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numbers

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Diesel Exhaust Fluid Forum
SCR Stakeholder meeting
Cummins Inc. presentation overleaf
Wednesday, 12 November

For more information on the Diesel Exhaust Fluid Forum please contact
rita.auta@integer-research.com

DEF Infrastructure for Medium Duty and Vocational





Medium-Duty

- Cooled EGR + Urea-SCR + DPF



What's the same as heavy duty

- DEF concentration - 32.5%
- DEF package sizes to choose from
 - 1, 2.5, 5 gallon jugs, 55 gallon drums, totes, bulk
- Shelf life - typically 1 year if stored between 12 and 77 deg F
- Freeze point – 12 deg F



What's different from Heavy Duty

- Many domiciled fleets
- Some seasonal use considerations
 - e.g. school bus
- Total volume used per vehicle will be less based on engine size and duty cycle
- Many utilize local Gas Stations (not highway Truck Stops)



How Can I Determine how Much DEF I will Use?

Example...

Annual miles for average truck = 120,000 miles

MPG for average truck = 6 mpg

120,000 miles / 6 mpg = 20,000 gallons diesel fuel per year

DEF usage @ 2% of fuel consumption = 400 gallons of DEF / year

400 gallons / 20 gallon tank (average size) = 20 DEF fill-ups / year



How Can I Determine how Much DEF I will Use?

Example...

Annual miles for average vocational vehicle = 25,000 miles

MPG for average vehicle = 7 mpg

25,000 miles / 7 mpg = 3571 gallons diesel fuel per year

DEF usage @ 2% of fuel consumption = 71 gallons of DEF / year

71 gallons / 10 gallon tank (average size) = 7 DEF fill-ups / year



Diesel Exhaust Fluid (DEF) How Much Will I Use?

- Approximately 2% DEF consumption

**Every 50 gallons of fuel
=
1 gallon of DEF**



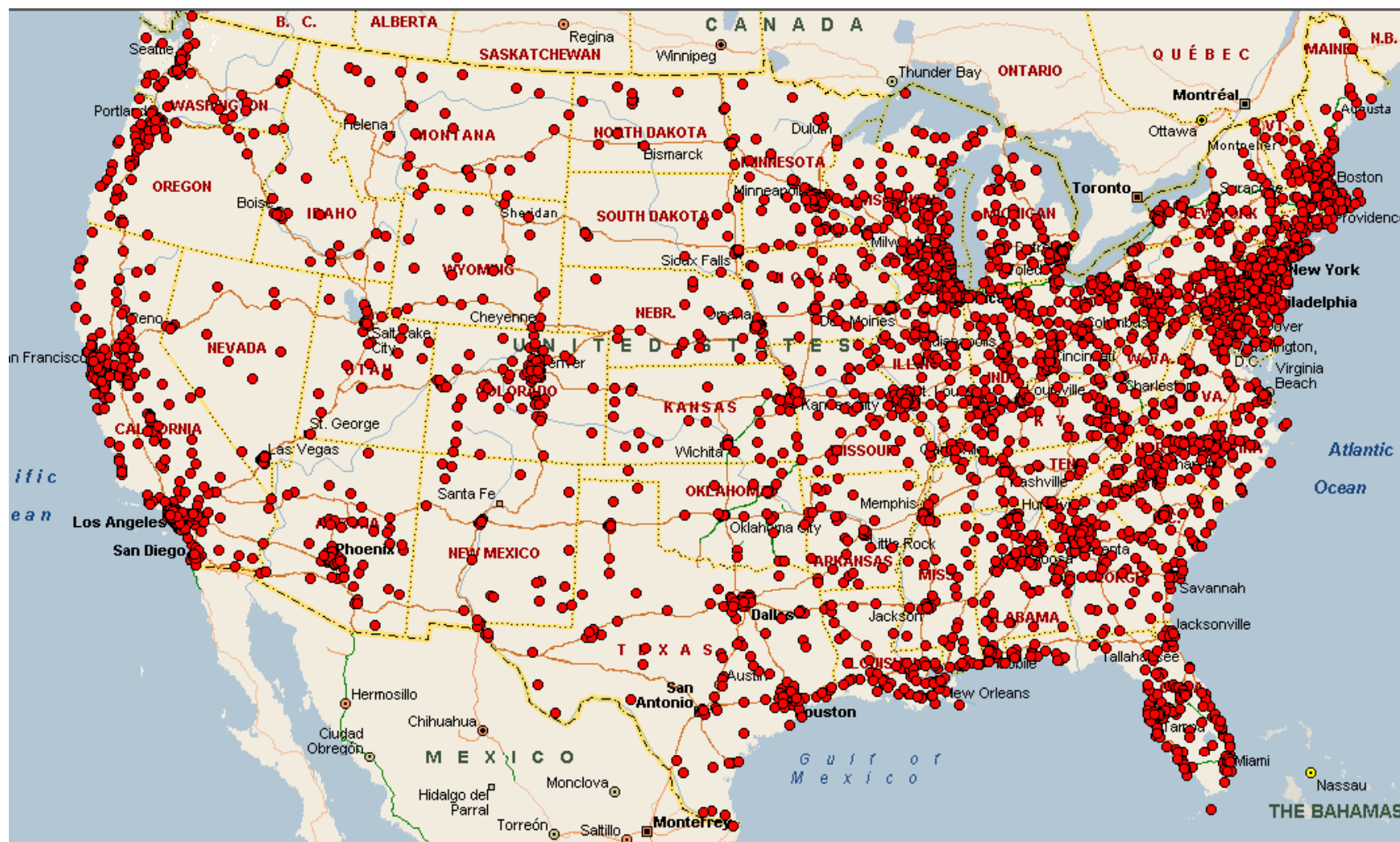


Supply Options for Medium Duty / Vocational

- On sight supply
 - Drums or totes with dispensing pumps
 - Metered or un-metered
 - Physical space claim
 - Temperature control ?
- Retail access
 - Fueling stations
 - Distributor and dealers
 - Independent retailers

