

## [Miller v. Cobra Industries Inc., \[1998\] O.J. No. 381](#)

Ontario Judgments

Ontario Court of Justice (General Division)

Lederman J.

Heard: October 7 - 9, 27 - 29, 1997.

Judgment: February 2, 1998.

File No. 93-CU-065881

[1998] O.J. No. 381 | 56 O.T.C. 367 | 2 C.C.L.I. (3d) 178 | 77 A.C.W.S. (3d) 442

Between Robert John Miller, Romill Distributors Ltd., Pen's Plus Office Supplies Ltd. and York Condominium Corporation No. 678, plaintiffs, and Cobra Industries Inc., Peter Hughes Ltd. cob as Hughes Motor Homes, and Spartan Motors Inc., defendants, and Lloyd's of London, Non-Marine Underwriters, third party

(21 pp.)

### **Case Summary**

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**Sale of goods — Conditions and warranties — Implied or statutory terms as to quality or fitness — Merchantable quality — Fitness or suitability of goods.**

This was an action for negligence and breach of warranty. The plaintiff, Miller, bought a motor home from the defendant, Hughes. The chassis of the motor home, including engine and exhaust system, was built by the defendant, Spartan. The coach was built by the defendant, Rockwood. The motor home was destroyed by fire. Miller drove the motor home for an extended period of time on the day it was destroyed. Miller claimed that the fire was caused by an overheated exhaust pipe located close to combustible materials. Spartan provided a manual to all users of its chassis regarding proper use. It did not give any specific advice to Rockwood regarding the building of the motor home. Rockwood, Spartan and Hughes alleged that the fire was electrical in origin. They claimed that there was insufficient evidence to establish the exact manner in which the electrical system caused the fire. They contended that they were not negligent in causing an electrical fire.

HELD: The action was allowed.

Miller was awarded damages of \$134,000 against Rockwood and Hughes. Rockwood negligently installed a tin-covered plywood floor onto Spartan's chassis without providing sufficient clearance for the exhaust system. The proximity of combustible material to the exhaust system caused the fire. The presence of the materials contravened directions provided by Spartan. The fire was not caused by an electrical failure. Hughes sold a motor home which was not fit for the purpose that it was intended. The motor home was not merchantable. Hughes committed a breach of warranty. It was entitled to indemnity from Rockwood and its insurer. The claim against Spartan was dismissed. Spartan was not negligent in constructing the chassis.

## Statutes, Regulations and Rules Cited:

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Sale of Goods Act.

## Counsel

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James M. Regan, Q.C., for the plaintiffs. David R. McCaskill, for defendant, Spartan Motors Inc. Brian J. Lawson, for defendant, Peter Hughes Ltd. I.H. Fraser, for third party, Lloyd's of London Non-Marine Underwriters.

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### LEDERMAN J.

1 This action concerns the legal responsibility for the fire to, and loss of, the plaintiff Robert Miller's motor home and the fire-related damages of the other plaintiffs. Damages have been agreed upon at \$134,000 plus interest.

#### Purchase and Operation of Motor Home

2 On October 26, 1991, the plaintiff, Robert Miller ("Miller"), took delivery of a new 1992 Rockwood diesel motor home. He had purchased it from the defendant, Hughes Motor Homes ("Hughes"), for \$84,568.

3 The chassis of the motor home was made by the defendant, Spartan Motors Inc. ("Spartan"), and the coach portion was made by Rockwood Inc. ("Rockwood"). Prior to Miller taking delivery, Hughes had added a central vacuum system, colour television and had extra heat ducts installed to make the unit winter usable.

4 Miller had owned and used five motor homes before purchasing the subject vehicle.

5 Miller used the Rockwood motor home for both business and pleasure purposes. He was in the security alarm business and he displayed the various security systems in the motor home. He would visit his prospective customers and afford them an opportunity to view his products in the motor home and see how they functioned. In terms of personal use, Miller had separated from his wife and he stored his belongings and often stayed overnight in the motor home.

6 After Miller purchased the Rockwood vehicle, he first kept it on a property in Holland Landing owned by his brother. Shortly before the fire in question, he moved the motor home so that it could be stored indoors in a parking bay at his place of business in Concord, Ontario. It was stored there on the night of the fire.

