

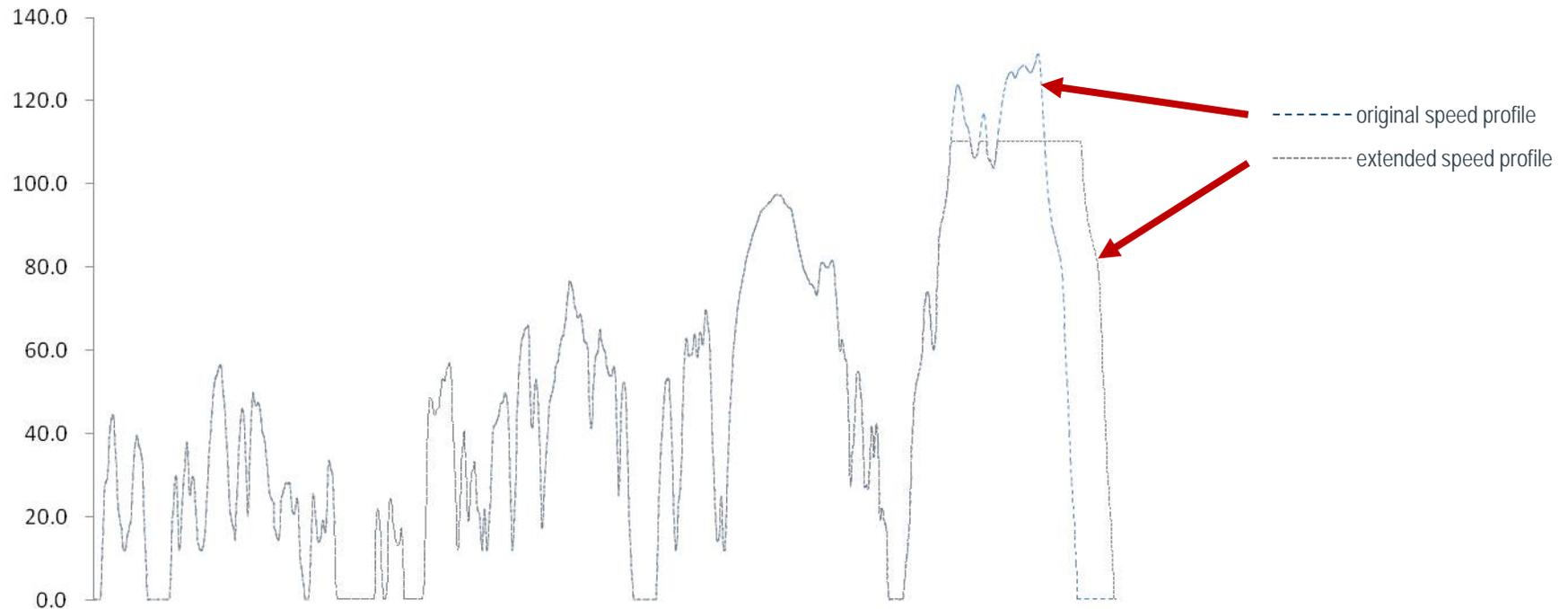
## WLTP Annex 8:

Cycle modification for vehicles with a maximum speed  
lower than the maximum speed of the cycle

