

# California Energy Commission Infrastructure Workshop April 14, 2009

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## Kinder Morgan/SFPP, L.P. Pipeline System

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**Ed Hahn**

**Kinder Morgan Energy  
Partners, L.P.**

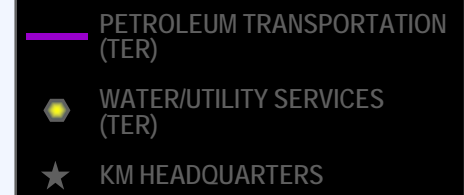
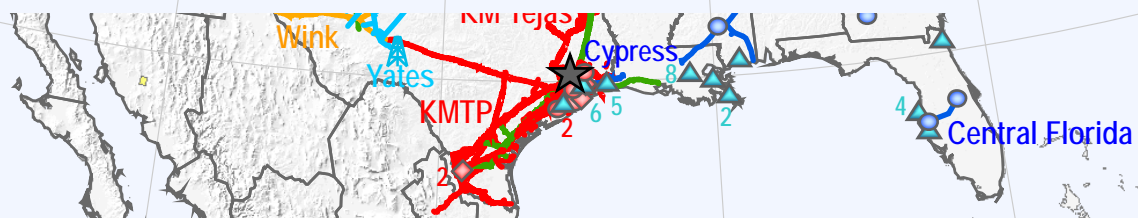


# Kinder Morgan Background

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- KM is one of the largest energy transportation, storage & distribution companies in North America
- KM transports more than 2 million barrels per day of products
- KM owns an interest in or operates approximately 43,000 miles of pipeline and 150 terminals
- Combined enterprise value of KM companies is over \$35 billion

# Kinder Morgan Assets

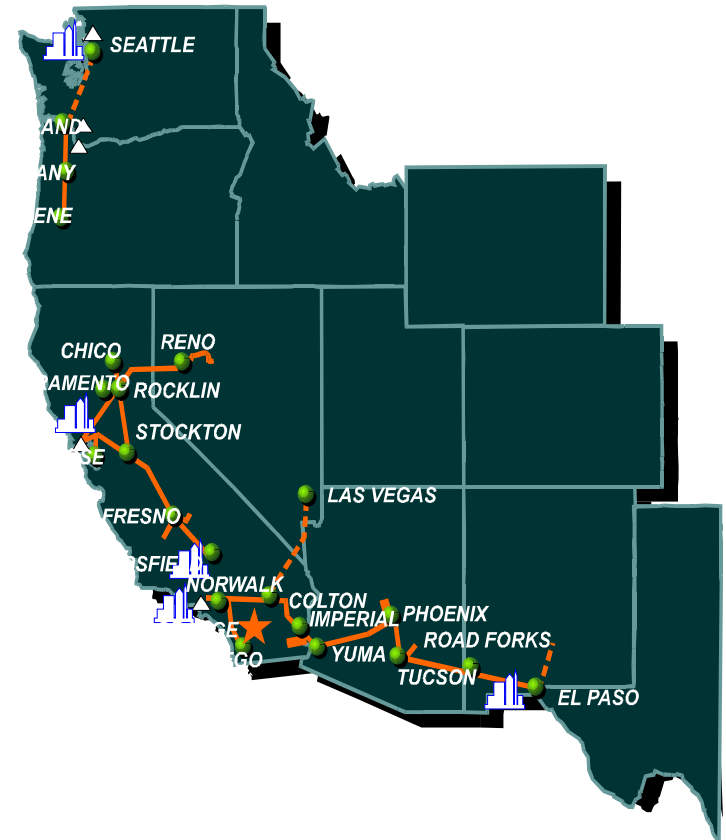


# Pacific Operations

## *Segment Profile*

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- SFPP LP and West Coast Terminals
- 3,300 mile refined products pipeline system
- Transports over 1 million barrels per day
- Transports Gasoline, Diesel, and Turbine Fuel
- 19 Distribution Terminals in CA, AZ, NV, OR & WA





# Current and Planned Biofuel Projects

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- Central Florida Pipeline
  - Transport Ethanol via Pipeline from Tampa to Orlando
- Plantation Pipeline
  - Transport Biodiesel from Collins, Mississippi to Georgia, North Carolina and Virginia
- SFPP, L.P. - Oregon Pipeline
  - Blend Biodiesel In Willbridge (Portland) Terminal
  - Transport Blended Biodiesel (B2) from Portland to Eugene



# Restrictions and Constraints of Biofuels Projects

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## **Ethanol Transportation By Pipeline**

- Corrosion – Both Pipeline and Storage Tanks
- Pipelines are “wet” systems
- Pipelines occasionally receive “wet” product (cloudy, hazy, free water)
- Phase Separation if  $> 1\%$  Water is present

## **Bio Diesel**

- Quality Control - Several different feedstocks and productions standards currently in use
- Trail back