7 The fire occurred during the late evening of Sunday, February 9, or early morning of Monday, February 10, 1992. Miller had driven the vehicle approximately 6,600 kilometres from the time of purchase to the time it was destroyed in the fire. He had taken at least one trip to the State of Tennessee in the United States. He had taken several trips to Collingwood, Ontario. He also used it locally in his business ventures.

8 The motor home had two electrical systems. One system was a 120-volt system that operated off either external power or a generator in the vehicle. In addition, it had a 12-volt system that operated off the battery. The 12 volt system serviced various things, including the lights in the motor home. The 120 volt system serviced, among other things, appliances such as refrigerator, air conditioner, toaster, coffee maker, etc. During the course of the 3 1/2 months that he owned the vehicle, the circuit breaker had tripped on a number of occasions. This occurred particularly when he was using two or more appliances at the same time. The vehicle came with a 30-amp system.

However, sometimes it would be plugged into external power that did not provide the full 30 amps. Of course, when that occurred, the circuit breaker would disconnect the power to such appliances as the coffee maker and toaster.

**9** Prior to the fire, Miller's Rockwood motor home had been serviced by Hughes on either one or two occasions for a problem with the cruise control and a red light coming on, neither of which are germane to the issues in this case.

**10** The motor home had a diesel engine and was equipped with a turbo charger which served to boost power to the engine. The turbo charger would be engaged at speeds of about 25 - 30 kilometres per hour to provide acceleration. At speeds of 50 kilometres per hour and higher, the turbo charger would be engaged at all times.

**11** The turbo charger would run hot. Miller was advised by Hughes that it was advisable to let the engine idle to cool down when stopping. He was told that damage could be caused to the bearings in the turbo charger if it was not cooled down properly. He would so idle the engine for an average of 10 to 15 minutes every time the vehicle was stopped for refuelling or when parking it.

#### The Fire

**12** On February 9, 1992, Miller had taken his family to Collingwood for a weekend of skiing. The temperature was very cold. While the motor home was parked, Miller plugged his block heater into a receptacle in his bedroom and the 120 volt power was plugged into an outside terminal. He did have some difficulty starting the engine on Sunday, February 9, but managed to get it going. On driving back from Collingwood, he reached speeds of up to 90 - 100 kilometres per hour on Highway 400. The turbo charger was operating at all times at these speeds. The trip took between 1 1/2 - 2 hours.

**13** Miller dropped off his family in Aurora and then drove his motor home to his business premises in Concord where he intended to store it for the night before returning to Aurora. He arrived at Concord at about 11:00 p.m. He forgot the key to his business establishment and, therefore, could not gain access to the parking bay. As a result, he telephoned his girlfriend to bring another key. In the meantime, Miller allowed his engine to idle and cool down for 10 to 15 minutes before stopping it. His girlfriend arrived about 20 minutes later with the key. He then put the vehicle into the bay area and turned off the engine. He did not plug in the 120 volt power to an external source, as he intended to take the vehicle out early the next morning on a business trip.

**14** Miller testified that he followed his usual routine of shutting down the motor home by turning off the internal furnace, pump refrigerator, radio, lights and then he exited the vehicle. He, however, did not turn off the Master Switch which would have disconnected the 12 volt system and would have shut off the battery and starter. Because he intended to use the vehicle the next day, he did not believe that the battery would run down over a period of a few hours. He closed the garage doors and left the premises through the front of the building.

**15** At no time during this process did he smell smoke. On leaving the premises, he heard a "pop" sound. He was not certain what it was, but in retrospect feels it may have been the air brakes.

**16** Some time later, the security system in his building was triggered and his secretary received a call from the alarm company at 12:57 a.m. She advised Miller and he immediately drove to the premises, arriving at approximately 1:40 a.m. He felt on the way down that, perhaps, there had been a break in. On arriving, he saw no indications of a break in. He saw water coming out from underneath the garage doors. He went to the front of the building, opened the door and went in. He smelled smoke and he immediately called the fire department.

**17** By the time the firemen arrived, the Rockwood motor home was substantially destroyed. There was also damage to the equipment and the business in the warehouse. All of these damages have been agreed upon, the only issue being liability which, itself, is dependent upon determination of the cause of fire.

