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On remand from the Supreme Court’s summary order to reconsider in light of its Festo opinion, the patentee’s claims to a control system for directionally “inclining” a satellite were not infringed. The patentee sought to assert an equivalent under the DOE for a claim element requiring controlled gyroscopic rotation that “varies sinusoidally” over the satellite orbit “with a predetermined rate schedule.” However, the equivalent vitiated the claim limitation on which the equivalent was based under the “all elements” rule that restricts the application and scope of the DOE. The court determined that the Supreme Court’s remand order did not bar deciding the case on alternative grounds not requiring analysis of Festo’s pronouncements on prosecution history estoppel (“PHE”).

Lockheed’s Pat. No. 4,084,772, for “Roll/Yaw Body Steering for Momentum Biased Spacecraft,” claimed a control system that allowed satellites in an “inclined” geosynchronous orbit – meaning that the orbit is at the same rate as the earth’s rotation but is not in the equatorial plane – to rotate slightly to aim at the equator. In essence, the patent claimed a wheel that spins with greater angular velocity as the satellite reached the apex of orbit furthest from the equatorial plane. Then, the “spinning” velocity reduces as the satellite’s orbit approaches the equatorial plane. The wheel stops spinning at the equatorial plane, and reverses direction and spins up and then down again in the second half of the orbit.

Space Systems Loral’s (“SSL”) system used two spinning wheels in a “V” configuration. However, the SSL wheels always spin, i.e., they never stop and reverse their direction, although their rate of spin varies in relation to the orbit. Finally, the SSL system sometimes employs a third spinning wheel, called the L-wheel. When invoked, the L-wheel also always spins, varying above and below a baseline spin rate.

As to the summary remand, the court reasoned that it could decide the case on alternative grounds.

We do not interpret the Supreme Court’s order in this case as requiring us to address the Festo issue or as precluding us from deciding the case on some other ground. . . . the case on remand stands in the same posture as it did in the earlier appeal before our decision there. . . . Indeed, our disposition of this appeal on grounds other than prosecution history estoppel literally complies with the Supreme Court’s order in the sense that, “in light of Festo,” we have “further consider[ed]” the case and concluded that the judgment of the district court should be affirmed on another ground.

In evaluating infringement, the court first noted that the district court’s construction of the means clause was overly broad because it did not include structure falling under the qualifying phrase following the means plus function language. The qualifying phrase was that the wheel speed “varies sinusoidally” over the orbit “with a predetermined rate schedule.” The construction of “varies sinusoidally” included the requirement that the speed pass through zero, i.e., that the wheel come to a stop and reverse speed. None of the SSL wheels do this, although the L-wheel spin varied sinusoidally, but around a non-zero bias. As a result, there was no literal infringement, and no §112 ¶6 equivalence because the SSL satellite did not perform the identical claim function: varying non-sinusoidally around zero at a predetermined rate schedule.

Finally, Lockheed’s DOE argument was rejected because any equivalent that would cover the SSL spinning wheels would vitiate the claim limitation.