

Low Temp Test procedure for EVs

ACEA TF EV input for SG EV meeting on February 13th

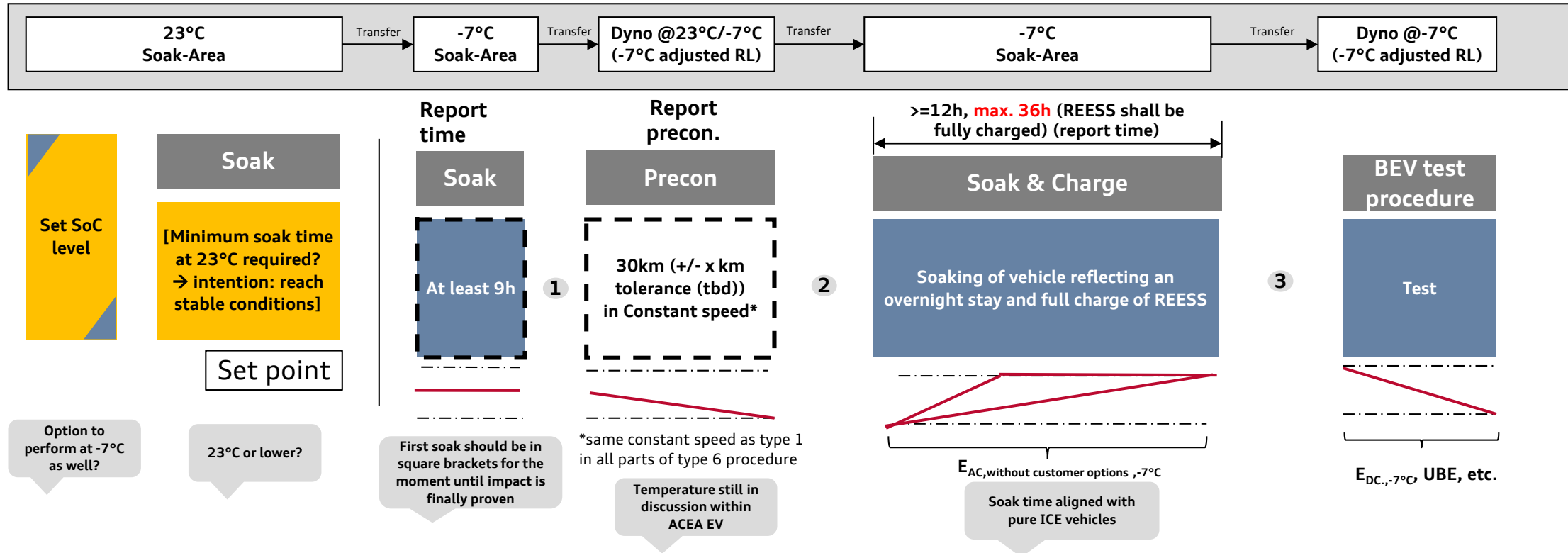
Pure electric vehicles

Procedure proposals

Test Procedure (PEV) – Shortened Test Procedure or Consecutive Cycle Procedure

Proposal for -7°C Procedure – Base procedure with no customer preconditioning action