#### The Exhaust System

**18** Spartan is in the business of manufacturing chasses for buses, recreational vehicles and cement mixers. It specifically manufactures a rolling chassis, which includes the engine, drive train, axles, suspension system and fuelling system. Approximately 10 to 15 motor home companies buy chasses from Spartan. Rockwood was one such customer. Spartan is generally not advised of the kind of home that the customer intends to put on the chassis.

**19** Spartan manufactured the chassis which became part of the Miller motor home. It was completed by Spartan on August 26, 1991 and released to Rockwood. This chassis was one of 10 purchased from Spartan by Rockwood.

**20** The chassis was considered a standard one, designed to fit a 32 - 35 foot recreational vehicle. The only change to this standard chassis was upon request from Rockwood that the horse power be lowered from 190 to 160.

**21** In the final inspection report prepared by Spartan at the end of the production of the motor home in question, it was noted that, with respect to engine conditions, there was an appropriate "exhaust clearance". By that, it is meant that Spartan inspected to ensure that there were no plastic air lines, electrical harnesses, etc., close to the exhaust and to ensure that the exhaust was not hitting on a frame rail to cause vibration.

**22** Timothy Williams, the Chief Engineer for the Diversified Products Division of Spartan, testified that a typical diesel engine runs at about 800 degrees - 900 degrees F (i.e., the temperature of exhaust gases in the pipe), but that he was generally not concerned about the risk of fire because there were no flammable Spartan components close to the exhaust pipe. If the design was such that there would be combustible parts in close proximity to the exhaust, Spartan's practice was to instal a heat shield to protect such parts. However, because each body manufacturer places different kinds of bodies on their respective chassis, Spartan is unable to determine whether other heat shields may be required.

**23** There was little or no consultation between Spartan and Rockwood. Spartan did not instruct Rockwood how to build the body on its chassis. Nor did Spartan have any input as to how Rockwood intended to build the body. Mr. Williams testified, however, that Spartan prepared a "Body Builder's Manual", which is sent to their customers, and it recommended a minimum 3-inch clearance between engine components and other parts, and the use of heat shields to protect flammable materials. He said that Spartan's own protocol seeks a clearance of 6 inches. This Manual was provided to the engineering department of Rockwood but, apparently, not to its production line.

**24** The engine was equipped with a turbo charger which uses the exhaust gases to turn the turbine. This, in turn, forces more air into the intake side and provides more power for the engine. When the turbo charger is operating at maximum, it would have a red glow coming from the heat that is created. For that reason, it is recommended to the owner that he or she should let the recreational vehicle idle for about 15 minutes before shutting it down to prevent the bearings from "cooking". Idling the engine lets the oil circulate while it is cooling down.

**25** In building the body around the Spartan chassis, Rockwood created a bulkhead upon which a bedroom floor is situated. The bulkhead is made of plywood and covered by galvanized tin to prevent the wood from rotting from the emission of oils from the engine. The tin also provides support for the bulkhead. This galvanized tin, however, was never meant to serve as a heat shield. In terms of design, the exhaust pipe was located 1 5/8 inches from the plywood backed by the galvanized metal. The underside of this bulkhead, however, had exposed wood as it was not covered by any metal whatsoever. For some unexplained reason, this bulkhead containing the exposed wood was placed on the wrong side of the heat shield and was not protected from the heat emanating from the exhaust pipe.

#### Causes of the Fire

**26** The evidence leads one to conclude that the fire originated from an area below the bedroom floor towards the rear of the coach on the driver's side where the engine was located. None of the investigators found any evidence

of arson and all were, therefore, content to rule it out as a cause. Similarly, no evidence was found that anyone had been smoking in the motor home and all the investigators were of the view that it should be ruled out as a cause. Furthermore, the furnace system was ruled out as a source of ignition, as well, because it was located too far away from the area of origin of the fire.

**27** That left two possibilities for the cause of fire that were advanced by the experts, one being electrical, and the other being radiating heat from a heat source.

#### Electrical System

**28** The defendants suggest that if there was an electrical fault, there is nothing in the evidence that would allow the court to determine if the failure was caused by inadequate design, faulty manufacture, accidental damage, or system overloading. They suggest that an electrical failure cannot, on the evidence, be attributed to any negligence on their part.