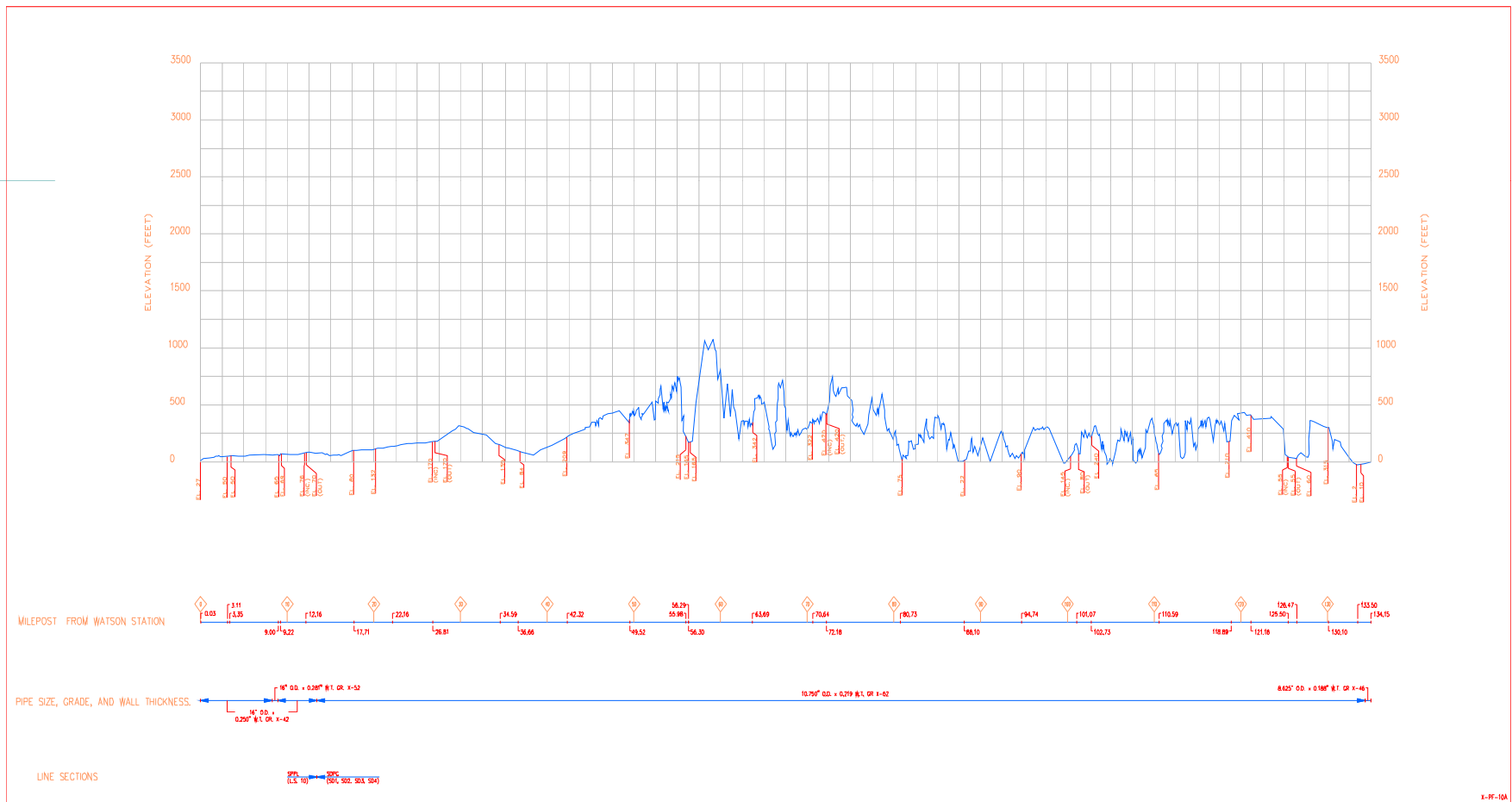


## Central Florida Pipeline - Ethanol

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- 16" diameter pipeline
- 120 miles, no significant elevation changes (no place for water pooling)
- Only transported gasoline
- Central point of collection
- Very simple system (no intermediate breakout)

# Hydraulic Profile – San Diego Line







# “Jet Engine OEMs” Concerns

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- “The bio-component in biodiesel (FAME - Fatty Acid Methyl Ester) is a surface-active material. This means that, in theory, it can adsorb on to pipe and tanks walls as the biodiesel passes and then desorb off the wall into the following grade which may be jet fuel. Also, small amounts of diesel containing FAME remaining within distribution manifolds, tanks, vehicles and pipework etc. can result in traces of FAME getting into the following jet fuel.”
- Current Jet Fuel Restriction <5 parts per million by weight (ppm w/w) FAME



# Jet Fuel Contamination

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- Despite best efforts, water can accumulate on tank bottoms
- Water is removed by coalescing filtration
- Potential for surface active agents from the diesel fuel to allow water to pass through the coalescing filtration system



## Plantation Pipeline & Oregon Line Operations re: Biodiesel

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- **Neither pipeline transports commercial or military jet fuel.**
- PPL will inject biodiesel into the bypassing stream of ULSD in the pipeline.
- Oregon facilities will blend biodiesel and ULSD and SFPP will transport finished blend by pipeline



# Expansion Projects

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- CalNev Expansion Project
  - Increase Capacity from 158MBPD to Approximately 200MBPD
  - Currently coordinating permit activity with Federal, State and Local agencies
  - Scheduled for EIR Completion 4<sup>th</sup> Quarter 2009
  - Construction 2010
  - Current economic conditions may influence project schedule



# Expansion Projects

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- Fresno Pipeline Expansion
  - Increase Capacity 3MBPD by May 1<sup>st</sup>
  - Increase Capacity by an additional 7MBPD by June 1<sup>st</sup>