

Attachment 1: Potential ITR Certification Pathway for Hybrid Truck and Bus Conversions

Tier	Potential Hybrid Conversion System Certification Requirements
<p><u>Tier 1</u> Demo Sales Volumes (10/25)</p>	<ol style="list-style-type: none"> 1. Engineering evaluation demonstrates potential to achieve at least ten percent tailpipe CO₂ emission benefit, with no discernable criteria pollutant increase. 2. No increase in evaporative hydrocarbon emissions. <ul style="list-style-type: none"> • Two-day diurnal test required. • Engineering evaluation may be provided for conversion of Class 4+ vehicle. 3. Conversion system must meet engine manufacturer diagnostics (EMD) requirements. 4. If the hybrid conversion system includes a separate diagnostic link connector (DLC), it must be easily distinguishable from the base vehicle's OBD DLC. 5. Diagnostics are not required to meet in-use monitoring performance ratio (IUMPR) requirements. 6. Any modifications to the base engine or vehicle certified OBD system must receive prior Executive Officer approval. Modifications must: <ul style="list-style-type: none"> • be solely for the purpose of preventing false malfunction determinations; and • not prevent the base engine OBD system from detecting when major monitors have a total lack of function.
<p>Emission Testing: The hybrid conversion system must demonstrate at least a ten percent CO₂ tailpipe emission benefit and no significant criteria pollutant increase pursuant to the ITR's emission test procedures to be eligible for additional sales volumes.</p>	
<p><u>Tier 2</u> Pilot Sales Volumes (500/ 1,000)</p>	<ol style="list-style-type: none"> 1. Hybrid conversion system meets EMD requirements. 2. Hybrid conversion system not required to meet standardization requirements (e.g., DLC, MIL, communication protocol, etc). 3. Diagnostics are not required to meet IUMPR requirements. 4. If the hybrid conversion system includes a separate DLC, it must be easily distinguishable from the base vehicle's OBD DLC. 5. Must demonstrate readiness of major monitors. 6. Any modifications to the base engine's or vehicle's certified OBD system require revalidating the diagnostic system and modified monitor's performance. <ul style="list-style-type: none"> • Manufacturer may request Executive Officer exemption from demonstration tests to revalidate performance if monitors still detect total lack of function. 7. Production Engine/Vehicle Evaluation Testing <ul style="list-style-type: none"> • Verification of Monitoring Requirements: Testing of a minimum of ten percent of vehicles produced for sale in California (instead of 15 vehicles).
<p><u>Tier 3</u> Unlimited Sales Volumes</p>	<ol style="list-style-type: none"> 1. Hybrid conversion system complies with OBD II/HD OBD comprehensive component monitoring requirements. 2. If the hybrid conversion system includes a separate DLC, it must be easily distinguishable from the base vehicle's OBD DLC. 3. Must demonstrate readiness of major monitors. 4. Any modifications to the base engine's or vehicle's certified OBD system require revalidating the diagnostic system and modified monitor's performance. <ul style="list-style-type: none"> • Manufacturer may request Executive Officer exemption from demonstration tests to revalidate performance if monitors can still detect malfunctions before the applicable emissions threshold is exceeded. 5. Production Engine Evaluation Testing <ul style="list-style-type: none"> • May request approval for testing of a minimum of ten percent of vehicles produced for sale in California (instead of 15 vehicles).

Staff is evaluating potentially simplifying and providing greater predictability to ITR by defining when Tier 1 and/or Tier 2 eligibility would sunset for hybrid conversion systems.

This document is only intended to encourage stakeholder feedback, is incomplete, and should not be construed as a formal regulatory proposal.