# Annex 8: Cycle modification for $v_{max,vehicle} < v_{max,cycle}$

## Overview : concerned vehicles and methodology

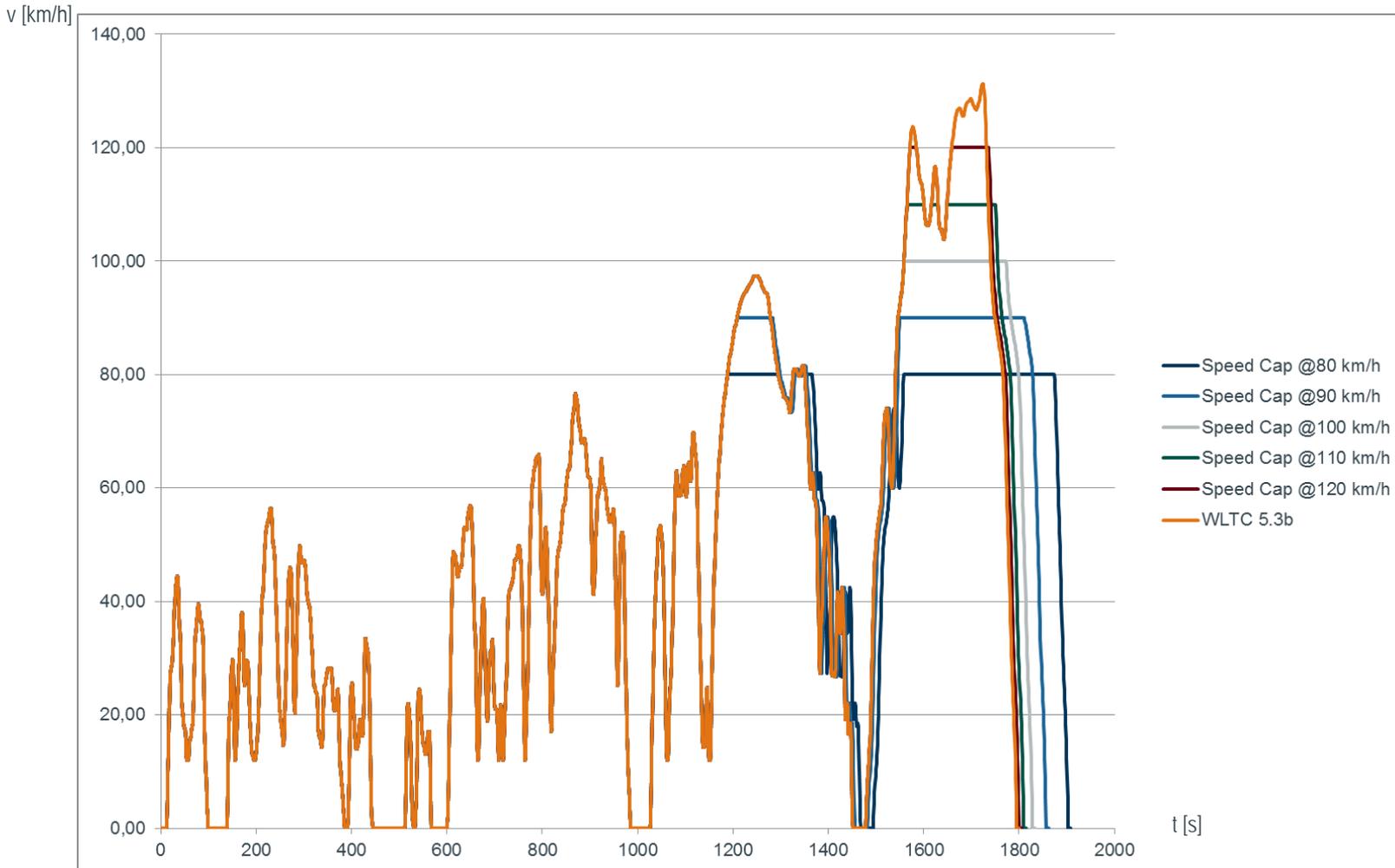
- Cycle modification shall be applied on OVC-HEVs, NOVC-HEVs and PEVs
  - Question: also for ICE vehicles? (not task of EV group to discuss this)
  - If the vehicles has the same maximum speed in all available modes, the applicable WLTP test cycle shall be modified in that way that a range compensation will be applied
- Modified cycle is the new applicable WLTP test cycle for these vehicles



# Annex 8: Cycle modification for $v_{\max, \text{vehicle}} < v_{\max, \text{cycle}}$

## Application of the methodology

Examples for different speed caps calculated by Steven-tool



## Annex 8: Cycle modification for $v_{\max, \text{vehicle}} < v_{\max, \text{cycle}}$

### Current state of play and discussed solutions

Cycle modification for  $v_{\max} < v_{\max, \text{cycle}}$  is not supported at all by Japan; but two possible solutions may be supported and accepted:

#### Solution 1 (cycle modification only for extra High):

- Cycle modification will be applied on vehicles with a max speed higher than the maximum speed of the high phase (means  $> 97\text{km/h}$ )
- If the speed of the vehicle is affecting the high phase, the vehicle shall be tested by driving the applicable WLTP city cycle

