# Appendix 3:
# Missouri GMO IRP
# May Stakeholder Meeting
# Distribution of Future Values of Uncertain Factors that Affect Supply-Side Resource Costs

May 20, 2010

EE-2009-0237

KCP&L SM
energizing life

# MDNR Deficiency #6

- GMO's methodology for estimating the probability distribution for $NO_x$ allowance prices appears to be
  - substantively deficient
  - divergent from rule requirements
  - divergence from rule requirements is not supported by the language in Waiver #11



KCP&L energizing life

# Objectives of GMO's Forecast

- Conform to published regulations or use waiver
- Consistency between forecasts
- Recognize uncertainty
- Be cognizant of value of information

# From the Integrated Resource Planning Rules

- 22.040(8)(A) – Fuel Price Forecast
  1. From consulting firm or expert
  2. Consider accuracy of previous forecasts
  3. Forecast shall:
     - Identify critical uncertain factors
     - Provide a range of forecasts
     - Subjective probability distribution

# From the Integrated Resource Planning Rules

- 22.040(8)(D) – Emission Allowance Forecast
  1. From consulting firm or expert
  2. Forecast shall:
     - Identify critical uncertain factors
     - Provide a range of forecasts
     - Subjective probability distribution

# Consensus Forecast

- Addresses the rules:
  - Multiple consulting firms and experts
  - Consistently more accurate than most of the forecasts it represents
  - Can construct distribution
- Can be used for all fuel related commodities
- Uses readily available “off the shelf” forecasts

# Monte Carlo Forecast

- Does not address the Rules
  - Expert firm model “not for sale”
  - Unproven accuracy of fundamental model
  - Can construct distribution, but GIGO substantively deficient
- Expert firm models not available for all fuel related commodities
- Expensive consulting for custom model development

# Objectives of GMO's Forecast

- Conform to published regulations or use waiver
- Consistency between forecasts
- Recognize Uncertainty
- Be cognizant of value of information