

# Federal / State Legislative & Regulatory Changes Required for Introduction of E15

## Implementation Issues Affecting E15

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# Overview



- EPA Waiver Decision
- E15 Implementation Issues
- Federal and State Blending Restrictions
- Action by ASTM / NCWM to address higher ethanol blends

# E15 Partial Waiver Decision

- October 13, 2010 – EPA granted partial waiver for E15 in MY 2007 and newer light duty vehicles
- January 21, 2011 – EPA granted partial waiver for E15 in MY 2001-2006 light duty vehicles
- Did not approve E15 for older vehicles (pre-2001) and non-road engines



# Roadblocks to E15 Implementation



# E15 Implementation Hurdles



Major legislative and regulatory changes needed before E15 can be marketed

- Federal
- State
- ASTM / NCWM
- Other implementation hurdles include:
  - Auto Manufacturer Warranties (max. 10% ethanol)
  - Infrastructure / Retail Issues
  - Petroleum Equipment / UL Listings
  - Litigation

# Federal Regulations Impacting E15

## ● E15 Waiver Conditions

- EPA established conditions to limit vapor pressure, ensure fuel quality, and mitigate potential for misfueling
  - Reid vapor pressure may not exceed 9.0 psi / 7.8 psi RVP during summer volatility season (May 1-September 15) – *No 1.0 psi RVP waiver*
  - Ethanol must meet ASTM D4806-10
  - Dispenser labeling / product transfer documents
  - Retail compliance survey

## ● EPA Fuels & Fuel Additive Registration / Health Effects Testing (40 CFR Part 79)

- E15 must meet health effects and other registration requirements
- Fuel / fuel additive manufacturers must submit application and be registered by EPA before introducing E15 into commerce
- RFA, with Growth Energy, has begun fuel registration process

# Federal Regulations Impacting E15 (cont.)

- EPA RFG (Complex Model)

- EPA issued NPRM October 13, 2010 to revise complex model for E15

- EPA Misfueling Mitigation Proposal

- October 13, 2010 – Proposed to adopt pump labeling, product transfer documents, and survey requirements for E15
- Hearing November 16, 2010 / Comment period closed January 3, 2011
- EPA reviewing public comments

- FTC Labeling Proposal

- March 16, 2010 – Has proposed to adopt labeling requirements for mid-level ethanol blends and other revisions to Fuel Rating Rule
- Current rule does not address blends between E10 and E70
- Comment period closed May 21, 2010



