UNECE Regulation 13 (braking)

Proposed amendment to extend Annex 19 and Annex 20 to cover motor vehicles, especially a vehicle stability function

- Currently Annex 19 (performance testing of braking components) and Annex 20 (alternative procedure for the type approval of trailers) provide an alternative method for the type-approval of a trailer braking system.
- Rather than testing an individual trailer with regard to its braking system, a braking system test report may be used to show that the trailer, for which type-approval is requested, meets the requirements.
- The testing and issuing of component/system test reports is carried-out by a Technical Service at the request of the component/system manufacturer.
- The component/system test reports are submitted by the vehicle manufacturer at the time of trailer type-approval to the Technical Service carrying-out the type-approval and may be rejected if considered not to be appropriate for the trailer under consideration.
ABS example (introduction of a new anti-lock braking system for semi-trailers, centre-axle trailers and full trailers)

System supplier:
- Prepares a number of semi-trailer, centre-axle and full trailers in various axle and suspension configurations, wheelbases, wheel and tyre sizes, loading conditions etc.

Technical Service:
- Tests provided trailers/configurations to Annex 13
- Issues a test report which contains the results and the range of criteria, including max. and min., for which the results are applicable

Technical Service:
- Checks that the trailer for which type-approval is requested falls within the test report criteria
- If yes, a type-approval test report is issued

Trailer manufacturer:
- Provides the Technical Service carrying-out the vehicle type-approval with a copy of the test report

System supplier:
- Provides copy of the test report to the vehicle manufacturer

Type-approval of a braking system to UN ECE Regulation 13 can only be obtained by the vehicle manufacturer, and the use of Annex 19 and Annex 20 does not change this.

The use of Annex 19 and Annex 20 only provides the trailer manufacturer with an alternative method, which may or may not be utilised.

If the component/system test reports are not considered appropriate for the trailer, for which type-approval is being requested, the Technical Service carrying-out the type-approval can reject them.
Earlier documentation with regard to expanding the use of Annex 19 and Annex 20, as an alternative procedure, for the type approval of motor vehicles especially with regard to a vehicle stability function.

- **GRRF 64th Session (September 2008)**
  - ECE/TRANS/GRRF/64/11 - proposed draft amendment for consideration of the principle

- **GRRF 65th Session (February 2009)**
  - ECE/TRANS/GRRF/2009/15 – 64/11 as working document
  - ECE/TRANS/GRRF/65/05 – background information

- **GRRF 66th Session (September 2009)**
  - ECE/TRANS/GRRF/66/21 – amendment to working document 2009/15

Utilising the methodology of Annex 19, a vehicle stability function would be tested and evaluated in terms of a “vehicle framework” (reference ECE/TRANS/GRRF/66/21) covering:

- Vehicle type, axle configuration, steering axles, lift axles, suspension type (pneumatic, mechanical, mixture), wheelbase, track, wheel type (single, twin), wheel size, tyre size, gearbox type (manual, automated manual, semi-automatic, automatic), engine management system

- Braking system (pneumatic/electrical/electronic components and layout), anti-lock braking system configuration, foundation brake type

- Vehicle stability function components – sensors (function, limitations, part no. identification), controllers (hardware, software, part no. identification), modulators (function, part no. identification)
Only if the vehicle, for which type-approval was requested, fitted within the “vehicle framework” as defined in the vehicle stability function test report could the test report be used in the vehicle type-approval process.