

**APPENDIX C**

**J-Turn Maneuver Tests - Logic Tree Diagrams**

**Figure 1 - Preliminary Reference Speed (PRS) Determination**

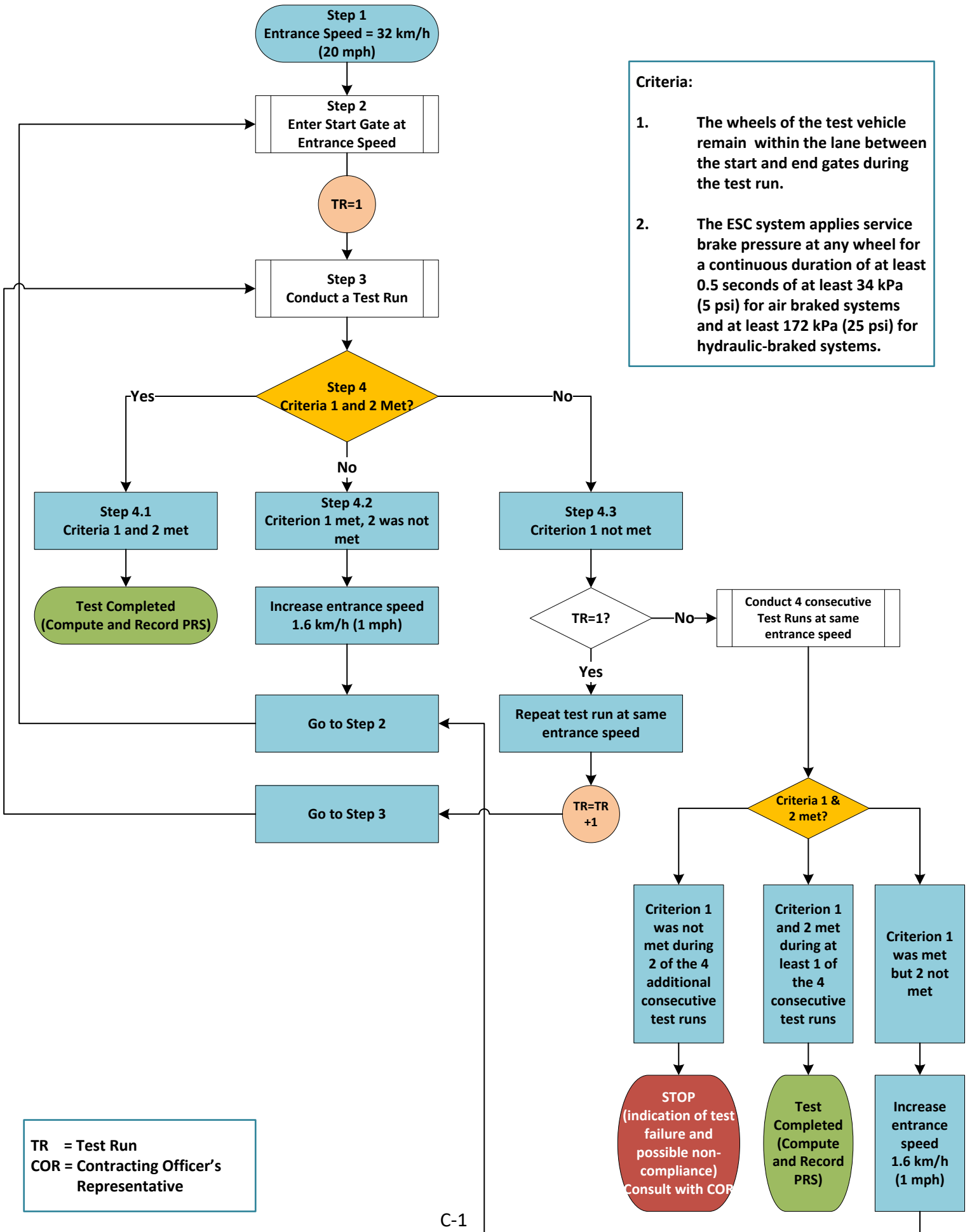
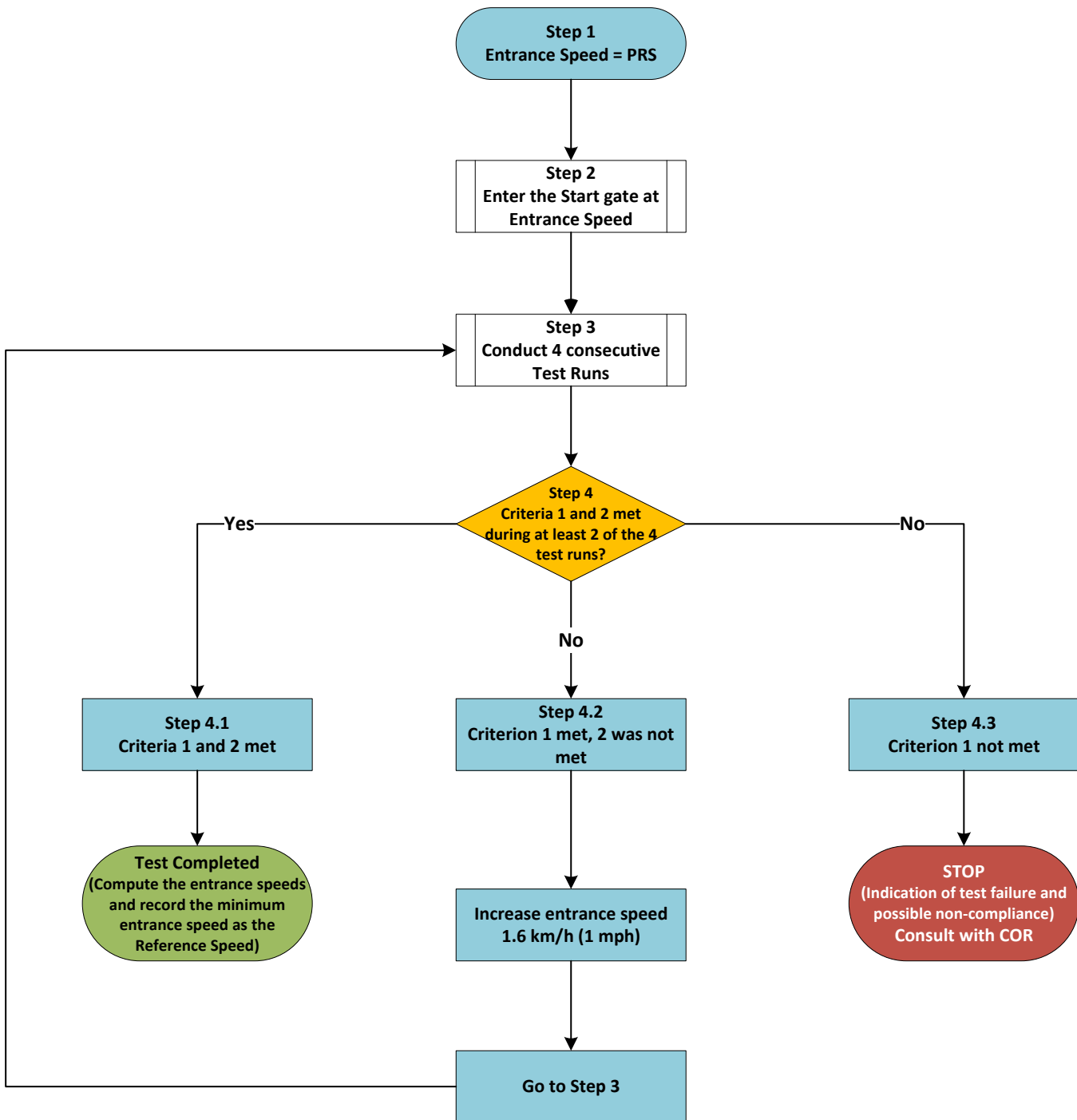
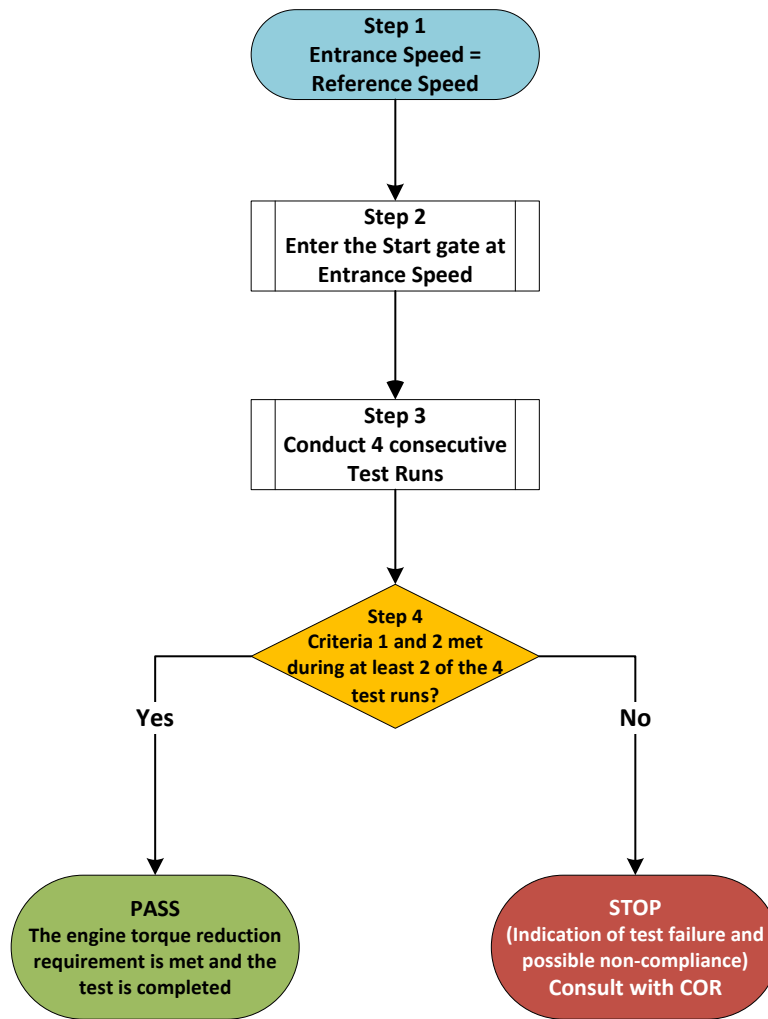


