

Worldwide Harmonised Test Procedure for Light Duty Vehicles WLTP

EVE 2nd Session
13 of September
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Objective WLTP

- Development of a worldwide harmonised test procedure for light duty vehicles
 - Pollutant emissions
 - CO₂ emissions
- Global Technical Regulation, GTR
- Three phases
 - Test procedure and driving cycle
 - Test procedures for low ambient temperature, high altitude and conformity
 - Reference fuel, emission limit and correlation with existing cycles

Road map WLTP

- Phase 1 ongoing
- DHC validation 1 finished, discussion about cycle dynamics ongoing
- DTP validation phase 2 ongoing
- Confirmation test until May 2013
- Round Robin test until October 2013
- GTR adoption 162nd WP29 March 2014
- Phase 2 start January 2014

Organisation WLTP

- DHC
 - Data collection
 - Development of driving cycle
 - Validation phase 1
 - Low-power vehicle validation phase 1b
- DTP
 - Development of test procedures
 - Validation phase 2
- Drafting coordinator
 - Structure of GTR
 - Consolidating of GTR text
- Validation task force
 - Coordination of testing for validation phase 2

Organisation DTP

- Subgroups
 - Test procedures conventional vehicles
 - Test procedures electrified vehicles
 - PM/PN test procedures
 - Additional pollutants
 - Reference fuels

Subgroup EV

- Test procedures for EV in addition to test procedures for conventional vehicles
- Pollutant emissions for HEV
- CO₂ emissions and fuel consumption
- Electric range
- Energy consumption

Subgroup EV

- Evaluation of current regulations worldwide
 - US
 - Japan
 - EU/ECE
- Development of test procedures for EV
 - EV
 - OVC HEV
 - NOVC HEV

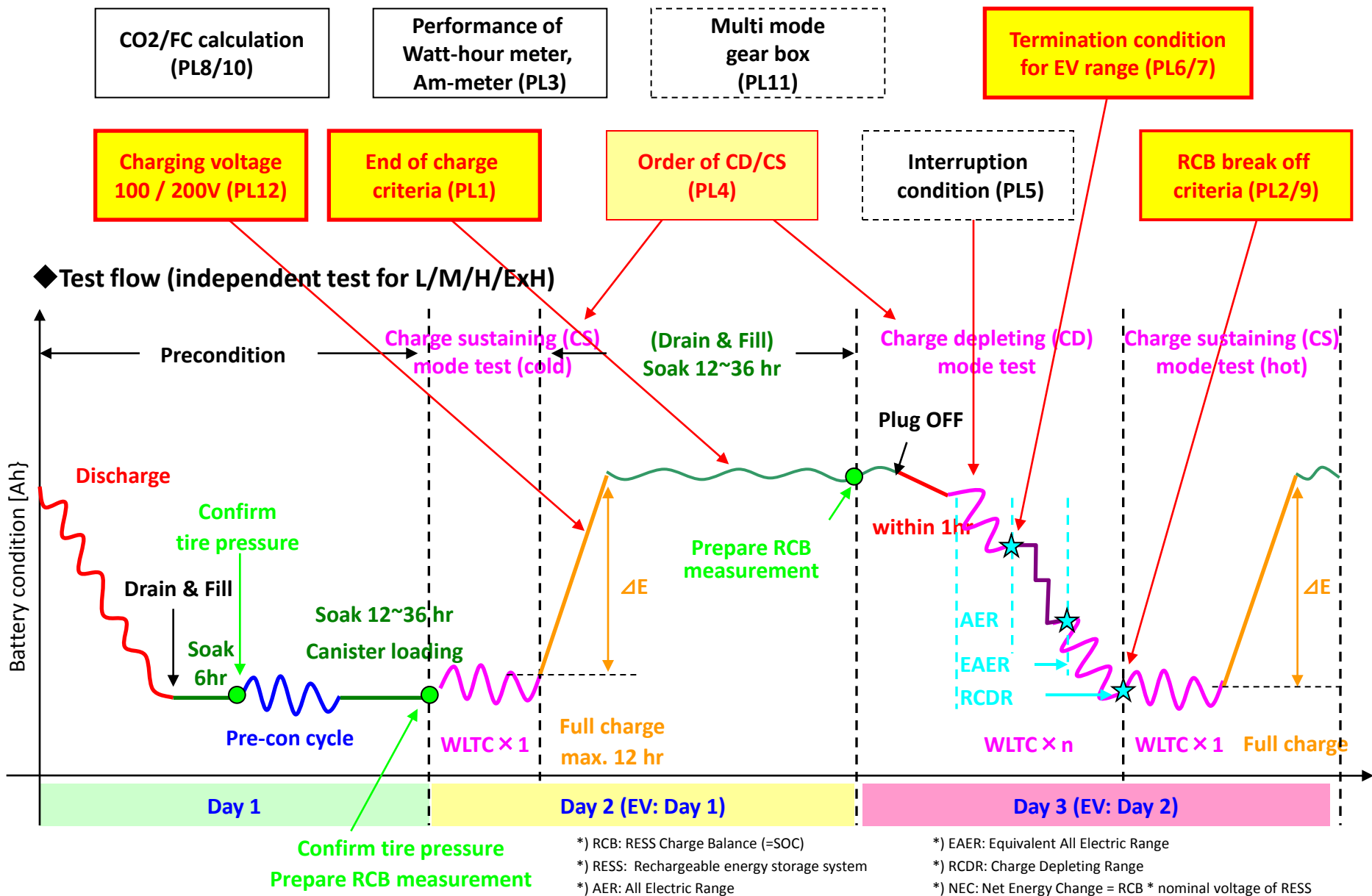
Subgroup EV

- Electrical vehicles operate in two modes
 - Charge depleting
 - Charge sustaining
- Testing of a EV takes several days

Sub group EV open issues

- A number of open issues will be solved by Sub group test procedures for conventional vehicles
- Utility factor
- Depending on results from validation phase 2
 - Criteria for test termination
 - End of charge criteria
 - Charging time
 - Detection of CS condition
 - Accuracy of measurement equipment
 - Calculations

Sub group EV open issues



*) RCB: RESS Charge Balance (=SOC)

*) RESS: Rechargeable energy storage system

*) AER: All Electric Range

*) EAER: Equivalent All Electric Range

*) RCDR: Charge Depleting Range

*) NEC: Net Energy Change = RCB * nominal voltage of RESS

Next meeting

- DTP/DHC in Ispra 24 – 26 of September
- Subgroup EV 13 – 14 of November?