000.00.

[71] The defendant's expert, Hendrik van Hemmen, a marine designer and surveyor, was vice president and partner in Martin, Ottaway, van Hemmen and Dolan, Inc., a marine consulting firm whose services include provision of valuation services. Mr. van Hemmen estimated that he had personally valued more than 100 vessels and cooperated on hundreds more, including vessels with "unique features such as historical pedigree, unusual construction materials (including ferrocement), sailing rigs and unusual vessel income sources."

[72] In his report, Mr. van Hemmen noted that valuation of traditional and sail training vessels is complex, as such vessels "do not easily conform to the traditional ship valuation methods as based on comparable sale, construction cost depreciated, or earnings potential." He took the view that only "a combination of the traditional

ship valuation methods can provide guidance regarding the market value of vessels similar to the subject vessel." He continued:

> Within the general category of traditional and sail training vessels the LARINDA is an anomaly. The subject vessel is built of a relatively unconventional construction material (ferro cement), is rigged in an unusual fashion (battened lug rig), has limited passenger capacity, but at the same time is acknowledged to have been a striking vessel as far as finish details is concerned.
>
> The undersigned has not been able to find any information on the vessel's sailing characteristics, but based on the undersigned's experience of as sailor and designer, the vessel would not have been a stellar sailor even when compared to other traditional vessels.
>
> While spectactularly finished, and undoubtedly attractive to an untrained observer, the vessel's actual design with her unconventional rig and disproportionate deck house would not be considered to be "classic" to a trained observer.
>
> These considerations inherently tend to make agreement between a willing and informed seller and willing and informed buyer difficult.

[73] Mr. van Hemmen provided three scenarios for valuation: "construction cost depreciated", "earnings potential" and "comparable sales." He regarded construction cost depreciated as generally "the weakest method for vessel market valuation," particularly for vessels of Larinda's type, because "it starts with a weak measure of value (construction cost) and uses various assumptions to arrive at a value, that rarely reflects a vessel's actual value." He noted that there was no documentary substantiation for the purported construction cost of USD $1M nor for the 2003 balance sheet value of USD $924, 817.00. He estimated that Larinda would have cost less than USD $400,000.00 to build in 1996. Assuming a 40 year life and an age of seven years (which he considered generous, given Larinda's actual age), plus an allowance for the value of the carvings aboard the vessel, Mr. van Hemmen estimated a construction cost depreciated value of USD $360,000.00.

[74] The second valuation Mr. van Hemmen considered was based on earnings potential. He wrote that "[u]nfortunately for this particular vessel, and for sail training vessels in general, earnings potential analysis is a rather nebulous subject." In Larinda's case, there was no clear explanation for the jump in revenue in 2003, nor did the balance sheet include salaries for the owners or finance charges for the ship. He wrote:

> It is noted that income for a vessel of this type is derived from two sources, passenger/trainee fees and appearance fees. Both are related to vessel size. The subject vessel could, at best, generate $1000 per day in passenger fees, and this would be hard work for the Owners, because passengers would not have to clean, paint and sail. Based on a 200 day season this would result in an income of $200,000. The income statements show that this is a very optimistic assumption, and quite likely the vessel would only occasionally manage to have this many passengers. It is also unlikely that appearance fees would exceed $100,000 per season, but together, this would limit vessel income to $300,000 per year. Even with such a rosy colored assumption, and subtracting reasonable expenses and salaries, this would result in an operation that is still barely profitable. This shows that operation of vessels in this trade is pretty much a labor of love and rarely a profitable venture.
>
> One way to increase revenues is to have a vessel with more berths. Generally, a larger vessel can charge more per berth (people generally are more comfortable on larger vessels), but even at a constant rate, doubling the berths doubles the potential passenger/trainee income, while at the same time appearance fees on a larger vessel also increase significantly (the vessel is larger, and therefore more visible, and the vessel is faster and therefore can call on more ports.
>
> Consequently, while never a very profitable proposition, larger sail training vessels are more likely to show at least some potential for positive earnings, then vessels with only capacity for five passengers.

[75] Mr. van Hemmen concluded that Larinda's value from the point of view of earnings potential was zero.

[76] As to a valuation approach based on comparable sales, Mr. van Hemmen reviewed a group of comparable vessels taking as a starting point known sales prices, valuations or asking prices between 2000 and 2006. He noted that market value would not necessarily vary much with age, but that the "market does not like ferro cement," a conclusion for which he offered several examples drawn from the list of comparables that were listed or selling for less than he estimated they would draw if they were not ferrocement construction. He estimated the closest comparable, however, to be a ship named Victory, and said, at p. 10:

> Based on the undersigned's review the VICTORY is probably the closest comparable vessel to the LARINDA. It trades better performance, wooden construction, greater passenger capacity, looks and pedigree (William Garden design) against the LARINDA's younger age, and fine carvings and decorations. This is on a subjective

> buyer's review. From a commercial point of view, the VICTORY has a substantially larger earnings based on its larger passenger capacity. Based on closest comparable vessel to the LARINDA, the VICTORY's value would indicate a reasonable market value for the LARINDA of approximately US$260,000.