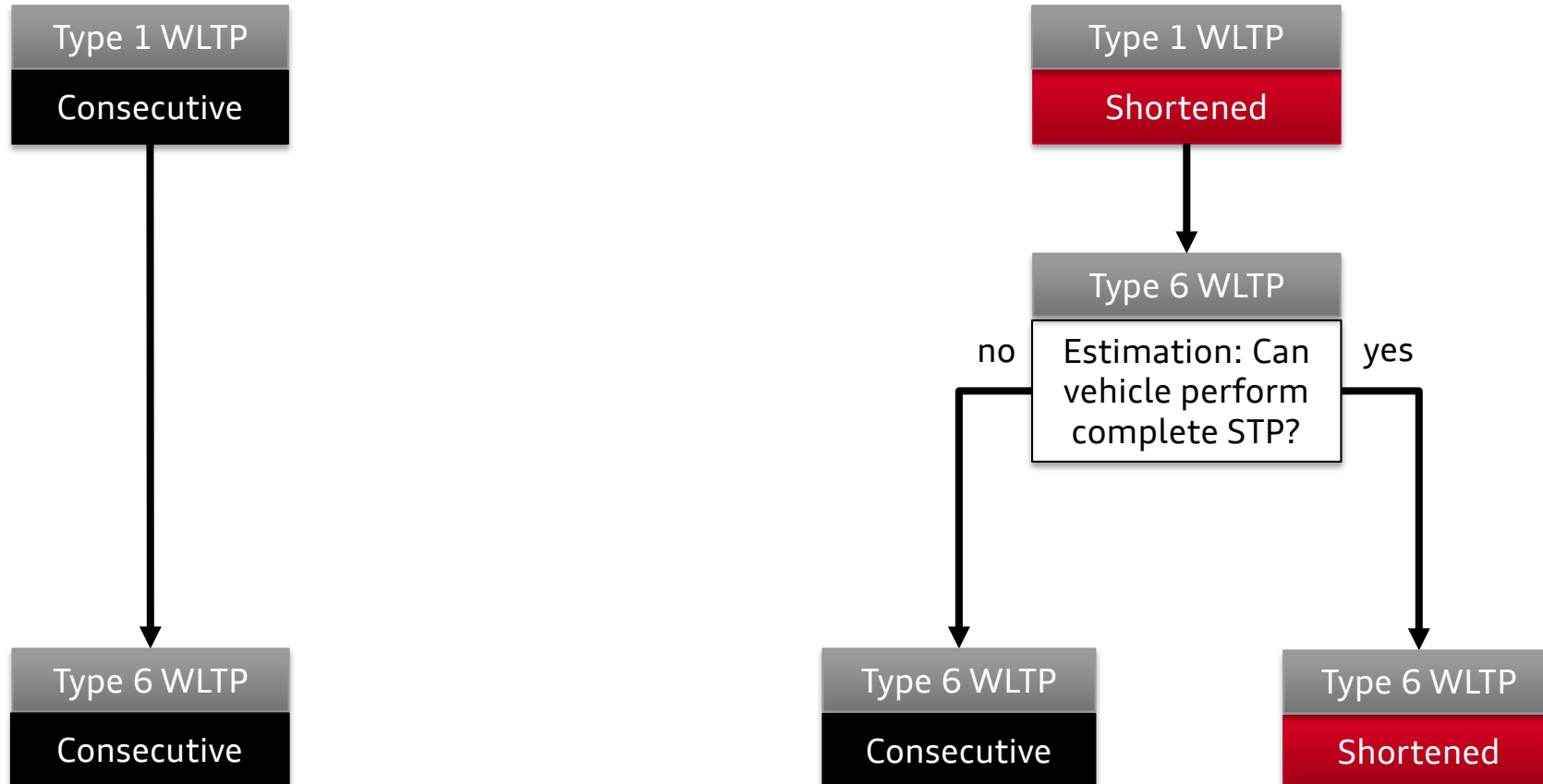
Proposal ACEA TF EV (based on submitted one with slight modification in PreCon + proposal to put first soak in [...]):



- 1 Leaving soak (-7°C) until starting PreCon test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min)
→ Without any unjustified delay
- 2 End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer
→ without any unjustified delay, connecting to grid within max. [30] min
- 3 Leaving soak (-7°C) until starting test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min)
→ Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min
→ Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)

Test Procedure (PEV) – Procedure determination

Procedure selection flow chart – option 1 (with existing procedures)



