KINDER MORGAN

Biomass 2009
Fueling Our Future

Applying and Optimizing Existing Infrastructure for Ethanol and BioDiesel Application

Proven Examples Of Making It Happen

Kinder Morgan Energy Partners
March 17, 2009

Making It Happen!

Presentation Overview

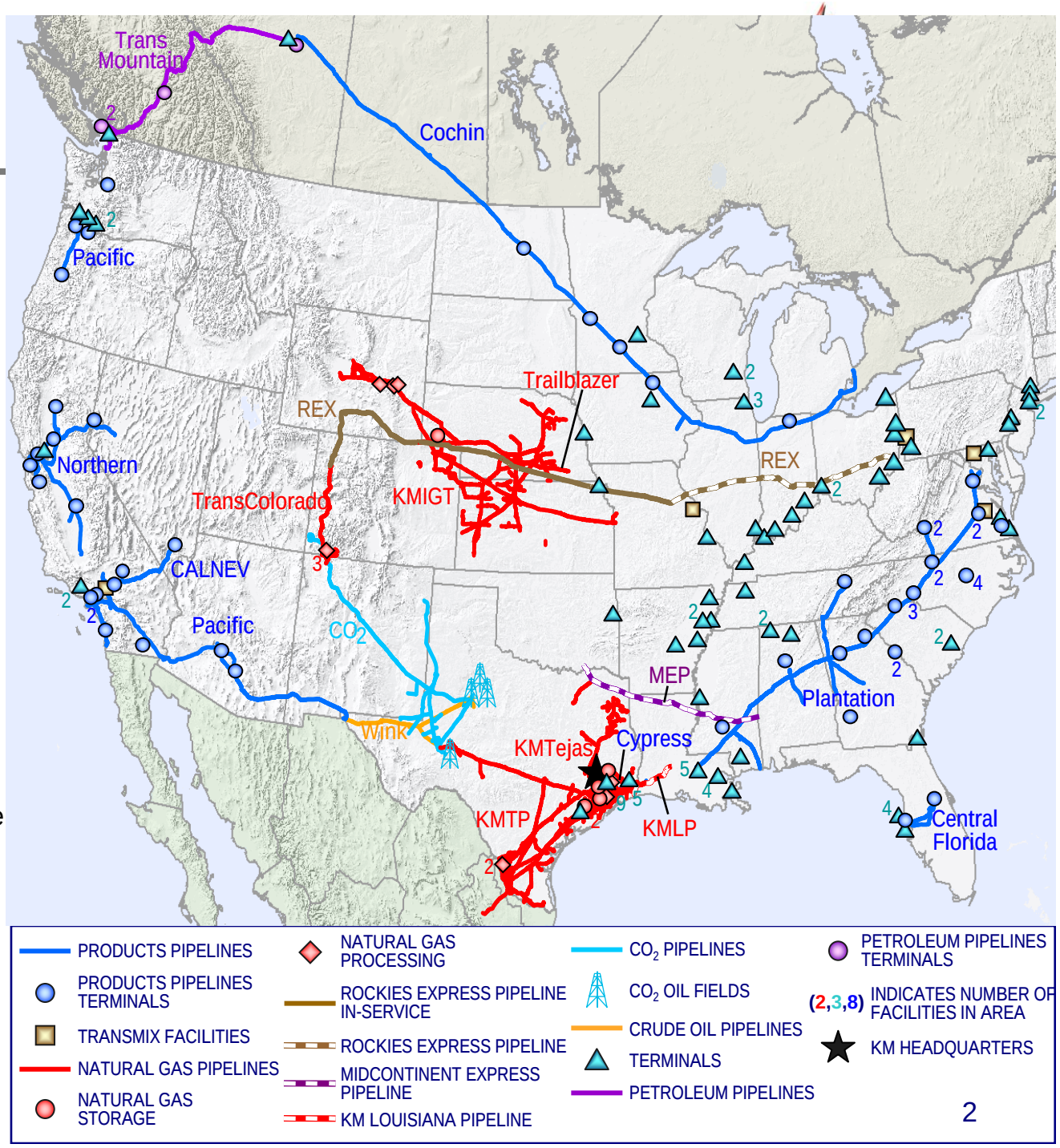
1. Kinder Morgan Approach
   a. Kinder Morgan System Overview
2. Ethanol
   a. Kinder Morgan Ethanol Footprint
   b. The Central Florida Pipeline Experience
3. Biodiesel
   a. Kinder Morgan Biodiesel Footprint
   b. The Plantation Pipeline Experience