Mr. van Hemmen continued, at p. 10:

> While, by itself, insured value is not always a reliable guide to vessel value, it often provides a reasonable indication. The subject vessel is reported to have been insured for US$250,000. It is reported that the vessel was insured for this amount in an attempt to reduce premium cost. No further details as far as why this value was selected have been provided. It is noted that premiums are related to insured value, but that is not generally the only driver for insurance premium costs. As long as the underwriter is comfortable that a vessel is not overinsured an owner can increase the insured value without raising the premium proportionally since premiums are driven by other factors such as liability considerations, expected claims sizes and deductibles. For vessels of unusual design and construction, underwriters tend to be careful about the insured value that they will allow on a vessel simply because valuation is so difficult. Generally on vessels of this type the underwriter requires an insurance survey, that provides a valuation indication, but no such survey has been provided.
>
> The Prothero valuation provides no substantiation of the vessel value whatsoever. The undersigned's above review provides no indication whatsoever that the subject vessel could be valued at US$815,000. The highest value for a six passenger vessel is US$175,000.

He concluded, at p. 11:

> Based on the undersigned's review of the subject matter and to a reasonable degree of engineering certainty the undersigned values the subject vessel in the range of US$250,000 for a sale that would be completed in less than a year.
>
> Taking into account the vessel's combination of unusual features, it is possible that a very exhaustive and lengthy search would result in a somewhat higher sale/purchase price in the range of US$300,000 to $350,000, but such a sale would also incur substantial carrying and marketing costs that would reduce the net value of the transaction to around the same value noted above.

As such, Mr. van Hemmen's analysis resulted in a valuation of USD $250,000.00.

[77] According to the Trust, the Prothero valuation of Larinda at a figure of USD $815,000.00 is baseless. Among other issues, Mr. Prothero identified the builder as an industry leader which the Trust submits is far-fetched considering he had only constructed this one vessel. The Trust says the valuation advanced by Mr. Prothero is not based on comparable vessels or construction costs and is not a reality-grounded commercial value. A more appropriate figure, they say, is USD $250,000, the amount the schooner was insured for (and the amount of the proceeds of the insurance claim). Mrs. Mahan had no clear explanation for how the figure of USD $250,000.00 was arrived at. On redirect, Mr. Prothero gave a figure of between USD $250,000.00 and USD $400,000.00 as the cost to rebuild the ship.

[78] The defendant notes that Mrs. Mahan had no explanation for the valuation of USD $924,000.00 on the Wolverine balance sheet, dated December 31, 2003.

[79] Arguing in support of Mr. Prothero's estimate, the plaintiff submits that Larinda was an underinsured, unique "labour of love" that took years to build. None of this supports the particular valuation offered by Mr. Prothero (nor is it clear on what basis it could be said that the ship was underinsured). Mr. van Hemmen did not agree that Larinda was underinsured.

[80] **Lost Earnings.** The Trust points out that the revenue and expense figures provided by the plaintiff were not prepared by Ms. Mahan and the person who did prepare them did not testify. The figures provided indicate that Larinda lost money between 1996 and 2003 and showed a net profit in 2003. Mrs. Mahan's evidence was that the ship made more calls and was more active in 2003 but there was no supporting evidence for this claim. There was no supporting documentation for the figures that appear in the Wolverine income statement for 2003. The defendant adds that Wolverine bought another ship in 2005 so that any lost earnings would be limited to 2004.

[81] **Conclusion.** I am satisfied that the proper valuation of Larinda at the time of the hurricane is USD $250,000. The plaintiff has not provided persuasive evidence in support of a valuation higher than the vessel's insured value notwithstanding the argument that Larinda was underinsured. I prefer the reasoning advanced in Mr. van Hemmen's report to that of Mr. Prothero. I note that I have also considered the evidence of marine surveyors Jeffrey R. Silver (on behalf of the plaintiff) and B. Eugene Rudolph (on behalf of the defendant). I am not satisfied that the plaintiff has established that there was a substantial loss of earnings. The evidence in favour of

Larinda as a money-making venture, as opposed to a “labour of love” (which is undisputed) is not compelling.

[82] If liability had been established I would have also ordered the defendant to pay the costs of raising Larinda from the bottom of Halifax Harbour(CDN $110,000.00) less the amount paid for her upon sale (CDN $28,888.88). The plaintiff would also be entitled to pre-judgment interest at the applicable rate for an award of special damages of this nature from the date of loss to the date of payment by the defendant.

CONCLUSION:

[83] For the reasons given above, the plaintiff’s claim is dismissed.

McDougall, J.