

High Speed Test : Proposal for a Design of Experiment (DOE)

History : three possible scenarios for a high-speed test in the tyre GTR considered in the 1st GTR meeting

- The first is to create a completely new test covering both sets of conditions. This option would require a Design of Experiment (DOE), with an extensive research and scientific study, and would take considerable time (5 years minimum) and cost to complete.
- The second option is to use both tests. In other words require candidate tyres to satisfy both sets of regulatory requirements. But, this means more testing costs for industry, and may not be acceptable to the USA because the tests would not be harmonized.
- **The third option is to use the existing FMVSS 139 high-speed test for speed symbols up through “S” (180km/h), and use the R 30 high-speed test for speed symbols “T” (190km/h) and above. This option would provide for only one test per tyre, but proof must be made that all “T” and above tyres automatically pass the FMVSS 139 high-speed test and vice versa that that all “S” and below tyres automatically pass the R 30 high-speed test.**

=> The 3rd option was approved at the 1st GTR meeting

Proposed High Speed Test For Design of Experiment

Run extended legal tests till unable to continue :

FMVSS 139 (67" drum)

**R30 (2m drum)
Speed Symbol V**

Steps above legal

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30' @ 140 km/h

10' @ 220 km/h

30' @ 150 km/h

10' @ 230 km/h

30' @ 160 km/h

20' @ 240 km/h

30' @ 170 km/h

1

10' @ 250 km/h

30' @ 180 km/h

2

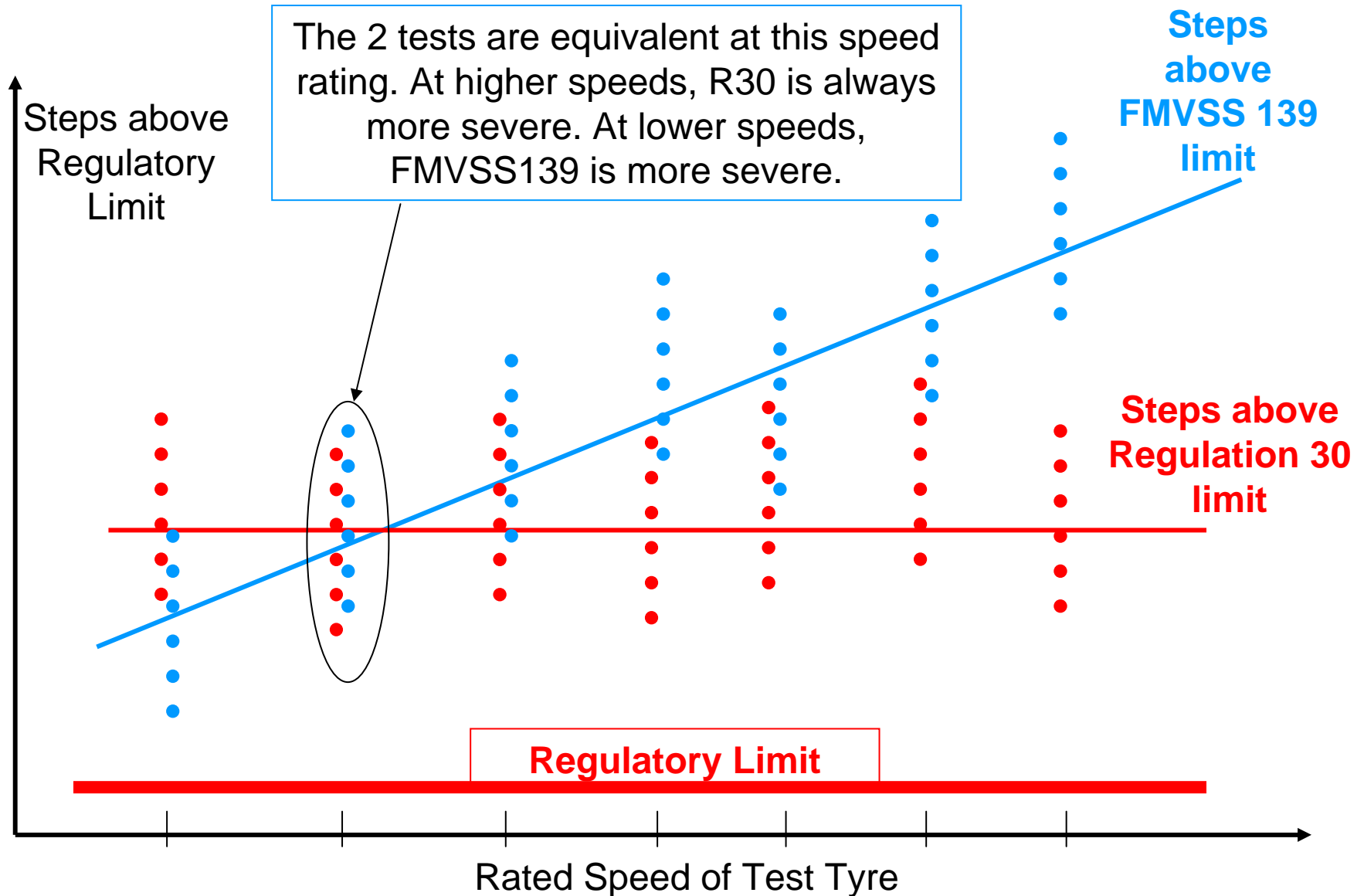
10' @ 260 km/h

etc....