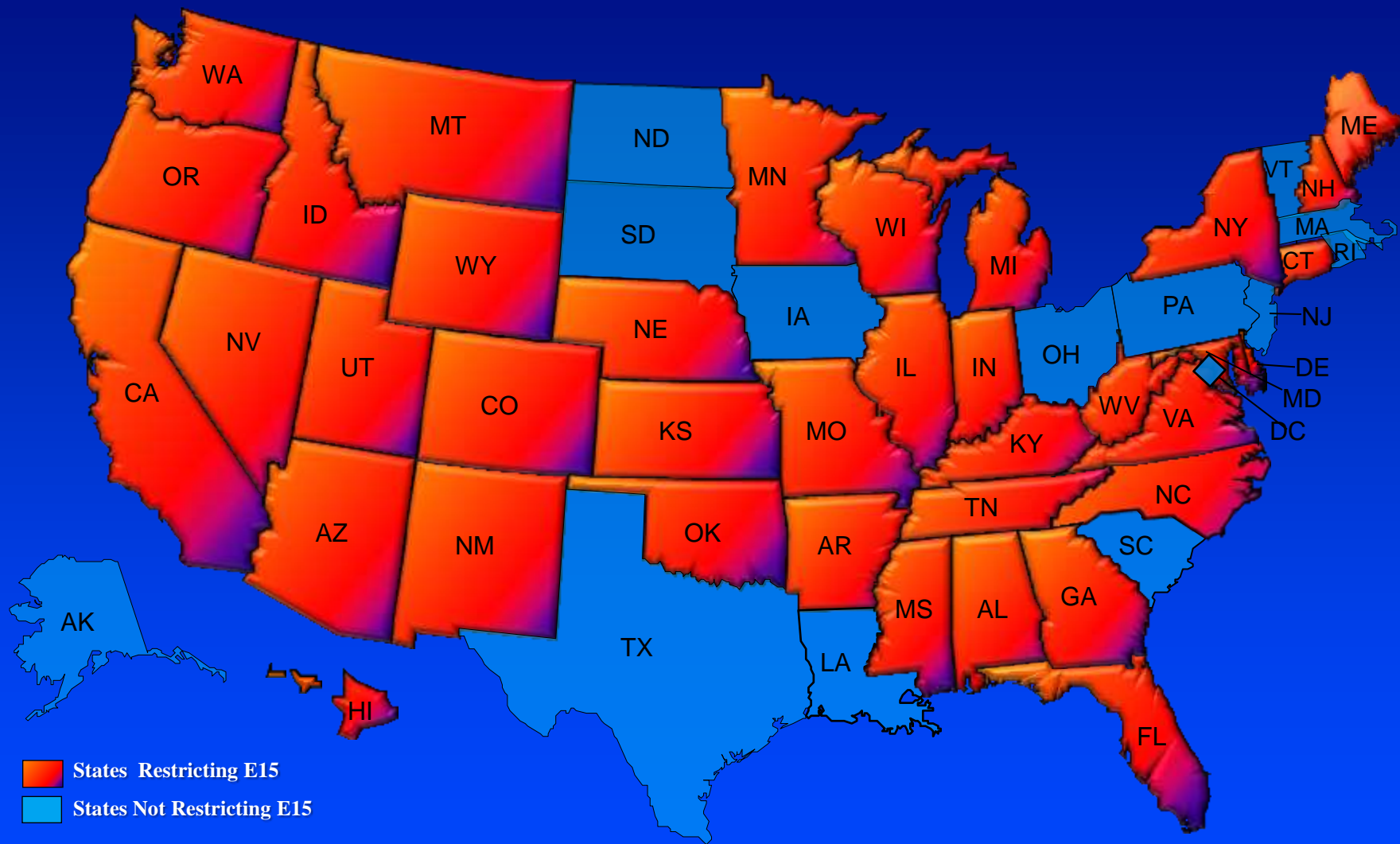


# State Changes Required for E15

- **38 states have laws / regulations restricting E15**
- Over 90 laws and regulations / multiple agencies
- E15 restrictions include:
  - 18 states prohibit marketing more than E10 (blend cap)
  - 24 states and 2 counties adopt most recent ASTM D4814
  - 23 states provide volatility waivers for up to E10
  - 9 ozone nonattainment areas provide 1.0 psi RVP waiver for E10 during summer RVP control period
  - 8 states adopt most recent NIST Handbook 130
  - 5 states have ethanol mandates for E10
  - 36 states have labeling and product transfer requirements for E10



