

## **S2.5.2 CASE STUDIES – OPERATIONAL BENEFITS OF IMPROVED DIESEL FUEL FILTRATION ON INJECTION EQUIPMENT DURABILITY**

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The author (retired) led modular common rail engineering development at Cummins for diesel high horsepower engines (19 liter through 95 liter displacement: 700 hp – 4500 hp) since 2001. These were developed for achieving Tier 2-4 stringent emissions levels. Common rail fuel systems require much finer level of fuel filtration and water separation than earlier mechanical diesel fuel systems. However, the end-users were not generally prepared for this step-change in filtration requirements and unfortunately many experienced significant down time and expense for unscheduled repairs and early life failures. This paper and presentation provides some positive case studies where end-customers were able to show the benefits of improved fuel cleanliness and water separation on up-time, productivity and reduced maintenance costs. A workshop in Ft. Lauderdale FL (June 2015) presented these findings, with recent follow-ups for ongoing progress, and next steps. This paper documents the testimonials and provides some general guidance for future improvements. Discussion of Total Cost of Ownership.