

[Products Liability Law Daily Wrap Up, TOP STORY—AIRCRAFT AND WATERCRAFT—Minn. Sup. Ct.: New trial required on liability against aircraft fuel pump manufacturer, \(Sept. 12, 2019\)](#)

Products Liability Law Daily Wrap Up

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By Leah S. Poniatowski, J.D.

Manufacturer's win on post-trial judgment exclusion of expert testimony is reversed by the Minnesota Supreme Court because the trial court's exclusion of the expert's whole opinion was overbroad and an abuse of discretion.

A state trial court abused its discretion when it reversed a \$27.7 million jury verdict against an aircraft fuel pump manufacturer on a renewed motion for judgment as a matter of law, according to the Minnesota Supreme Court. The state high court held that the lower court's exclusion of all of the testimony offered by an injured pilot's expert was in error because the expert's causation opinion had several reliable bases independent of a pump performance test which the expert had used in the formation of his opinion and which lacked foundational reliability. As such, the exclusion of the expert's testimony in its entirety was overbroad and judgment as a matter of law was error. Because the original jury verdict had been prejudiced by the inclusion of unreliable evidence, a new trial on liability was granted (*Kedrowski v. Lycoming Engines*, September 11, 2019, Anderson, G.).

In September 2010, a single-engine aircraft crashed in Minnesota shortly after take-off. The pilot was seriously injured and filed a products liability lawsuit against Lycoming Engines and Kelly Aerospace Systems, Inc., which manufactured the fuel pump in the aircraft's engine as a joint enterprise. The pilot alleged that because Lycoming manufactured the engine in a defective condition, the aircraft lost power and caused the crash and, consequently, the pilot's injuries.

Fuel pump. The pilot had one expert testify as to the cause of the crash. The expert conducted an extensive inquiry, including examining the aircraft and its maintenance history, testing the engine and its components, and interviewing the pilot and assessing other human factors. The expert opined that the Lycoming LW-15473 fuel pump was defectively manufactured, and testified that the pump was "incapable of providing for the needs of the engine." He observed that the aircraft's propeller had not been severely damaged, which he said indicated that it was producing low power at the time of the crash. He also noted that a dynamometer test showed that the engine output was significantly below where expected. However, he testified that the aircraft would have had sufficient horsepower to remain in flight.

He disassembled the entire engine and examined each component. Following that analysis, the expert concluded that only the fuel pump was faulty. This conclusion was supported by the pilot's statement that the engine would die after the boost pump was turned off. The expert also conducted a flow bench test.

Flow bench test. A flow bench is used to measure a fuel pump's performance, and tests three parameters: (1) the revolutions per minute (rpm) of the engine when attached to the pump; (2) the pounds per square inch (psi) of pressure output from the pump; and (3) the pounds per hour (pph) of fuel flowing through the pump. In the case at bar, the expert relied on a third-party approved to manufacture Lycoming fuel pumps to provide the test parameters. The expert collected the parameters and, following his test, he observed that the fuel flow was significantly below the expected rate—48 pph instead of 217 pph—at a certain rpm and psi.

Accordingly, the expert testified that the test showed that the pump was problematic and that it was "not capable of producing design flow and pressure." Further examination by the expert revealed air leakage, and when he tested the pump in another aircraft, it failed to start only when the pump at issue was installed.

Evidentiary challenges. Lycoming challenged admission of the opinion throughout the trial. Specifically, Lycoming challenged the flow bench test parameters, asserting that the expert should have used Lycoming's

design specifications. Lycoming's objection was overruled. Once the pilot rested his case, Lycoming moved for judgment as a matter of law on the ground that the expert did not test the pump to determine if it could perform at the flow and pressure rates at which the expert conceded could power the engine and, thus, the pilot failed to establish causation. The court denied the motion on the grounds that causation issues are generally for the jury and that it was not a clear case of being a matter of law.

The jury returned a special verdict finding that the pump was unreasonably dangerous because of a manufacturing defect, which caused the pilot's injuries. However, the jury did not find that the pump was defectively designed. Additionally, the jury determined that: Lycoming was negligent in testing or inspecting the pump; the negligence was a direct cause of the pilot's injuries; the pilot was not negligent vis-a-vis his own safety; and Lycoming and Kelly Aerospace shared fault at 55 and 45 percent, respectively. The jury returned a damages award of \$27.7 million to compensate the pilot.

Lycoming renewed its judgment as a matter of law motion in addition to seeking a new trial. The trial court granted the motion for judgment as a matter of law, holding that the pilot's expert's testimony on causation lacked foundational reliability. Because the expert's testimony was the only evidence to support causation, the claims against Lycoming failed. The court also granted the motion for a new trial with respect to liability, holding that the pilot's "repeated violations" of pretrial evidentiary orders prejudiced Lycoming. The pilot filed an appeal and Lycoming cross-appealed for a new trial on damages. The state appellate court affirmed the judgment as a matter of law, but did not address the new trial on damages challenge. The pilot filed the present petition for review to Minnesota's highest court.

Total exclusion error. The state high court held that the district court erred when it excluded the whole of the expert's causation opinion. The supreme court explained that in order for expert testimony to be admissible, it must have foundational reliability, which is determined by examining the reliability of the underlying theory and the reliability of the evidence in the case at bar. The lower court provided three rationales in support of its ruling. First the court concluded that the flow-bench test used an "inherently unreliable methodology" because the expert's testing was based on parameters that were not part of the design nor representative of the engine's fuel needs. The high court agreed with the lower court that this opinion lacked the required foundational reliability, affirming the conclusion that the methodology used to conduct the flow-bench test was insufficient.

However, the trial court's decision to strike the whole causation opinion was overbroad, Minnesota's high court held. The expert's opinion was not solely based on the flow bench test—he proffered a differential analysis of the engine components to conclude that the only part capable of causing the loss of power was the pump. Further, the conclusion that the pump was not functioning properly was based on the pilot's experience of engine failure after shutting off the boost pump. Because there was other support for the expert's conclusion, the lower court erred when it excluded the whole of the expert's opinion.

The lower court's reasoning that the testimony should be excluded because there was no explanation for how the aircraft could take-off and fly for 312 hours before crashing was incorrect, the high court determined, because the perceived failure of the expert to account for those facts was an issue of credibility for the jury and not an issue of admissibility. Similarly, the court's exclusion of the testimony as based on the expert's statement that the aircraft was operational despite its reduced horsepower was in error because the expert's statement went to the weight of his testimony. Therefore, because the flaws in the expert's testing and statements were not fatal to the whole of his opinion, judgment as a matter of law in favor of Lycoming was reversed.

New trial. According to Minnesota law, new trials may be granted when judgments as a matter of law are reversed, and when there is an erroneous admission of evidence. The high court agreed that the pilot's expert's flow bench test results were prejudicial. Because the flow-bench testing related only to Lycoming's liability, and liability being "distinct and separable" from the issues of damages, the Minnesota Supreme Court granted a new trial only on the issue of liability. The question of whether a new trial concerning damages was warranted was remanded to the appellate court.

The case is No. [A17-0538](#).

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Companies: Lycoming Engines

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