# States With E15 Blending Restrictions

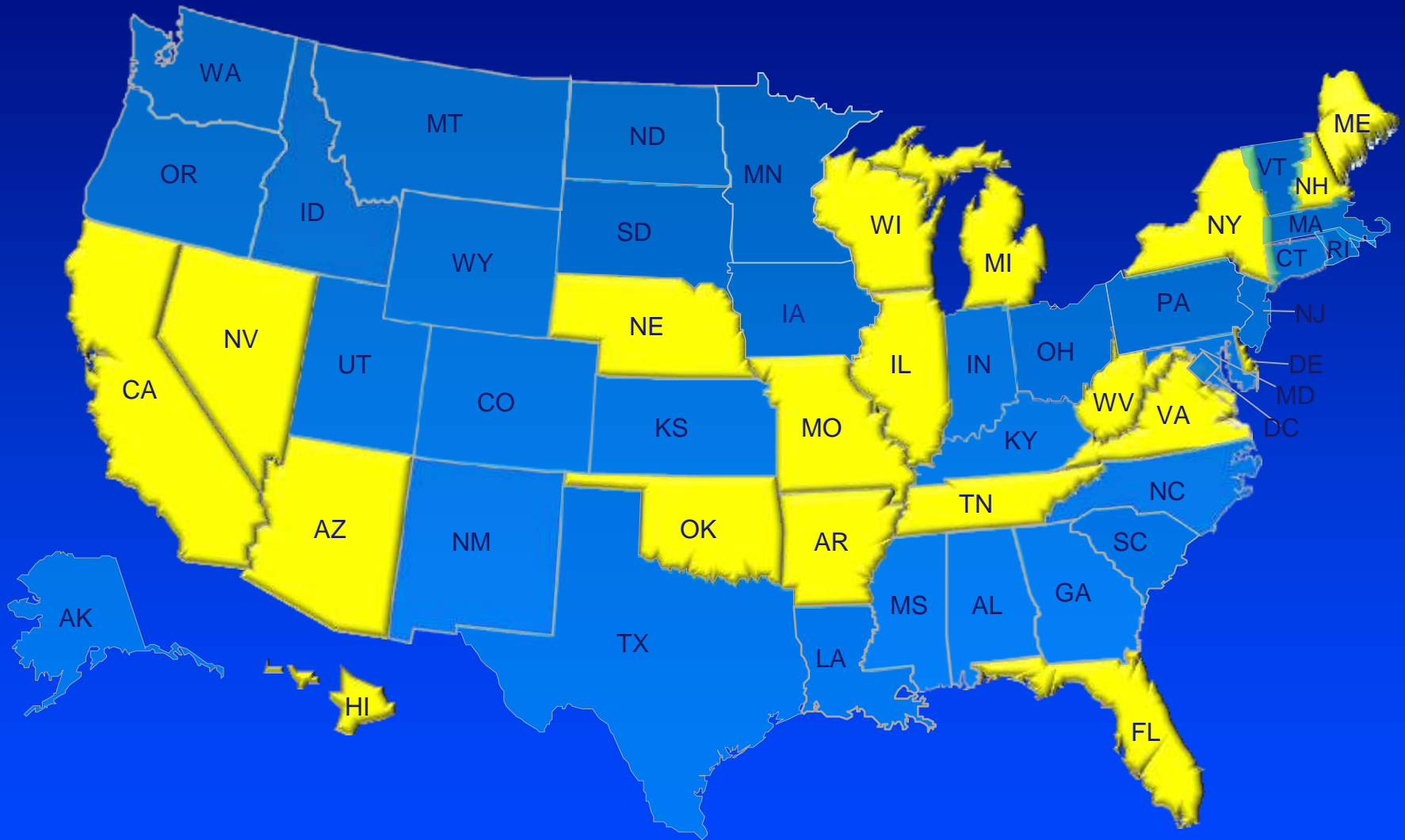


*Note: Does not include EPA RVP Waiver for Conventional Gasoline or Federal RFG*

*\* Illinois adoption of 2010 HB 130 effective May 1, 2011 / Washington effective June 1, 2011*

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# States With E10 Blend Caps



States with Volume or Oxygen Blend Caps on E10

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# Missouri Case Study



- Volume Blend Cap – 10 vol %
- Oxygen Blend Cap – 3.7 wt. %
- Year-round RVP Waiver – 10 vol %
- T50 & T V/L=20 offsets – up to 10 vol%
- Kansas City – Summer RVP waiver E10
- Renewable Fuel Standard – Requires E10 \*

*\*Missouri issued proposed rule 12-15-10 to exempt E15 from mandate*

# Estimated Timetable for State Changes



State Initiates  
Action

Regulatory  
Change  
3 months - 2 years  
(or longer )

Legislative  
Change  
1 - 2 years

# ASTM Action on E15

- **ASTM International Fuel Specifications**
  - Adopted by federal government, states, pipelines
  - 37 states and 2 counties adopt ASTM D4814 (26 most current)
- **ASTM Action on E15**
  - Evaluating changes necessary to accommodate E15
  - Established new Work Groups (D4814, D4806, BOBs for E15)
- **Primary ASTM Specifications Affected**
  - **D4814** *“Standard Specification for Automotive Spark-Ignition Engine Fuel”*
  - **D4806** *“Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel”*

# States / Areas Adopting ASTM D4814

Adopts Most Recent ASTM D4814		Adopts Earlier Version D4814
Arkansas	Nevada <sup>1</sup>	Arizona (D4814-09b) <sup>2</sup>
California	New Hampshire	Florida (D4814-09b)
Colorado	New Mexico	Hawaii (1991)
Connecticut	New York - Suffolk County	Idaho (D4814-07a)
Delaware	North Carolina	Iowa (In effect as of 10-01-06)
Illinois	Ohio - Summit County	Minnesota (D4814-08b)
Kansas	South Carolina	Nebraska (D4814-89)
Kentucky	Tennessee	New York (D4814-04a)
Louisiana	Utah	Oregon (2010 Book of Standards)
Maine	Virginia	Rhode Island (D4814-04b)
Mississippi	Washington	South Dakota (2005 Book of Standards)
Missouri	West Virginia	Texas (D4814-09a)
Montana	Wyoming	Wisconsin (D4814-04b <sup>e1</sup> )