Kinder Morgan Footprint

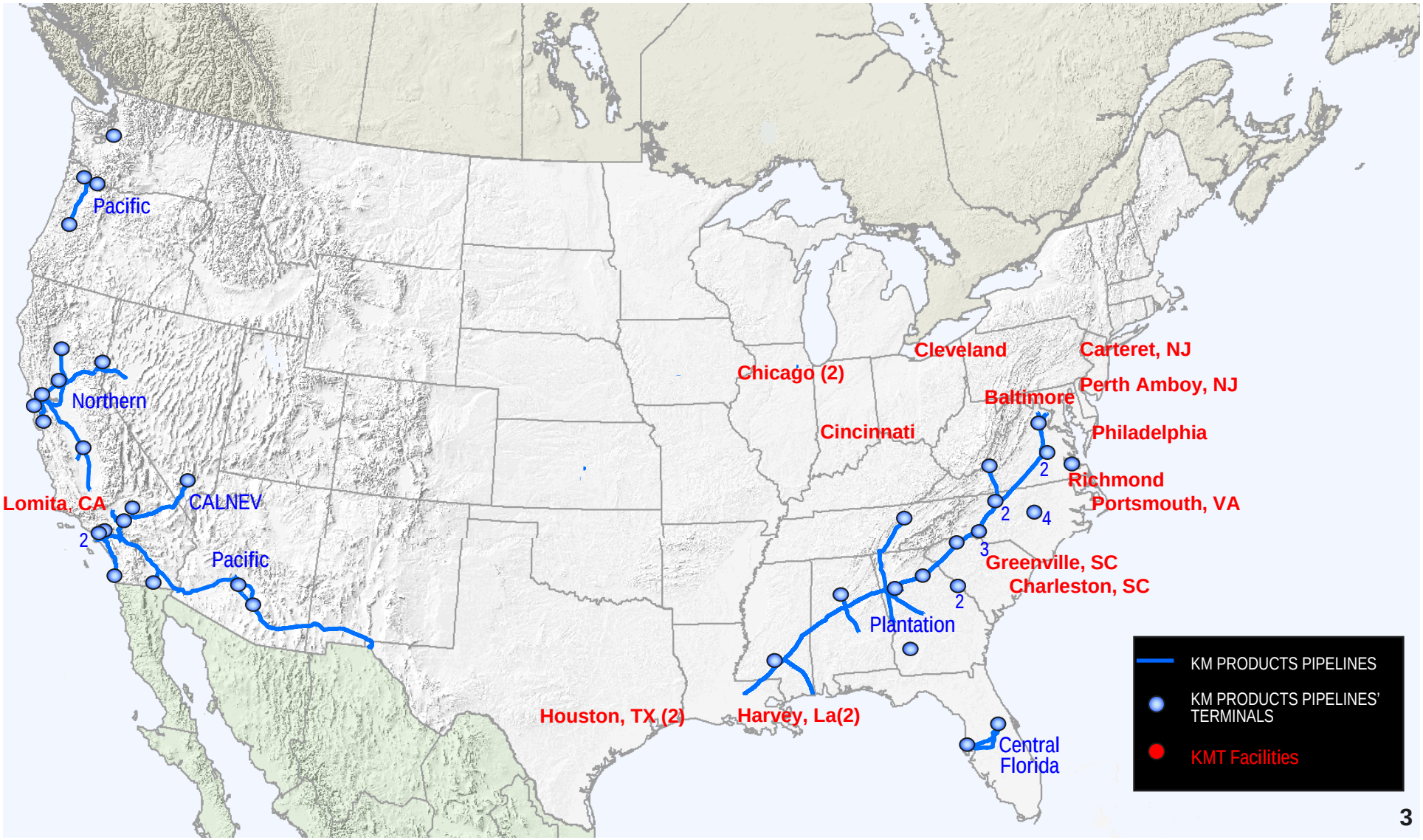
- Largest independent transporter of petroleum products in the U.S.
  - Transport more than 2 million barrels per day
- 2nd largest transporter of natural gas in U.S. (a)
  - Approximately 22,000 miles of interstate / intrastate pipeline
- Largest transporter of CO_2 in U.S.
  - Transport over 1 Bcf/d
- 2nd largest oil producer in Texas
  - Produce ~55,000 Bbl/d of crude
- Largest independent terminal operator in U.S.
  - ~103 million barrels of liquids capacity
  - Handle 87 million tons of dry bulk products
    - Largest U.S. handler of petcoke

3/17/2009

(a) Includes NGPL.



