International Diesel Retrofit Advisory Committee Meeting

October 2, 2001

ARB's Study of Emissions from "Late-model" Diesel and CNG Heavy-duty Transit Buses

Alberto Ayala†, Norman Kado†, and Robert Okamoto‡

†*Research Division*

‡ *Stationary Source Division*

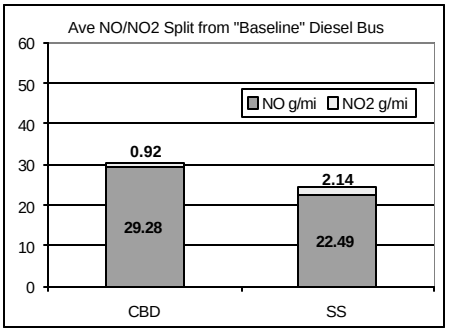
Technical Collaborators:

Dr. B. Holmen (*UCD*), Dr. L. Zafonte, Dr. M. Gebel, Mr. P. Rieger, H. Porter (*CAVTC*), K. Stiglitz (*CAVTC*), F. Gonzalez (*CAVTC*), P. Kuzmicky (*UCD*), Reiko Kobayashi (*UCD*), K. Sahay, G. Gatt, N. Verma, C. Maddox, Dr. B. Dharmawardhana, Dr. S. Paulson (*UCLA*)

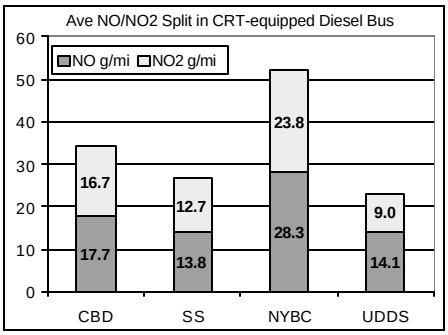
Goals

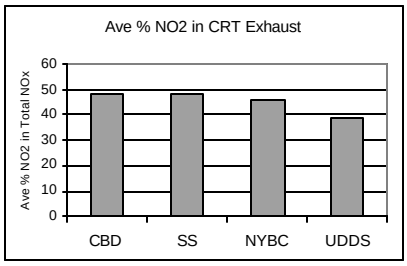
- Regulated Emissions
- ***NO_2***
- Panel of Toxic Emissions:
  - Carbonyl Compounds
  - Gas-phase HC's
  - PAH's
- Elements
- EC/OC
- Mutagenicity
- Ultrafine Mass and Number Emissions

	"CNG" "CNG re-test"	"Diesel (OEM)"	"CRT"
Model	2000 DDC Series 50G	1998 DDC Series 50	1998 DDC Series 50
Aftertreatment	None	OEM Catalyzed Muffler	CRT™
Fuel	CNG	ECD-1	ECD-1
Odometer	19,629	15,169	15,569
Weight	33,150 lbs	30,510	30,510



CRT Effect on Diesel Bus NOx Emissions





Final Remarks

- Significant NO_2 emissions from trap-equipped vehicles have been observed
- What are the implications?