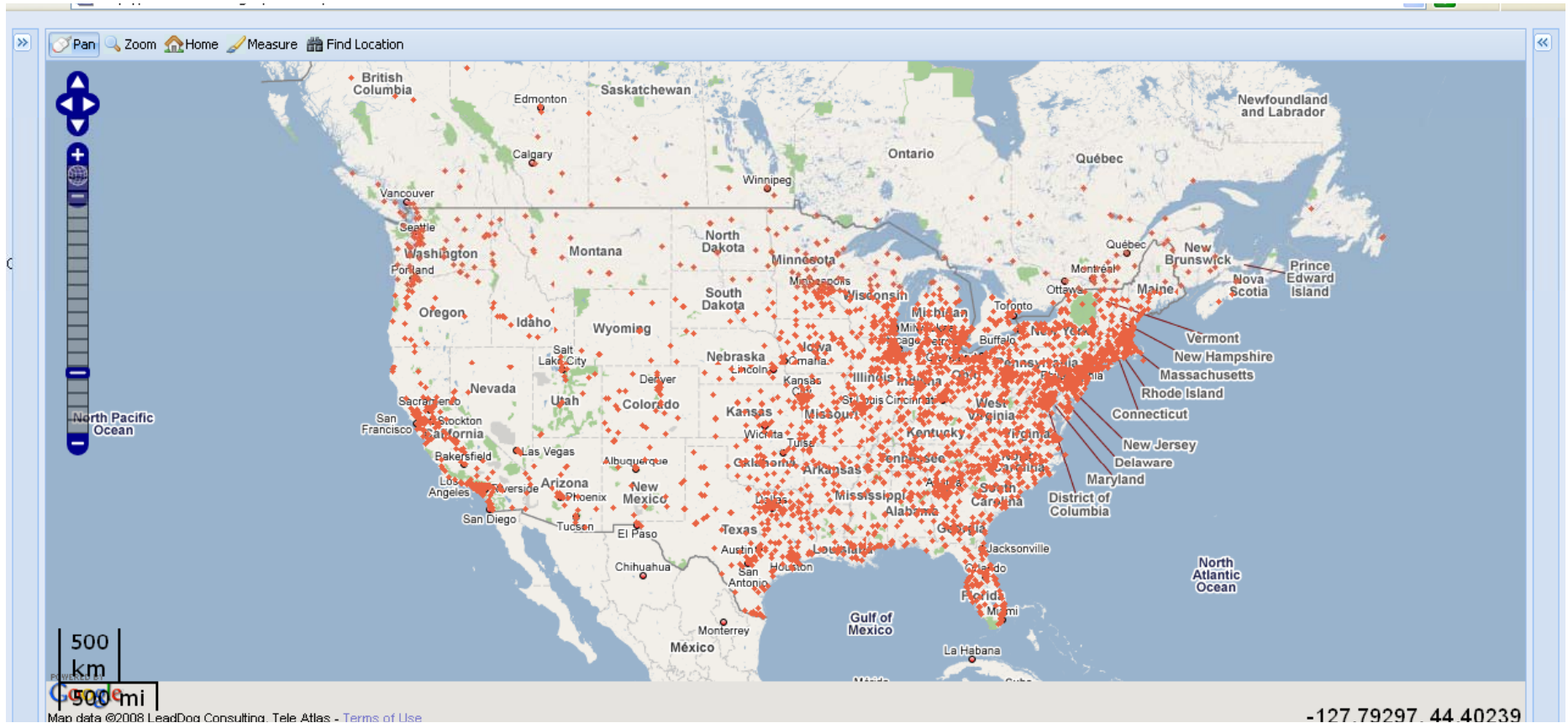


Cummins Distribution and Secondary Distribution Outlets





Online tool being developed by DOE to help you locate DEF





Product Packaging – Example

- Currently available Cummins Filtration products
Cummins Filtration
 - 330 gallon tote
 - 275 gallon tote
 - 55 gallon drum
 - Bulk
- Releasing smaller packaged containers
 - 1 gallon
 - 2.5 gallon
 - 5 gallon
 - All will have spouts designed to dispense directly into the DEF fill tanks on equipment
- Also releasing dispensing equipment suitable for use with drums, totes and intermediate bulk systems





DEF Infrastructure Summary

- **DEF will be available for medium duty and vocational customers to purchase.**
 - **Cummins and other OEM's are working with industry partners to ensure DEF availability through retail channels.**
 - **Cummins and other OEMs are working to ensure availability of DEF through our distributor and dealer networks.**



Count on Cummins

We Will Be Ready For 2010