



# On-road Heavy-duty Engine Off-cycle Emissions GTR – Status Report for AC.3

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Report from the United States  
18th Session of Executive Committee AC.3  
16 November 2006



# Overview

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- Background on GTR Development
- Objective of Off-cycle Emission GTR
- Key Elements of draft GTR
  - World-wide Not-to-Exceed
  - Prohibition on Defeat Strategies
- Current Status and Timeline



# Background on GTR Development

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- March 2005, AC.3 approved the development of a Global Technical Regulation for Off-cycle Emissions (OCE)
  - Based on a proposal from the United States under the 1998 Global Agreement
  - “The proposed regulation will be based on the additional requirements for both type-approval and certification that require adherence to a Not-to-Exceed (NTE) protocol.”
- Informal group of technical experts under GRPE
  - Regular meetings since 2002
  - Transparent process: meeting notes, presentation material, and GTR drafts available on OICA web site
  - Regular reports to GRPE on progress



# Objectives of the Off-cycle Emissions GTR

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- Address emissions from on-road heavy-duty engines under conditions which may not be well covered by certification test cycle
  - Includes both ambient conditions as well as engine operation not covered in WHDC
- Ensure that heavy-duty engines are not equipped with defeat strategies
  - Defeat strategies can be components or software on a vehicle which unreasonably increase emissions under off-cycle conditions



# Off-cycle Emission GTR Overview

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- Key elements of draft GTR
  - Provisions prohibiting the use of defeat strategies
  - World-harmonized Not-to-Exceed (WNTE) “Control Area” with performance-based emission limits
- Off-cycle Emission GTR compliments the WHDC GTR
- In-use, on-vehicle emissions testing
  - GTR does not include specifications for in-use vehicle testing or on-vehicle emission measurement equipment
  - WNTE being developed to allow for testing of compliance during in-use, on the road operation of the engine
  - Individual countries and regional authorities may specify their own in-use testing requirements to enforce WNTE