#### Solution 2 (cycle modification both for High and extra High):

- Cycle modification will be applied on vehicles with a max. speed minimum of 80 km/h (high phase is affected)
- Vehicles with a speed below the maximum speed of the applicable WLTP test cycle shall be tested by driving the applicable WLTP city cycle as a regional option to modified cycle or (in case of not the same maximum speed) the best effort cycle

Mode selectable switch  
OIL #51

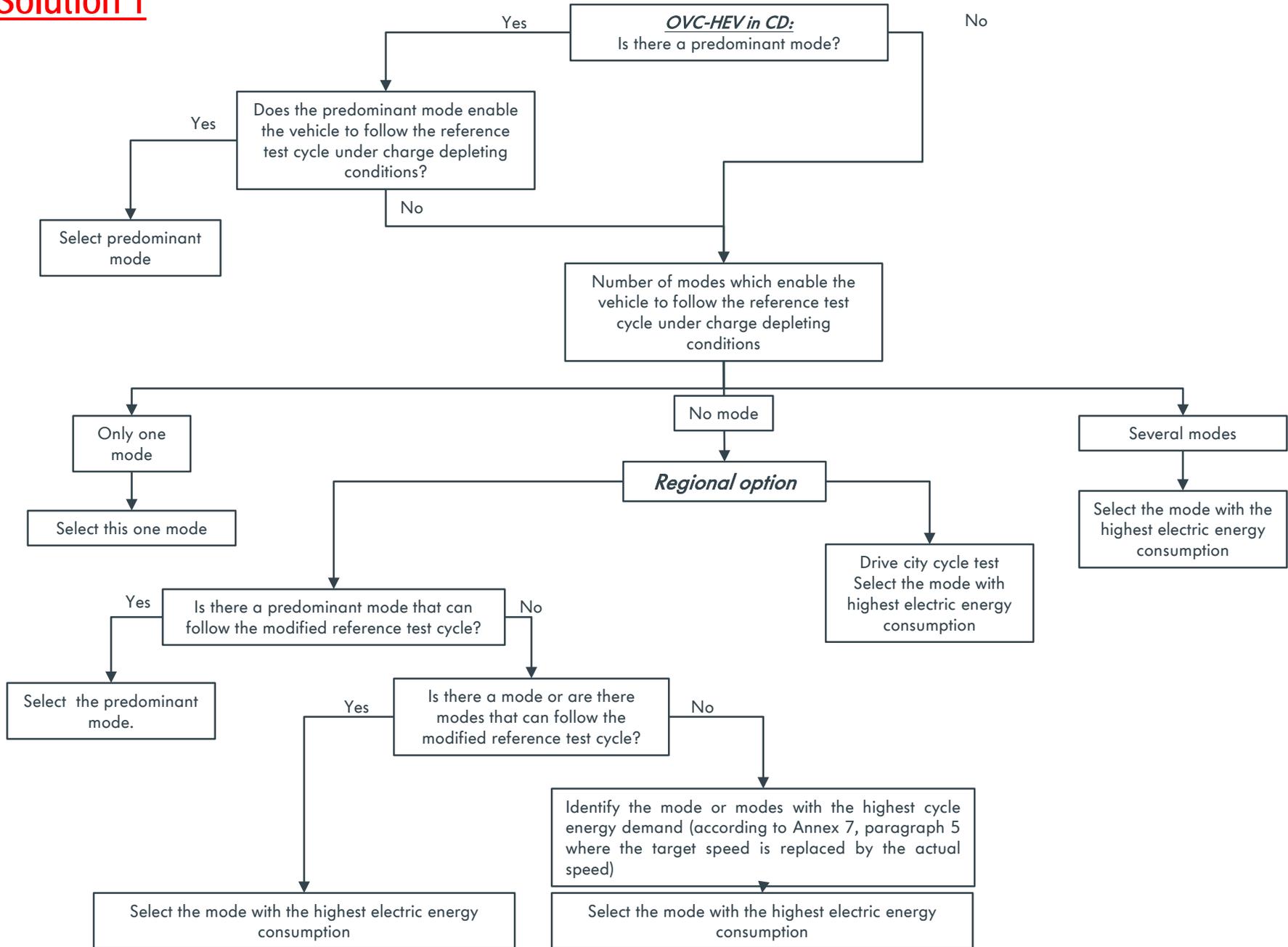
OVC-HEV:

Mode Selectable Switch

Solution 1

(cycle modification not limited to extra High phase):

# Solution 1

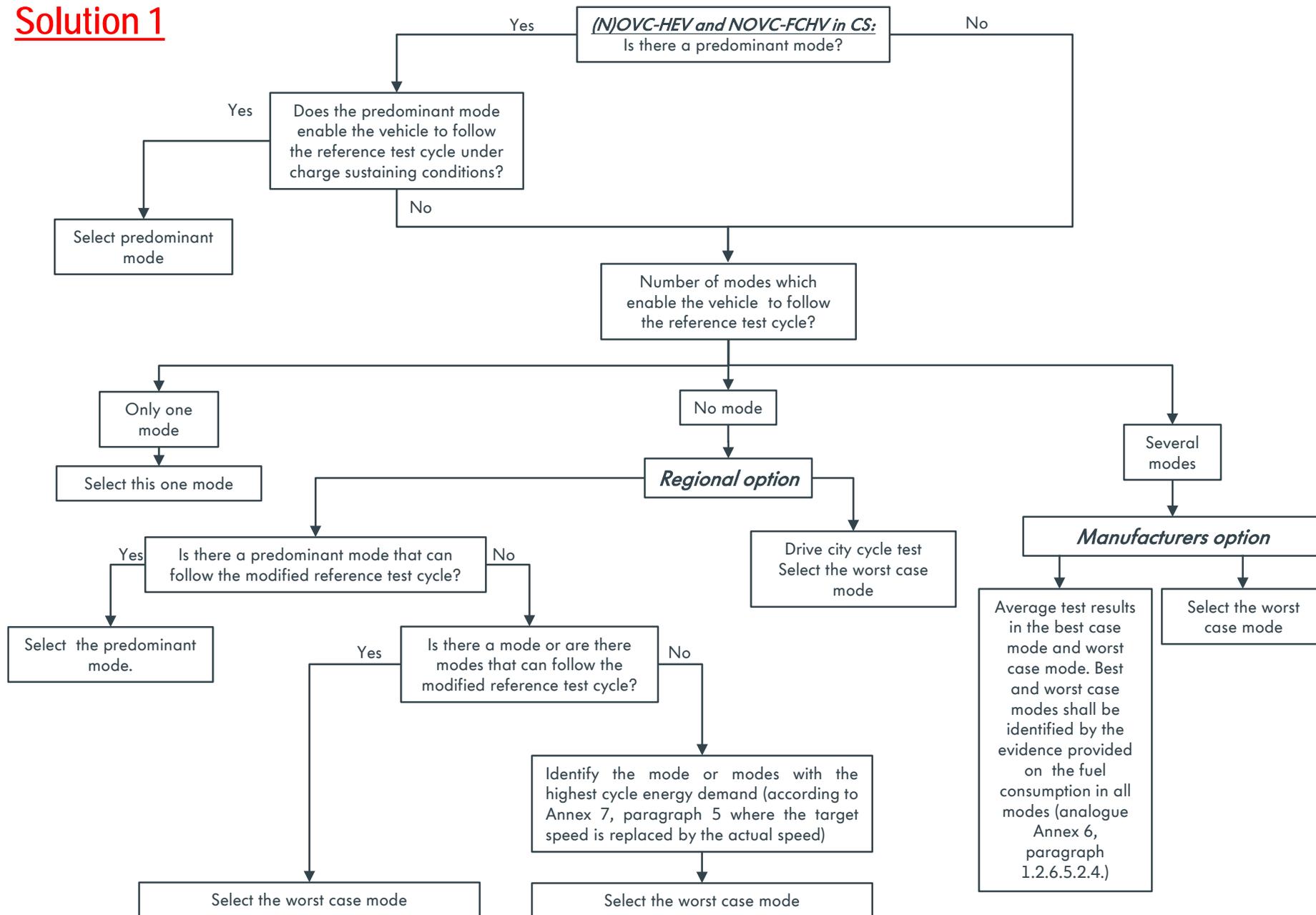


(N)OVC-HEV and NOVC-FCHV:  
Mode Selectable Switch

Solution 1

(cycle modification not limited to extra High phase):