<sup>1</sup> Nevada – 38<sup>th</sup> parallel applies statewide

<sup>2</sup> Effective March 12, 2011



# D4814 - Gasoline & Oxygenate Blends

- Specification covers E15 (applies to <50 vol % ethanol blends)
  - Current min. T50 offset applies to 1-10 vol% ethanol
- Modifications under consideration include:
  - Determine if changes necessary to performance limits
  - Can current T50 and T V/L=20 limits be extended to E15
  - Is current Driveability Index (DI) equation applicable to E15
  - RVP requirements for E15 (align with E15 waiver)
  - Address partial waiver
  - Applicability of test methods for E15
- Timetable for Action
  - May ballot revisions in Subcommittee D02.A by June 2011
  - Final action may be completed by early 2012



# D4806 – Denatured Ethanol

- EPA waiver for E15 requires ethanol meet ASTM D4806-10
  - “The waiver applies to the blending of greater than 10 vol% and no more than 15 vol% anhydrous ethanol into gasoline, ***and the ethanol must meet the specifications for fuel ethanol found in the ASTM International specification D4806-10.***”
- Future efforts by ASTM D4806 Work Group
  - Modify scope of D4806 to eliminate E10 blend cap
  - Determine if current test methods applicable to E15
  - Determine if changes to performance limits on blend or components necessary for E15

# NCWM Action on E15

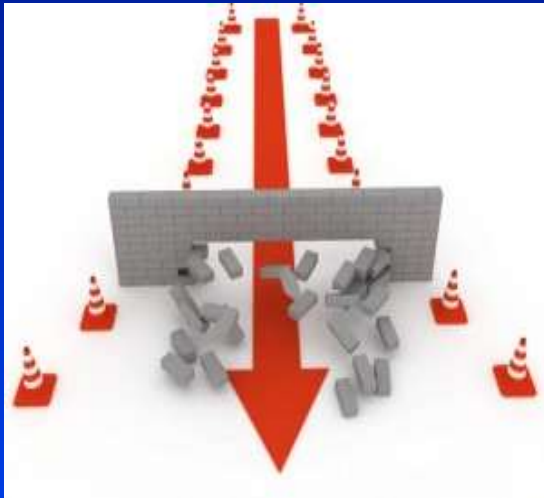
- National Conference on Weights and Measures (NCWM)
  - Develops model laws /regulations published in NIST Handbook 130
  - 16 states adopt NCWM fuel regulation (8 most current)
- Fuels & Lubricants Subcommittee evaluating changes to HB 130
  - Blend Cap – 2010 Edition of HB 130 limits ethanol content to 10%
  - Volatility Relief – 1.0 psi RVP waiver for 9-10% ethanol during summer, 10% rest of year / T50 and T V/L=20 offsets for 1-10 vol % ethanol
  - Retail and Wholesale labeling requirements – do not address E15
- Timetable for Action
  - January 24, 2011 – Laws and Regulations Committee decided that proposed changes for E15 should be “Information Item” (*Non-Voting*)
  - No changes expected until 2012. If adopted, effective January 2013.

# Proposed Revision HB 130

## Section 2. Standard Fuel Specifications

- 2.1. Gasoline and Gasoline-Oxygenate Blends
- 2.1.1. Gasoline and Gasoline-Oxygenate Blends (as defined in this regulation). – shall meet the most recent version of ASTM D4814 “Standard Specification for Automotive Spark-Ignition Engine Fuel” except for the permissible offsets for ethanol blends as provided in Section 2.1.3. Gasoline-Ethanol Blends.
- 2.1.2. Gasoline-Oxygenate Blends. – shall contain no more than ~~10% ethanol~~ the maximum volume percent ethanol approved for motor gasoline by the U.S. EPA under section 211(f)(4) of the Clean Air Act. Blends approved by EPA shall also meet other conditions required in the waiver. For ~~other~~ oxygenates other than ethanol, blends shall contain no more than 2.0 mass percent oxygen except fuels containing aliphatic ethers and/or alcohols (excluding methanol) shall contain no more than 2.7 mass percent oxygen.

# Where Do We Go From Here?



- EPA approval of E15 is just the first step
- Numerous state / federal laws need to be changed
- Other changes needed for full implementation
- Government, private industry, and standards organizations working to address E15

# Thank You

- For further information, contact:

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