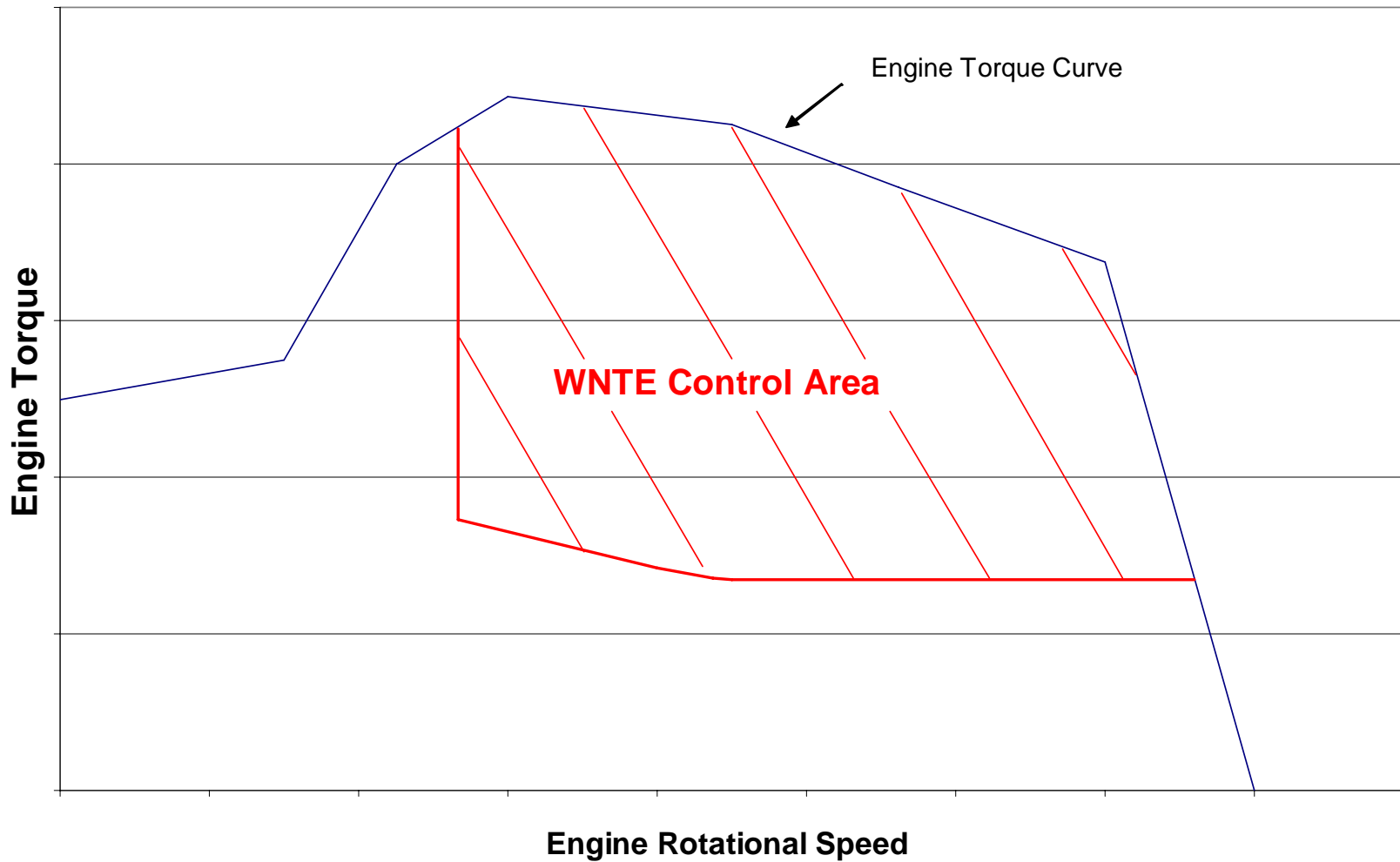


## World-wide Not-to-Exceed

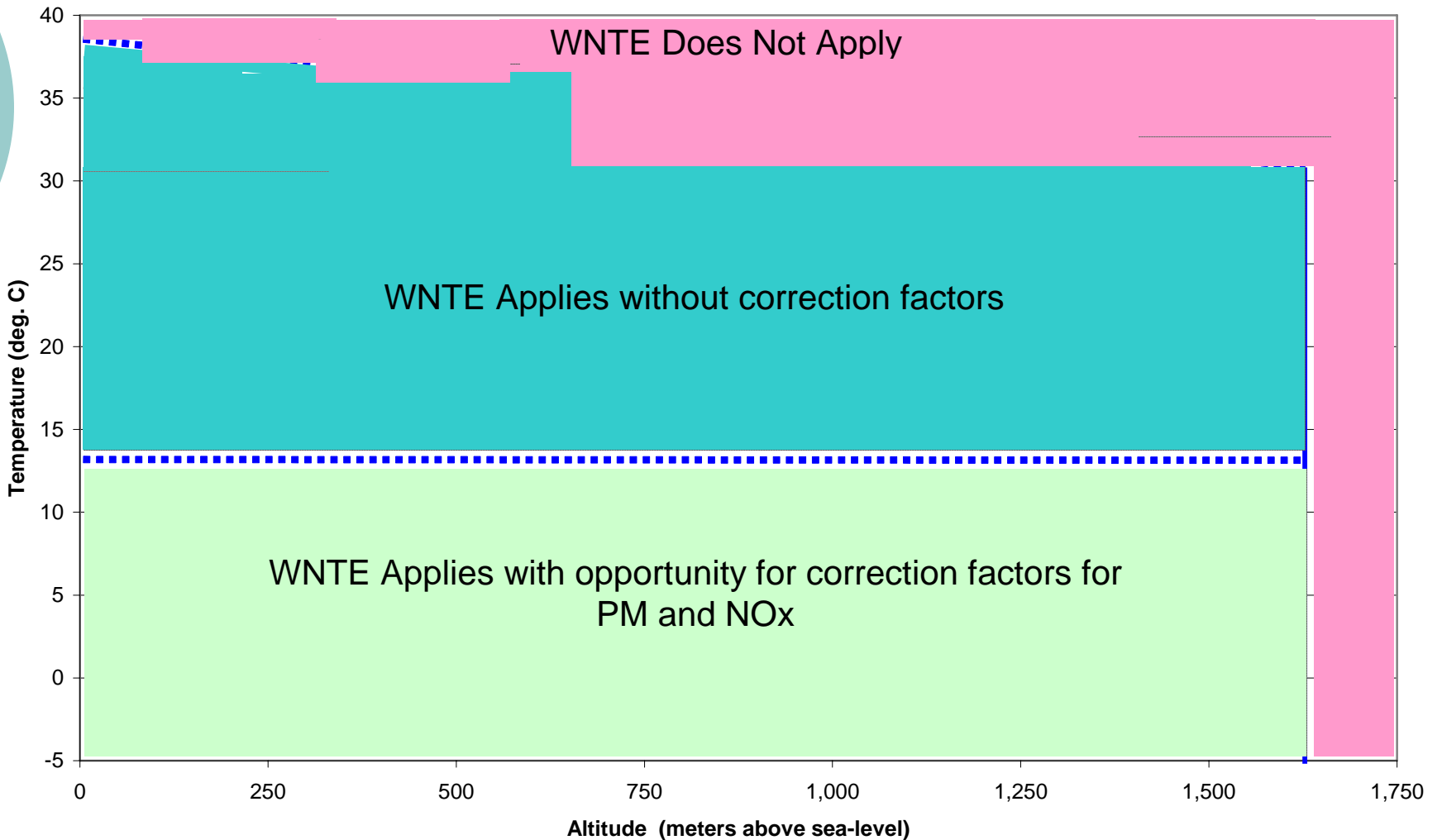
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- Engines must meet performance-based numerical emission standards during:
  - Broad range of ambient conditions
  - During broad area of engine operation (e.g., engine speed and load)
  - Over short time durations (as little as 30 seconds)

# Example WNTE Control Zone Area



# Example WNTE Altitude and Temperature Operating Range







# Current Status

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- Draft GTR well developed – working on a hand full of remaining issues
- On a path for completion within next 18 months
- Recent contractor technical report from one Contracting Party evaluates alternative approaches to controlling off-cycle emissions (final report has not been released)
  - If pursued, taking a new path could result in an additional 2-3 years development
- GRPE will continue to keep AC.3 appraised of our progress