KM Ethanol Footprint
current ethanol handling capabilities



Batching denatured ethanol on Central Florida Pipelines (CFPL).

- Why Ethanol on CFPL?
  1. Immediate customer demand for ethanol pipeline service, with supply point and delivery point ethanol systems currently in operation.
  2. Short and Simple pipeline system (16 inch diameter, ~110 miles long, no intermediate delivery points).
  3. Gasoline-only service on pipeline with no capacity loss with batch ethanol shipments.

Kinder Morgan
Central Florida Pipeline Ethanol Experience

Ethanol Issues to address:

- ISSUE #1: Ethanol Stress Corrosion Cracking (SCC).
- ISSUE #2: Equipment compatibility with Ethanol.
- ISSUE #3: Product Contamination, both Gasoline and Ethanol.
- ISSUE #4: Regulatory Interaction.

Kinder Morgan
Central Florida Pipeline Ethanol Experience

ISSUE #1: Ethanol Stress Corrosion Cracking (SCC)

1. Performed a metallurgical testing program:
   A. Screened Various Ethanol blends for SCC potential.
   B. Screened Ethanol SCC chemical inhibitors.
   C. Finalized Chemical Inhibitor performance and dosage requirement.
2. Initiated Chemical Inhibitor performance monitoring:
   A. Test method to ID chemical in Ethanol.
   B. Coupon rack monitoring program to verify performance.

Kinder Morgan
Central Florida Pipeline Ethanol Experience

ISSUE #2: Equipment compatibility with Ethanol

1. Performed a Component by Component Analysis of the pipeline.
2. ID'd all possible contamination points and potential water sources.
3. Replaced all parts as required and removed all potential water sources.

Kinder Morgan
Central Florida Pipeline Ethanol Experience

ISSUE #3: Product Contamination, both Gasoline and Ethanol

1. Ethanol: particulate/color pickup eliminated
   - Performed a pipeline cleaning process prior to shipping the first batch that included scrubbing the line and chemical cleaning.
2. Gasoline/Ethanol interface proved minimal
   - Gasoline/Ethanol interfaces stay sharp with minimal mixing.
   - Interface clearing identified by existing instrumentation.

ISSUE #4: Regulatory Interaction

- DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) has regulatory jurisdiction over ethanol shipments by pipeline.
  - Kept PHMSA updated and they monitored our transition over to shipping Ethanol.
- Communication with First Responders along pipeline route.
  - Environmental characteristics of Ethanol.
  - Responder equipment requirements.

KINDER MORGAN

The results:
Routine shipments of Ethanol!

Started routine shipment of Ethanol on CFPL in December 2008.

Product on test, meets all specifications, arrives bright and clear;

KINDER MORGAN

Ethanol Next Steps

Apply to other KM pipelines as customer needs develop.

Plantation Pipeline (Baton Rouge, La-to-Newington, Va System)

- Individual segments show promise for future ethanol transport .
- Evaluating commercial vs. operational capabilities.
- Likely to begin test and evaluation process during 2009.

Biodiesel

Kinder Morgan Biodiesel Footprint
Break-bulk, Storage and Handling Capabilities

Pipeline transport of B-5

- Plantation Pipe Line (Louisiana to Virginia system)
- Portland to Eugene, OR, testing.

KM Galena Park, TX

- *Green Earth's* biodiesel production facility
- In production since July '07

Storage, Handling, Export:

- NY, Chicago, Houston, Philadelphia

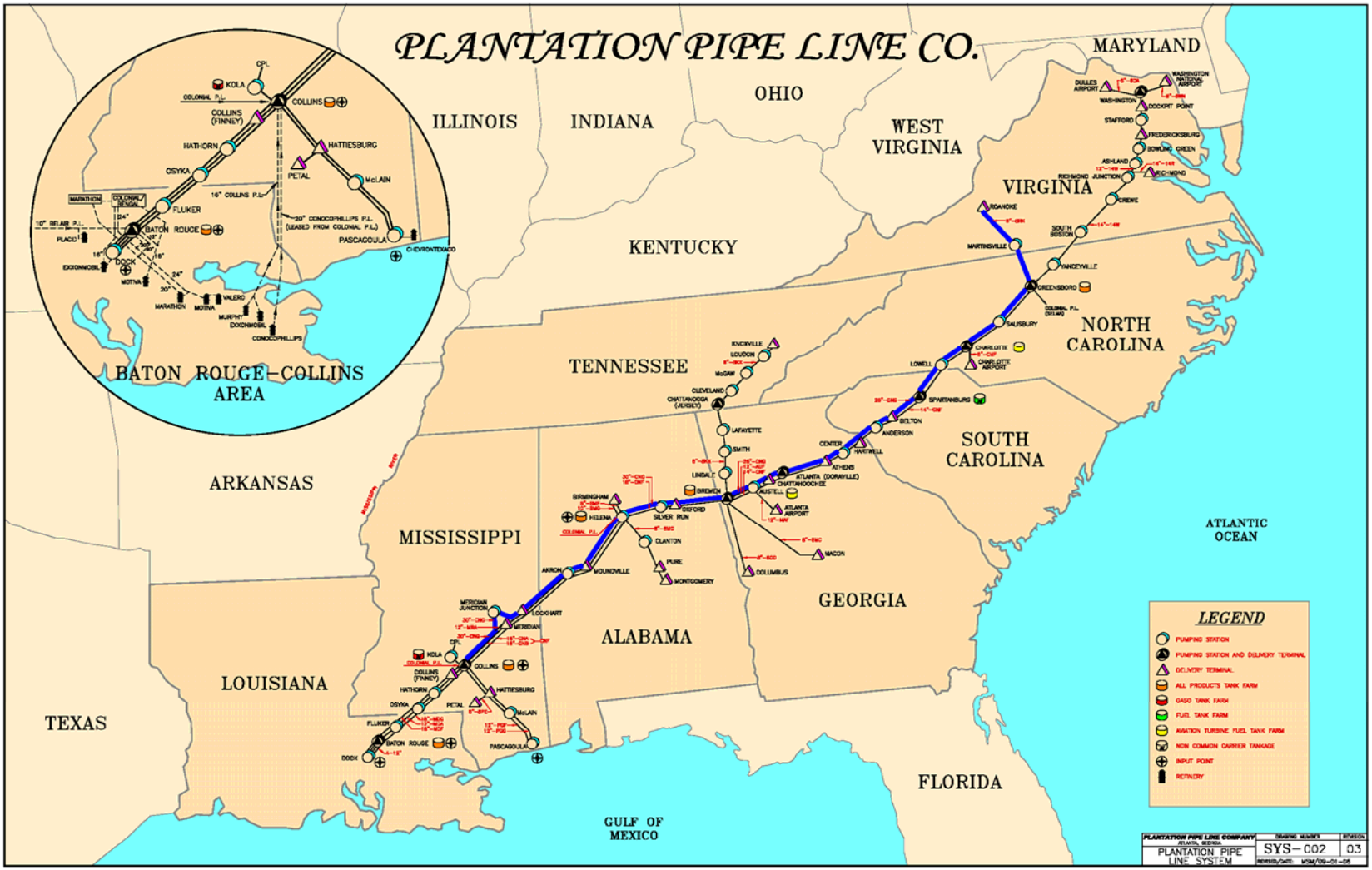
Storage, Handling, Import:

- Tampa, FL

Storage, Handling, Blending:

- Portland, OR
- Seattle, WA

Kinder Morgan
Plantation Pipe Line BioDiesel Experience



Batching BioDiesel B-5 blend on Plantation.

- Why BioDiesel on Plantation Pipe Line?
  1. Customer demand for BioDiesel service, with supply point and delivery point currently in operation.
  2. Pipeline system set up so there is no system contact between the BioDiesel Blends and Jet Fuel.

BioDiesel Issues Plantation Pipe Line addressed:

- ISSUE #1: Equipment compatibility with BioDiesel
  - Literature and industry data show compatible with existing equipment.
  - Temperature issues with storage of B-99 product until blended: handled with B-99 product specifications and system design.
- ISSUE #2: Product Contamination (Jet Fuel with BioDiesel)
  - Segregated pipelines, B-5 does not move in Jet Fuel pipelines on Plantation.
- ISSUE #3: Regulatory Interaction with DOT Pipeline and Hazardous Materials Safety Administration (PHMSA).
  - Keeping PHMSA updated on our direction with BioDiesel.