**29** Robert Schnurr ("Schnurr") is an experienced fire investigator with the Fire Marshall's Office, who has had extensive training and experience in the field of fire investigation. He examined the motor home the morning following the fire. He made it clear, however, that he did not believe he had sufficient expertise to give an opinion on the possibility that electrical failure had caused the fire. He did what he could in his investigation to examine this matter by tracing the existing wiring, but he did not find anything obvious that seemed to him to suggest that there was an electrical short.

**30** Steven Hawken ("Hawken") is an electrical engineer with Arcon Engineering. He investigated the vehicle three days after the fire and after the vehicle had been towed to another site. He was not prepared to eliminate the possibility that the fire was caused by an electrical fault even though he found no positive evidence that the electrical system was the cause. He found no evidence of arcing on the wiring that was left in the motor home and he considered that significant because arcing usually occurs when there is an electrical fault. He did concede, however, that there were gaps in the wiring and that there may have been at least one section missing in the more heavily damaged areas.

**31** As stated earlier, there were two electrical systems in the motor home: a 120-volt system which ran most of the appliances, etc.; and a 12-volt system which ran off the battery and was used for such things as the lights in the coach. The 120 volt system would operate either with the plug attached from the coach to an outside 120 volt source or off the generator. Miller gave evidence that he did not plug in the 120 volt circuit on the night in question to an outside source as he intended to drive the motor home the following morning. His evidence was that he had turned off the generator and, as a result, the only electrical source left on was the 12 volt system that ran off the battery. There was no evidence that any appliance that would draw electrical power was on at the time that the fire occurred.

**32** Tim Leier ("Leier") is a Forensic Engineer at Walters Consulting Corporation. As such, he investigates vehicle and building fires, electrical failures and vehicle failures. He did not investigate the motor home at the material time, but rather relied, for his opinion, on photos and reports and documents prepared by others. He gave his opinion about four years after the event. His view was that neither Messrs. Schnurr nor Hawken did a complete investigation into the possibility of an electrical fire and in any event they did not rule it out. Leier testified that if there was no power on, there could not be an electrical fire. He pointed out, however, that if the lower 12 volt system is fed through an inverter, that would step up the voltage to 120 volts. Because Miller did not turn off the Master Switch to shut down the 12 volt system, Leier speculated that the power inverter system could have been drawing power from the motor home's auxiliary battery and could have been powering circuits after Miller left the motor home. He testified further that there was some positive evidence of an electrical failure, in that one of the circuit breakers for the 120 volt electrical system had been tripped. Miller had noted that this circuit breaker had been frequently triggered in the past, which, to Leier, was an indication that the electrical system had frequently been overloaded. He testified that circuit overloading could cause overheating and could lead to a fire. If that

overheating had triggered the circuit breaker and led to the start of smoldering just as Miller parked the motor home, then the fire could have progressed after Miller left.

**33** All of this, however, remains a hypothesis, since it is impossible to determine if the tripped breaker had occurred before or after the fire. Indeed, there is even doubt whether the inverter circuitry is in fact connected to the main breaker panel in which the tripped breaker is found. One, therefore, cannot conclude, on a balance of probabilities, that this fire was caused by any form of electrical failure.

#### Exhaust System (Pyrolysis)

**34** Three experts (Donald Peers, a fire investigator with the Fire Department of the Township of Vaughan, in addition to Schnurr and Hawken) gave evidence on behalf of the plaintiff. They had examined the motor home at the relevant time and their opinion was that the fire started beneath the floor area and could have been the result of heat generated by the exhaust system. Their view was that the hot exhaust pipe could have produced enough radiant heat to cause a pyrolysis of combustible materials located within two inches of the exhaust pipe.

**35** The motor home was built in such a way that the hot exhaust pipe was positioned only 1 5/8 inches away from the exposed plywood on the underside of the bulkhead. A heat shield had been installed to protect the coach from the heat of the exhaust as well as other engine parts. However, the bulkhead was positioned in such a way that the unexposed wood, which formed part of the bulkhead, was in closer proximity to the exhaust pipe than the heat shield itself. The plaintiff submits that this design or manufacture was negligent, in that someone failed to ensure that the heat shield was positioned between the heat source and the bulkhead so as to prevent the latter from the radiating heat.

