New Modified Regulations for Environmental Zones

International Diesel Retrofit Advisory Committee

Pasadena Hilton

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General

- Applicable for Heavy Duty Vehicles, Powered by a Diesel Engine, GVW more than 3 500 kg.
- Introduced for the first time 1996 in the three largest cities in Sweden
- Basic Requirements
  - Not more than 8 years old

Exemptions

- Older Vehicles (8 years) if Equipped with Approved After-treatment Device
- Change of Engine
- ”Vehicles with Special Body”
- Low Emitting Vehicles (Euro IV,V,EEV)

Requirements

- Three Levels of Emission Reductions
  - A (not more applicable)
  - B (Particulates and Hydrocarbons by **80 %**)

  From January 1, 2002
  - C (Oxides of Nitrogen by **35 %**)
  - Noise: ”No Increase”

”Years in the Zone”

- A New Vehicle 8 years
  + Filter + DOC + 4 years
  + NO_x – Reduction + 2 years
    - EGR – system
    - $DeNO_x$ – systems
    - SCR - system

Approval Procedure

- Type Approval of Device
- Installation on the Vehicle
- Control of Installation
- Issuance of Certificate
  (so far 3 700 issued)
- Sticker on the Windshield

System for Type Approval

- Manufacturer: Application Documents
- MTC: Confirmatory Testing
  - ”Worst case” Scenario
  - Transient Test Method
  - Approval of Device

Transient Test Cycle

- Name: Braunschweig City Driving Cycle
- Duration: 1 740 seconds (29 minutes)
- Average Speed: 22.9 km/h
- Maximum Speed: 58.2 km/h
- Idle Periods: about 22 %
- Driving Distance: about 11 km

Transient Test Cycle

Braunschweig Cycle

To Consider at Type Approval (NO_x –Reduction)

- Engine Manufacturer (Technology)
- Type/size of Engine
- Engine Power
- Emission Level
- Production Year
- ”Working Together with Installed Filter”