KINDER MORGAN

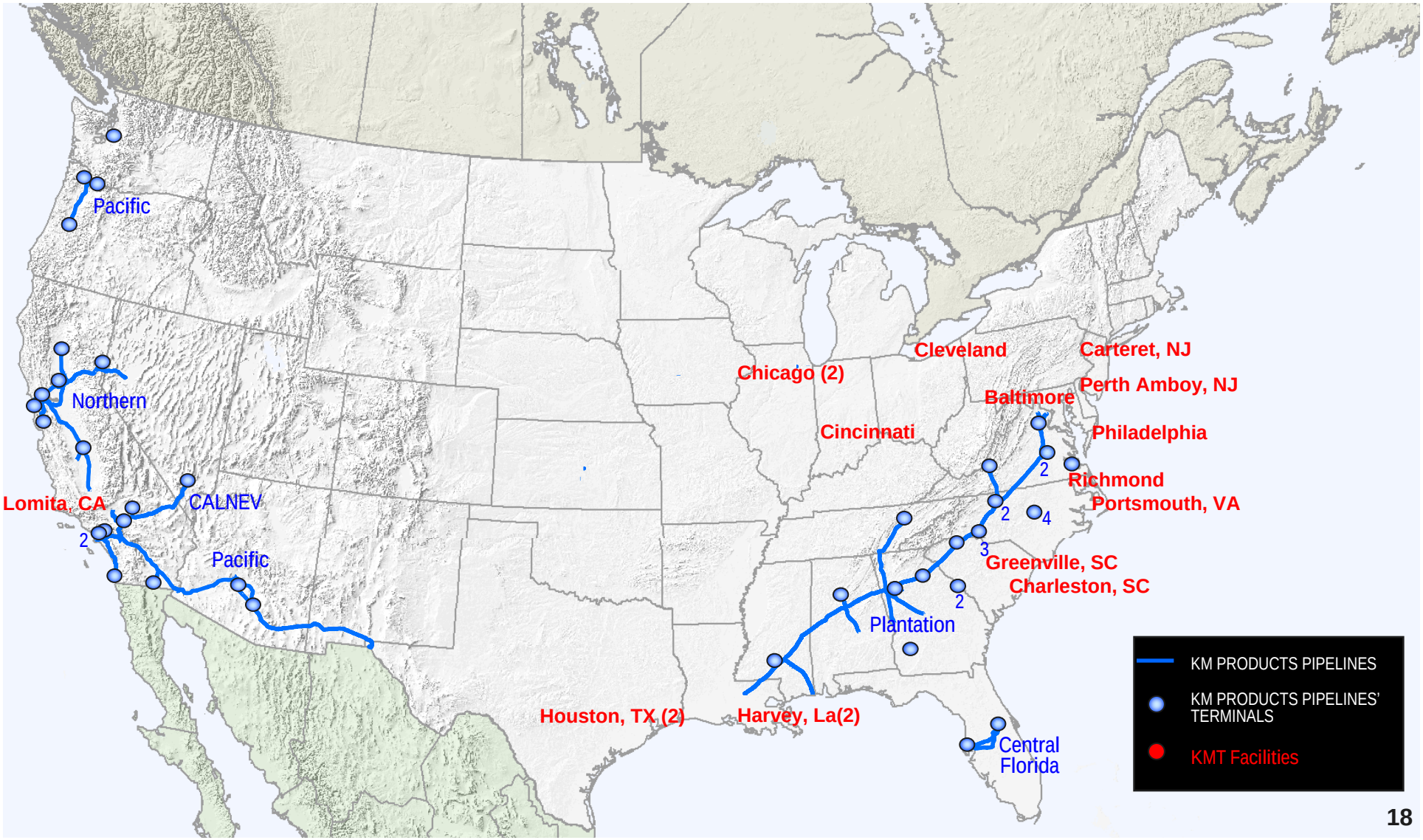
Demonstrated performance:

- 20,000 barrel batch of B5 blend shipped 500 miles in October 2008.
- Testing showed no product degradation or cross contamination with other distillate products.
- Customer very positive with the results.

Next Steps

- We have identified suppliers capable of delivering the quality and quantities of biodiesel to Collins, MS.
- Collins, Ms facilities in place to blend 12,000 BPD of B-5.
- Collins, Ms facilities being installed to blend 100,000 BPD of B-5 by August 2009.

Questions?


Pacific
Northern
Lomita, CA
CALNEV
2
Pacific
Chicago (2)
Cleveland
Carteret, NJ
Perth Amboy, NJ
Baltimore
Cincinnati
Philadelphia
2
Richmond
Portsmouth, VA
2
4
3
Greenville, SC
Charleston, SC
2
Plantation
Houston, TX (2)
Harvey, La(2)
Central Florida
KM PRODUCTS PIPELINES
KM PRODUCTS PIPELINES' TERMINALS
KMT Facilities