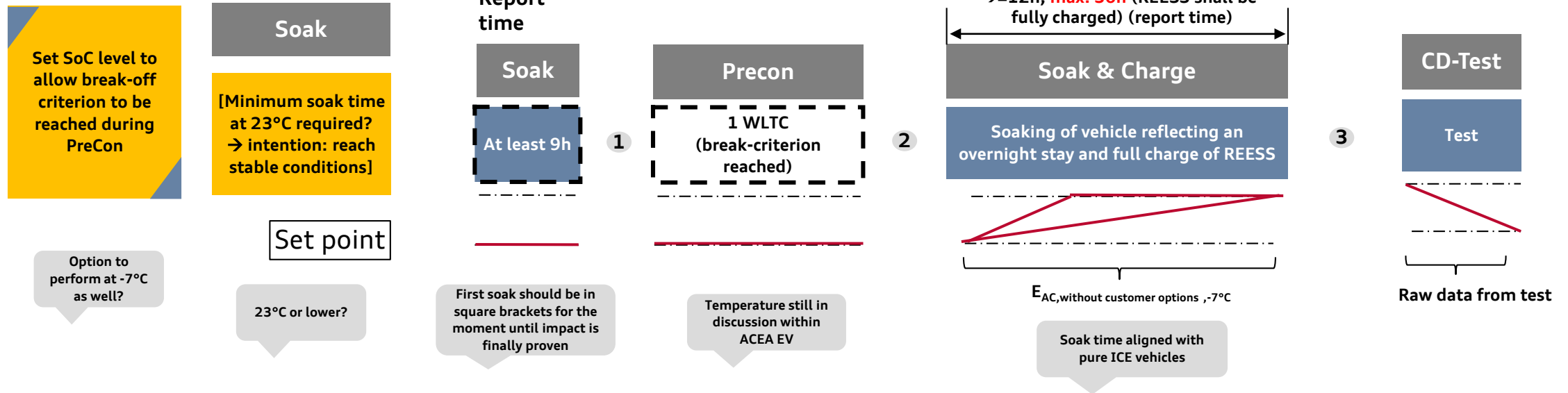
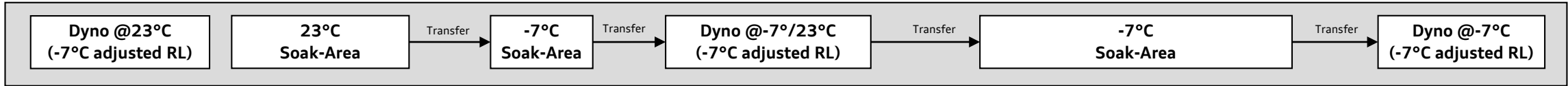
(N)OVC-HEVs

Procedure proposals

Test Procedure (OVC-HEV) – Charge Depleting Test

Proposal for -7°C Procedure – Base procedure with no customer based preconditioning action

Proposal ACEA TF EV (based on submitted one with slight modification in PreCon + proposal to put first soak in [...]):

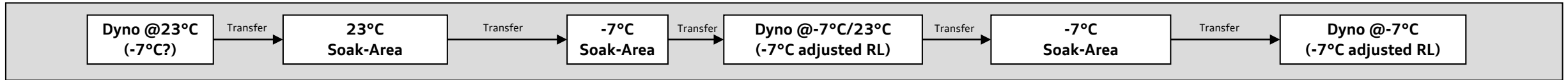


- 1 Leaving soak (-7°C) until starting PreCon test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min)
→ Without any unjustified delay
- 2 End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer
→ without any unjustified delay, connecting to grid within max. [30] min
- 3 Leaving soak (-7°C) until starting test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min)
→ Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min
→ Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)

Test Procedure ((N)OVC-HEV) – Charge Sustaining Test

Proposal for -7°C Procedure

ACEA proposal Charge-Sustaining Test:



Set SoC level to allow break-off criterion to be reached during PreCon

Option to perform at -7°C as well?

Soak
REESS fully depleted
[Minimum soak time at 23°C required? → intention: reach stable conditions]

Set point

23°C or lower?

Report time

Soak

At least 9h

Proposal to delete it as no impact expected. If not deleted, it should be at least in square brackets for the moment until impact is finally proven

ACEA EV proposal: Delete it

Precon

1 WLTC (break-criterion reached)

Temperature still in discussion within ACEA EV

>=12h, max. 36h (report time)

Soak

reflecting overnight stay without charging

Soak time aligned with pure ICE vehicles

CS-Test

Test

1 x WLTC

- 1 Leaving soak (-7°C) until starting PreCon test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min) → Without any unjustified delay
- 2 End test cycle (-7°C) and placing in soak (-7°C): max.: [30] min where max. [20] min for transfer → without any unjustified delay
- 3 Leaving soak (-7°C) until starting test in test cell (-7/23°C): max.: [40] min (transfer: max. [20] min, preparation on dyno: max. [20] min) → Without any unjustified delay; vehicle shall not receive unjustified exposure to temperatures higher than -7°C; in case that is unavoidable, this shall not be longer than [20] min → Note: only max. [30] min between different tests on the dyno shall not be exceeded (only related to dyno warm-up)