# Solution 1



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Solution 1  
(cycle modification not  
limited to extra High phase):

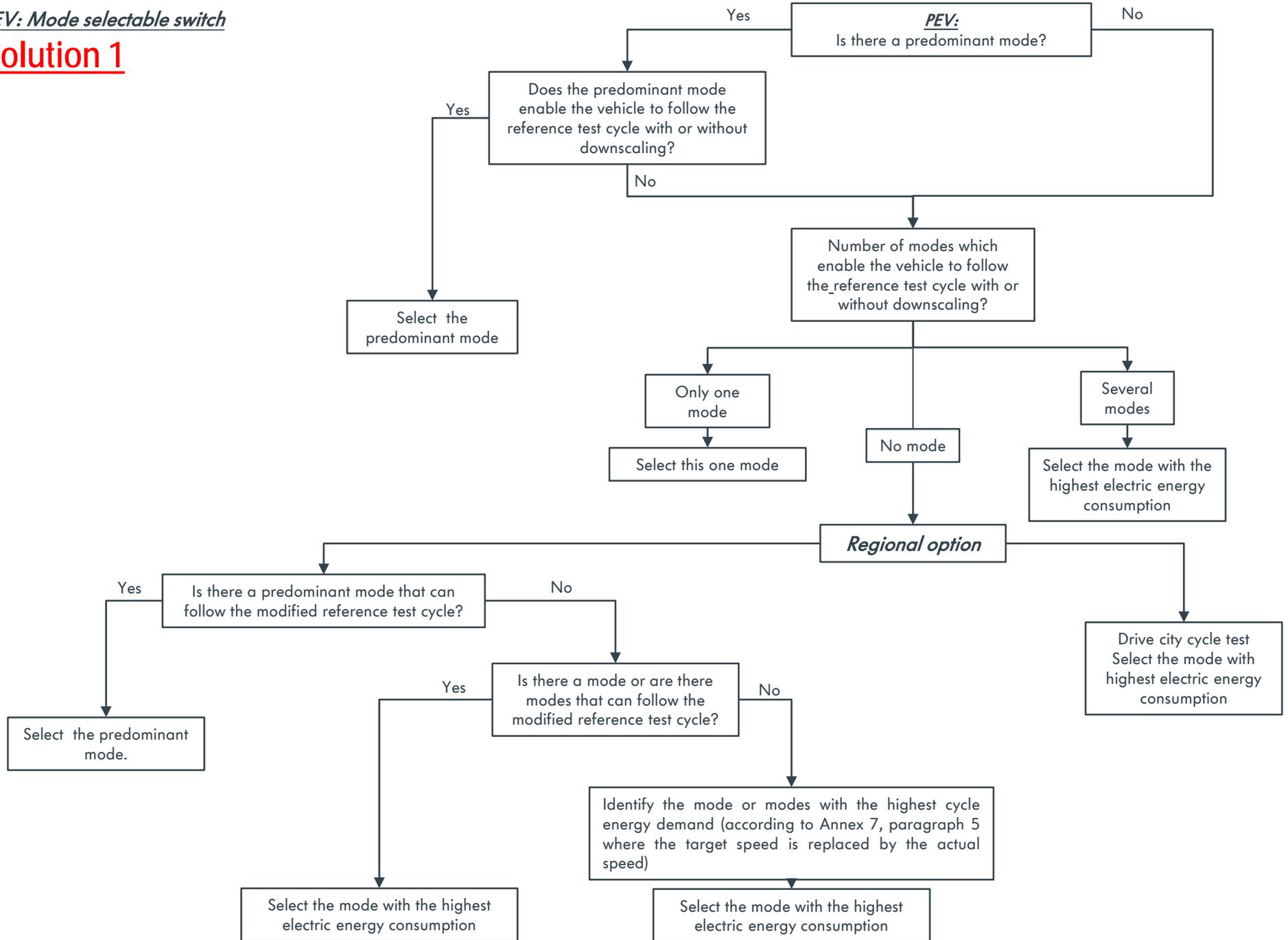
PEV:

Mode Selectable Switch

Solution 1

(cycle modification not limited to extra High phase):

# Solution 1



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Solution 2  
(cycle modification:  
only High phase):

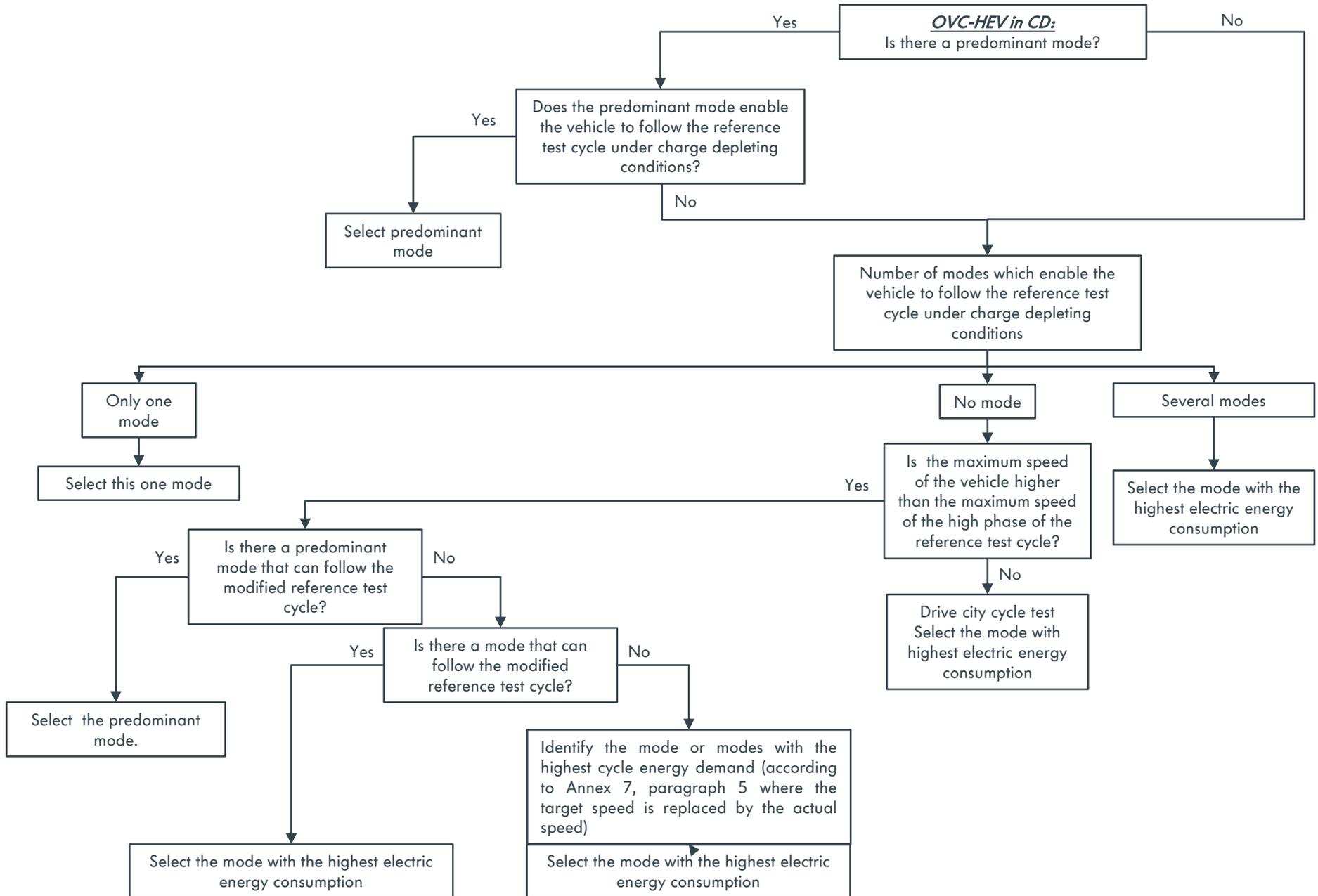
OVC-HEV:

Mode Selectable Switch

Solution 2

(cycle modification limited to extra High phase):