**36** Pyrolysis is the process that takes place when heat is applied to combustible material over a period of time. The radiation is absorbed and the temperature produced in the material rises until the combustion temperature of that pyrolysis product is reached. The pyrolytic action is such that heat is transferred and, as a result, it breaks down the composition of the combustible material, such as wood, and lowers its ignition temperature. Pyrolysis is the transformation by heat which precedes combustion. In the process, there is a degradation of the wood as the heat is applied and the wood's properties change and the moisture content is reduced. Volatile substances are liberated and the wood enters a charring state and ultimately ignites.

**37** The ignition temperature of wood can vary but is easily in the range of 250 - 320 degrees C. If charring has taken place over a period of time, the lowest ignition temperature could be around 100 - 150 degrees C. Mr. Hawken testified that the heat from the exhaust pipe could have pyrolyzed the wood and ignited it. In his view, the underside of the plywood, which was unprotected and exposed to the exhaust pipe and was only 1 5/8 inches away from it, could have degraded and smoldering would have taken place.

**38** For pyrolysis to occur, heat has to be applied at a high temperature over a short period of time, or at a lower temperature for a longer period of time.

**39** However, one cannot scientifically establish the existence of pyrolysis unless one knows the temperatures to which the material has been exposed and the length of time that the material has been exposed to those temperatures. The evidence showed that the maximum exhaust gas temperature for the relevant engine configuration in the motor home was in the range of 800 degrees C. The portion of the exhaust pipe nearest the bulkhead would be somewhat cooler and would, in all likelihood, be in the range of 300 - 320 degrees C.

**40** In trying to demonstrate how this would affect the temperature of the bulkhead, both Leier and Hawken tried to create mockups or models to show the relationship between the Rockwood exhaust pipe and the compartment bulkhead and measured the surface temperatures of the bulkhead. The test on Leier's mockup never generated bulkhead temperatures above 122 degrees C and Hawken's mockup never generated bulkhead temperatures above 31 degrees C. Theoretically, wood heated continuously to a temperature of 122 degrees C would take years

to reach the ignition point and no one has ever detected evidence of pyrolysis in wood heated to a temperature of only 31 degrees C. These tests, however, prove little since they could not replicate the exact conditions under which the combustible material was exposed to the exhaust pipe in the Miller motor home.

**41** In the end, there can be no certainty as to the cause of this fire. Although the most likely cause was pyrolysis, because of the variables of temperature and length of time to which the wood of the bulkhead would have to be exposed to the exhaust pipe, one cannot definitely conclude that this was the cause. It should be pointed out, as well, that Messrs. Hawken, Peers and Leier all testified that it is quite common for the cause of a vehicle fire to remain unknown.

**42** Having said that, however, the plaintiff has adduced sufficient evidence to raise an inference of negligence on the part of the defendants as a result of the placing of exposed plywood in front of a heat shield in very close proximity (1 5/8 inches) to an extremely hot heat source, the exhaust pipe. The placing of this combustible material such a short distance from the heat source was in contravention of Spartan's own guidelines which recommended a minimum 3-inch clearance at all points around the exhaust system. Although this does not mean that a clearance of less than 3 inches would definitely be unsafe, it is obvious that the placement of this combustible material in between the exhaust pipe and the heat shield and only 1 5/8 inches away from the exhaust would create some risk even in the minds of the manufacturer.

**43** It is true that the mere fact that a fire having occurred does not raise an inference of negligence. However, where there is evidence, in addition to the fact of a fire itself, from which it can be inferred that a specific defendant's negligence was the cause of the fire, then the maxim *res ipsa loquitur* can be utilized to assist a plaintiff in proving that those who have control of an object should be held liable for a fire which originates within it.

**44** The maxim was explained by Erle C.J. in *Scott v. London & St. Katherine Docks Co.* (1865), 3 H. & C. 596 at p. 601:

There must be reasonable evidence of negligence.

But where the thing is shewn to be under the management of the defendant or his servants, and the accident is such as in the ordinary course of things does not happen if those who have the management use proper care, it affords reasonable evidence, in the absence of explanation by the defendants, that the accident arose from want of care.