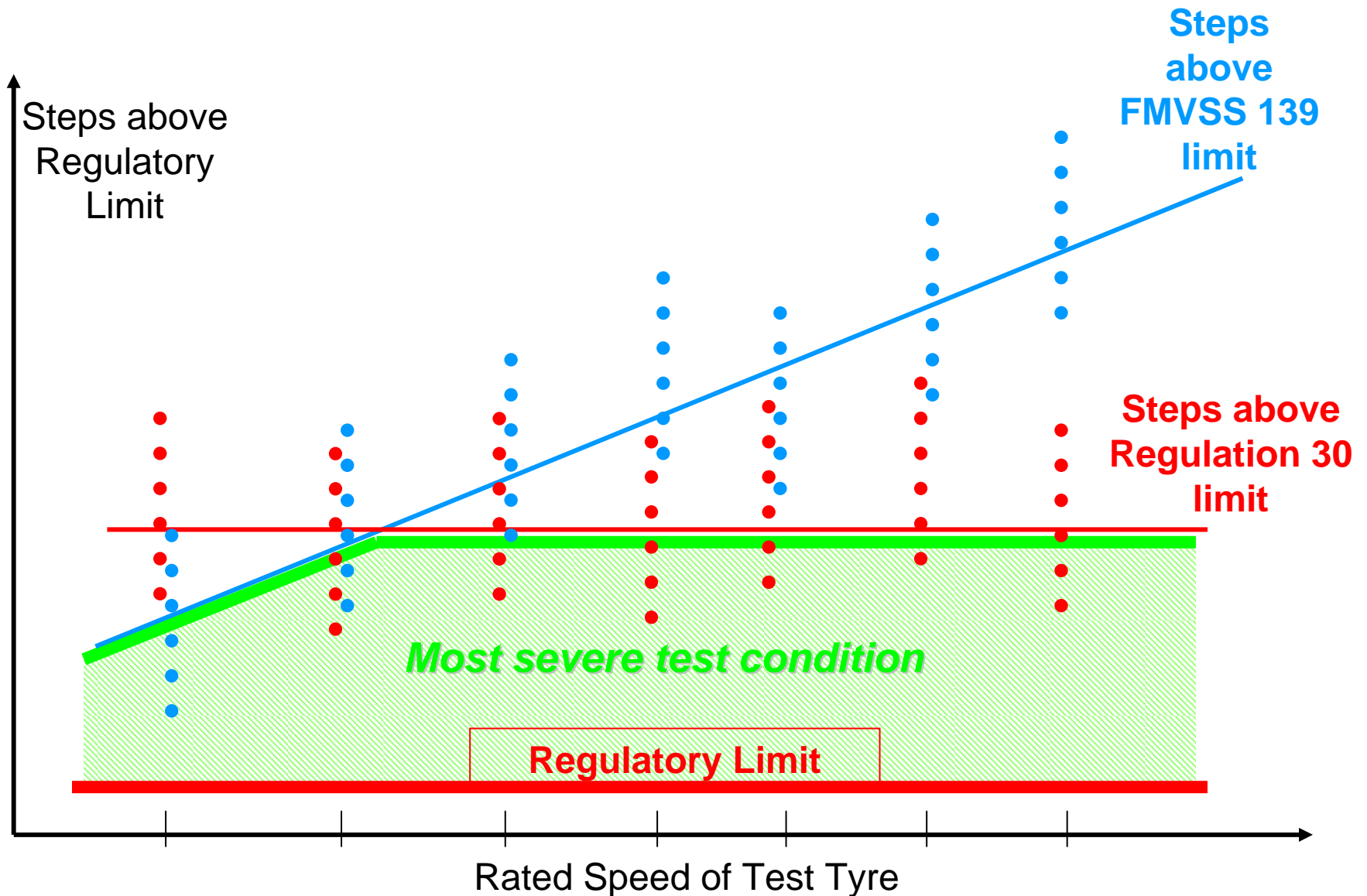
etc...

etc ...

Theoretical Test Equivalence Point



Theoretical Test Equivalence Point



Forward Actions

- **Industry to generate more data to validate the proposal**
- **Analyze available data base to see if useful data exists to supplement Tyre Industry data**
- **If confirmed large number of tests to be run**

Road Map for High Speed Test

1st Step : Approach:

- Sept 2006: Proposed idea to use "most severe" test
- Feb 2007: Propose method to determine test severity equivalence point

2nd Step : Gather data, evaluate feasibility, and presentation of preliminary results

- June 2007: Feasibility established
- Sept 2007: Present preliminary results to GRRF

3rd Step : Finalize draft proposal

- Sept 2008: Present final data, rationale for harmonization and draft proposal

4th Step : Submit final proposal

- Feb 2009: Obtain final agreement

Road Map for High Speed Test