## Solution 2

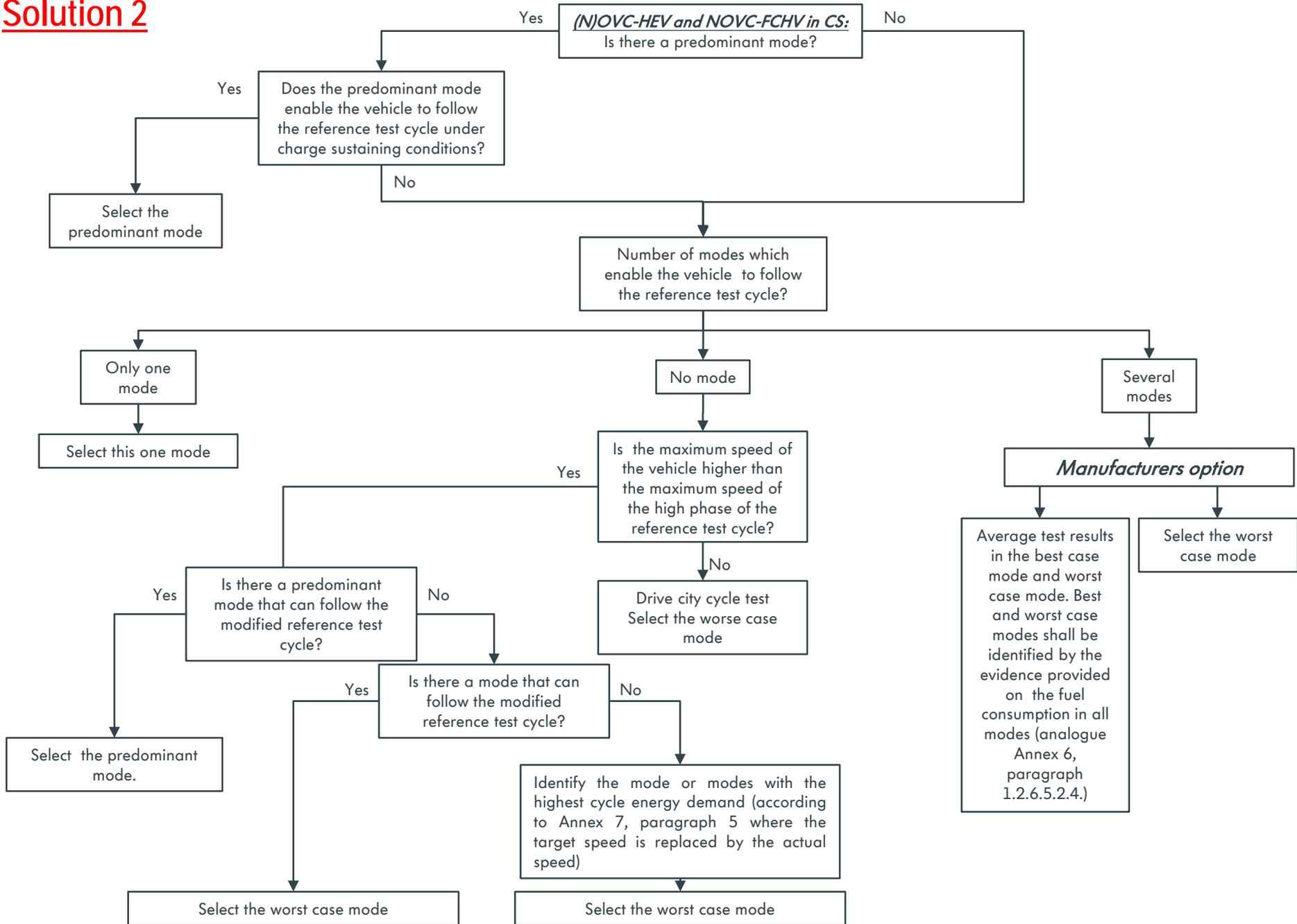


(N)OVC-HEV and NOVC-FCHV:  
Mode Selectable Switch

## Solution 2

(cycle modification limited to extra High phase):

# Solution 2



PEV:

Mode Selectable Switch

Solution 2

(cycle modification limited to extra High phase):

# Solution 2