**45** In *Hellenius et al. v. Lees*, [\[1972\] S.C.R. 165](#), Ritchie J., after quoting the above passage, stated at p. 172:

I find that the limitations of the doctrine so stated are accurately described in *Clerk & Lindsell on Torts*, 13th ed., para. 967, at p. 968, where it is said:

The doctrine applies (1) when the thing that inflicted the damage was under the sole management and control of the defendant, or of someone for whom he is responsible or whom he has a right to control; (2) the occurrence is such that it would not have happened without negligence. If these two conditions are satisfied it follows, on a balance of probability, that the defendant, or the person for whom he is responsible, must have been negligent. There is, however, a further negative condition: (3) there must be no evidence as to why or how the occurrence took place. If there is, then appeal to *res ipsa loquitur* is inappropriate, for the question of the defendant's negligence must be determined on that evidence.

**46** In *Chabot v. Ford Motor Company of Canada Limited* [\(1982\), 138 D.L.R. \(3d\) 417](#), the plaintiff had bought a truck in Winnipeg from a dealer. Three weeks later, after he had driven it back to Ontario where he lives, it was destroyed by a fire found to have been caused by improper tightening by the manufacturer of the oil pan drain plug. In applying the principles of *res ipsa loquitur* to that case, Eberle J. concluded that the drain pan and plug were under the sole management control of Ford. There was no evidence that the plaintiff, after the delivery of the vehicle, tampered with the drain plug. Eberle J. concluded that on those facts, the installation of the drain plug was

the exclusive province of the manufacturer and no other agency intervened. That was sufficient to establish control on the part of the manufacturer.

**47** Eberle J. was also satisfied that this fire occurrence was such that it would not have happened without negligence. It is a matter of common experience that oil pan drain plugs do not come loose three weeks after the purchase of a vehicle unless someone has been negligent.

**48** He concluded that unless the defendant offered a theory consistent with the facts of a way in which the accident may have happened without negligence on his part, negligence may be inferred against the manufacturer.

**49** In the case at bar, the design and placement of the exhaust system and bulkhead and the electrical system were within the sole control of Spartan and Rockwood. Miller had no involvement whatsoever in these matters, nor is there any evidence that he overused or misused the electrical system prior to the fire.

**50** It is a matter of common experience that motor homes do not break into fire three months after their purchase unless there has been negligence. Because the plaintiff has adduced evidence of some negligence in the placement of the unexposed plywood in close proximity to the exhaust system, contrary to Spartan's protocol, and in view of the fact that Hawken testified that pyrolysis of the wood was the most likely cause, it was incumbent upon the defendants to offer a theory as to how this fire could have occurred without negligence on their part. There was no basis in the evidence to suggest any negligence on the part of the plaintiff. That being so, it is appropriate to infer negligence on Rockwood's part.

**51** As for Spartan, it had no specific knowledge of the application its chassis would be put to by Rockwood and, therefore, it could not have constructed heat shields to protect what it did not know required protection. Spartan did advise its customers in its Manual to keep combustibles at least 3 inches away from hot exhaust parts. This was a sufficient warning to Rockwood. Even if it was not, this danger should have been an obvious one to Rockwood, an experienced motor home manufacturer. Thus, the placement of the combustible wood so close to the exhaust pipe was the sole negligence of Rockwood.

**52** Cobra Industries Inc. absorbed the business of Rockwood and accepted responsibility for Rockwood's liabilities in this litigation. Rockwood was formally dissolved in 1993. Rockwood's insurer was Lloyd's of London, Non-Marine Underwriters and was added as a third party to this action.

**53** Accordingly, the plaintiffs will have judgment for \$134,000 plus prejudgment interest against Cobra Industries Inc. and Lloyd's of London, Non-Marine Underwriters. The action is dismissed as against Spartan.

**54** As against Hughes, it is clear that Miller purchased this motor home from Hughes and it was destroyed by a fire after only 3 1/2 months of use. In such an instance, it can be concluded that the motor home was neither fit for the purpose that it was intended nor was it merchantable and, therefore, the plaintiff is entitled to succeed for breach of warranty under the Sale of Goods Act. Any limitation of liability clauses in the sale agreement cannot detract from these implied statutory conditions of fitness and merchantable quality. (White Motor Credit Corp. of Canada Ltd. v. Fahrngruber, [\[1985\] O.J. No. 464](#) (H.C.J.) at 56 - 57.) Hughes will be entitled to be indemnified by Cobra Industries Inc. and Lloyd's of London, Non-Marine Underwriters.

**55** If the parties cannot agree as to costs, they may make written submissions.