Figure 2 - Reference Speed (RS) Determination

**Criteria:**

1. The wheels of the test vehicle remain within the lane between the start and end gates during the test run.
2. The ESC system applies service brake pressure at any wheel for a continuous duration of at least 0.5 seconds of at least 34 kPa (5 psi) for air braked systems and at least 172 kPa (25 psi) for hydraulic-braked systems.

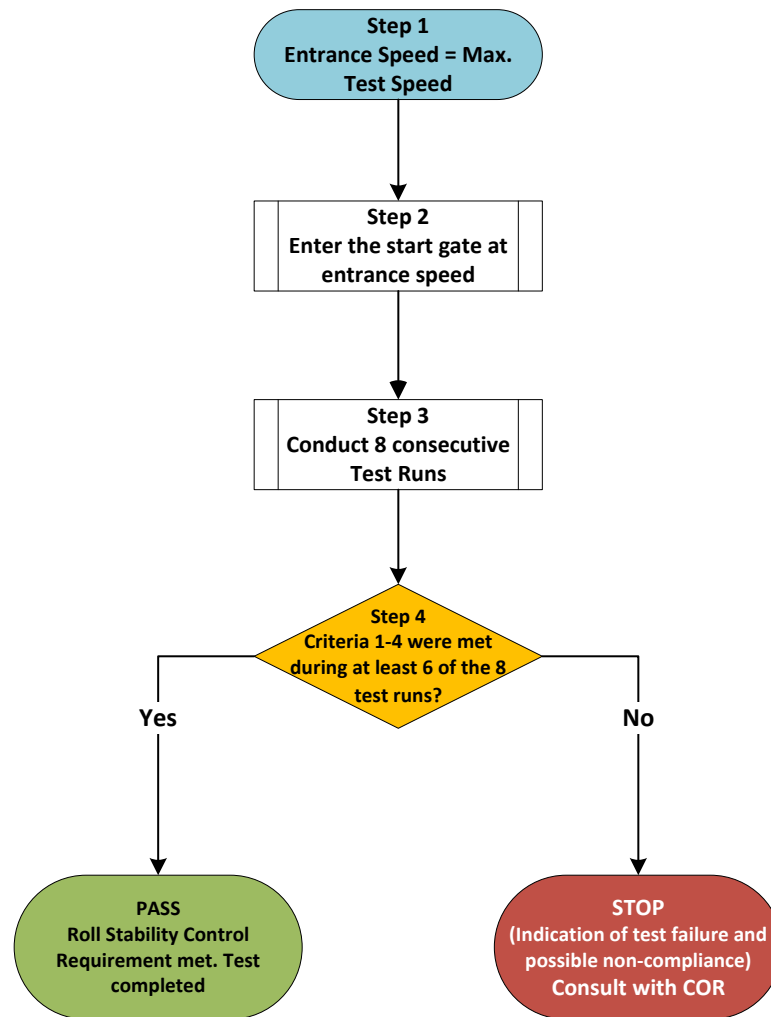
## Figure 3 - Engine Torque Reduction Determination



