

# System Power Determination

Status of GTR Drafting  
and Open Issues for EVE Discussion

28<sup>th</sup> EVE, Ottawa, October 2018

# Drafting group

- Current membership:
  - Chair – Mike Safoutin – US EPA
  - Samarendra Tripathy – Renault
  - Elena Paffumi – JRC
  - Jiamiao Li – PSA Group
  - Matthis Naegeli – VW
  - Norbert Klein – Hyundai
  - Heinz Steven
  - Kendelle Anstey – Canada
  - Masao Kubodera – Japan
  - Shinichi Abe – Japan
- Six teleconferences held to date:
  - 21 Nov 2017
  - 13 Dec 2017
  - 20 Mar 2018
  - 24 Apr 2018
  - 7 May 2018
  - 23 Aug 2018
- Face-to-face drafting sessions:
  - 6 Jun 2018 (Geneva)
  - 18 Oct 2018 (Ottawa)

# Status of Draft GTR

- Draft was made available at EVE 27 (Geneva)
  - <https://wiki.unece.org/display/trans/Power+Determination+GTR+Drafting+Group>
- Drafting session took place Wed 6 June in Geneva
  - Resultant changes and clarifications have been entered into document
- Access to full ISO FDIS 20762 became available in September
  - GTR draft will be accordingly updated in drafting session in Ottawa
- List of primary open issues (as seen by drafting group) to be discussed

# Open issues - draft GTR

- Standalone GTR or Annex?
  - The current draft presumes an Annex to GTR No. 15
    - It contains references to GTR No. 15
    - It can remain silent on many specifics because GTR No. 15 will apply
  - “Standalone” may mean different things to different parties:
    - For example, the Evap GTR is “standalone”
      - It has its own number
      - Yet it frequently references GTR No. 2
    - If “standalone” also means “easy to transpose to a UNR”:
      - Can a UNR refer to a GTR?
      - If not, then either the drafting group or transposition group will have to identify and incorporate all relevant provisions of GTR No. 15
      - e.g., the complex flowcharts for identifying Predominant Mode
      - This has not been a focus of the drafting group

## Open issues – draft GTR (continued)

- Does 6.5 “Initial charge of REESS” apply only to OVC-HEV?
- Is the process for identification of speed of maximum power intended to be part of the test procedure? Is more detail required?
- VDA procedure for including “specific data of the tires” for TP2, using RRC class and dynamic rolling radius
- Set of issues raised by Matthias regarding need for fuel flow measurement

# Issues raised in validation testing

- How rapidly to press accelerator pedal / “modulate” pedal
- Recommended rate for regeneration of SOC after conditioning
- Cooling fan requirements are different in ISO and WLTP
- Conditioning may not be sufficient for transmission oil temperature to stabilize
- Procedure is silent on run-in mileage

# Issues raised in validation testing (continued)

- Procedure is silent on possibility of gear shifting
  - JARI report explored effect of gear position (Vehicle B, 2015 Honda Fit)
  - “Shift the gear down” implies uses of paddle shifters
  - Maximum power was 5.5 kW greater in 4<sup>th</sup> gear than in 2<sup>nd</sup> gear
  - If transmission is automatic, is it appropriate to control the gear for this purpose?
- Choice of CD or CS mode for OVC-HEV
  - Currently, manufacturer specifies whether power is greater in CD or CS mode
  - However, a vehicle with a large AER may operate mostly in CD mode
  - While a vehicle with short AER and high power in CS may operate mostly in CS
  - Is the mode with higher power always the right choice for the purpose of the procedure?