### Criteria:

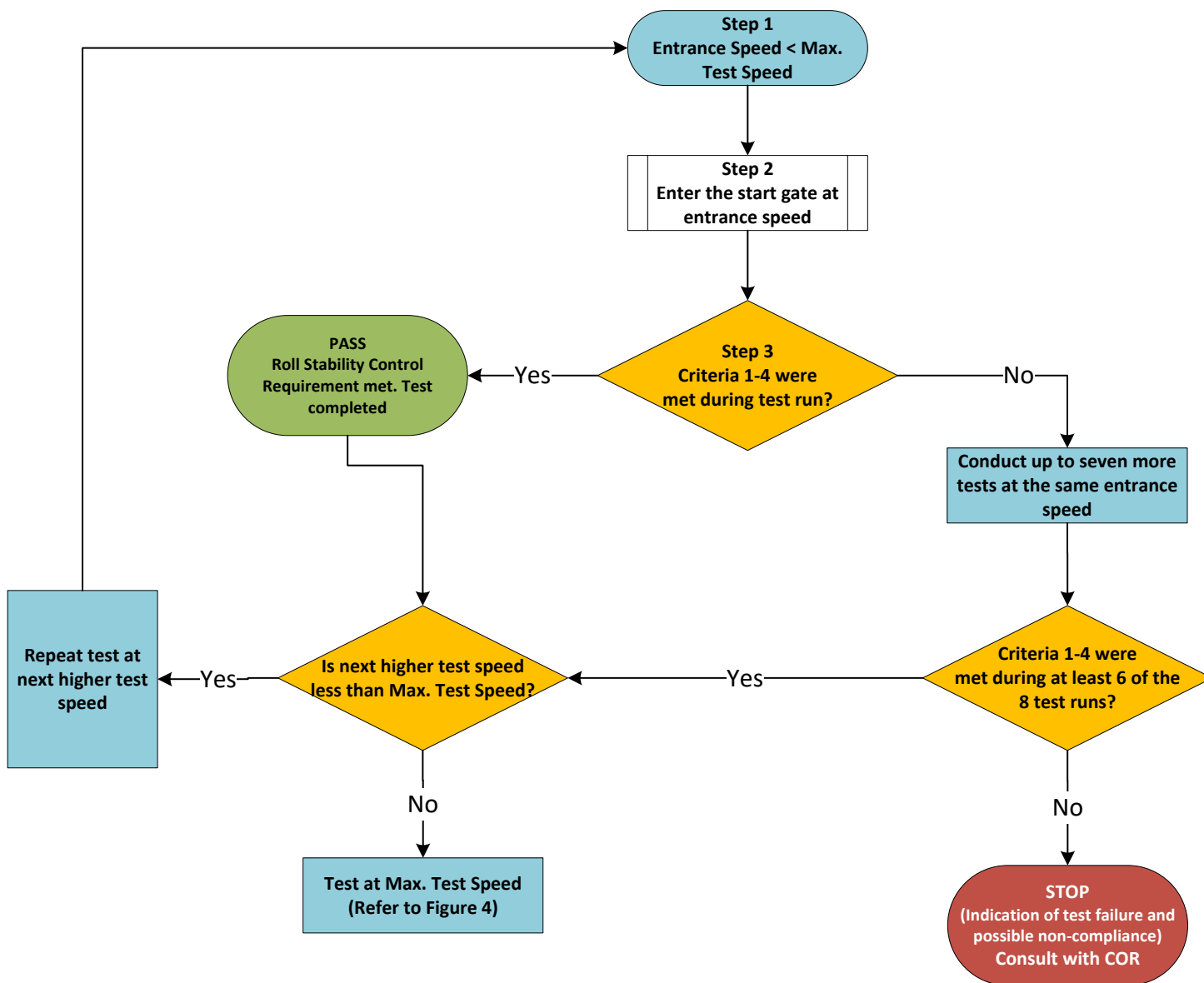
1. The wheels of the test vehicle remain within the lane between the start and end gates during the test run.
2. The ESC system reduces the driver requested engine torque by at least 10% for a minimum continuous duration of 0.5 seconds during the time period from 1.5 seconds after the vehicle crosses the start gate to when it crosses the end.

**Figure 4 - Roll Stability Control Test at Maximum Test Speed Determination**



**Criteria:**

1. The wheels of the test vehicle remained within the lane between the start and end gates during the test run.
2. The vehicle speed measured at 3.0 seconds after the vehicle crosses the start gate did not exceed 46.7 km/h (29 mph).
3. The vehicle speed measured at 4.0 seconds after the vehicle crosses the start gate did not exceed 45.1 km/h (28 mph).
4. The ESC system applied service brake pressure at any wheel for a continuous duration of at least 0.5 seconds of at least 34 kPa (5 psi) for air braked systems and at least 172 kPa (25 psi) for hydraulic-braked systems.

**Figure 5 - Roll Stability Control Test at Test Speed less than Maximum Test Speed Determination**

**Criteria:**

1. The wheels of the test vehicle remained within the lane between the start and end gates during the test run.
2. The vehicle speed measured at 3.0 seconds after the vehicle crosses the start gate did not exceed 46.7 km/h (29 mph).
3. The vehicle speed measured at 4.0 seconds after the vehicle crosses the start gate did not exceed 45.1 km/h (28 mph).
4. The ESC system applied service brake pressure at any wheel for a continuous duration of at least 0.5 seconds of at least 34 kPa (5 psi) for air braked systems and at least 172 kPa (25 psi) for hydraulic-braked systems.