

Energy Hedging at GPE

Hedging

- Process of protecting against risk
- Changes risk from one you do not want to one you will accept

Various Means of Hedging

- Derivatives
- Forwards
- Assets (real options)

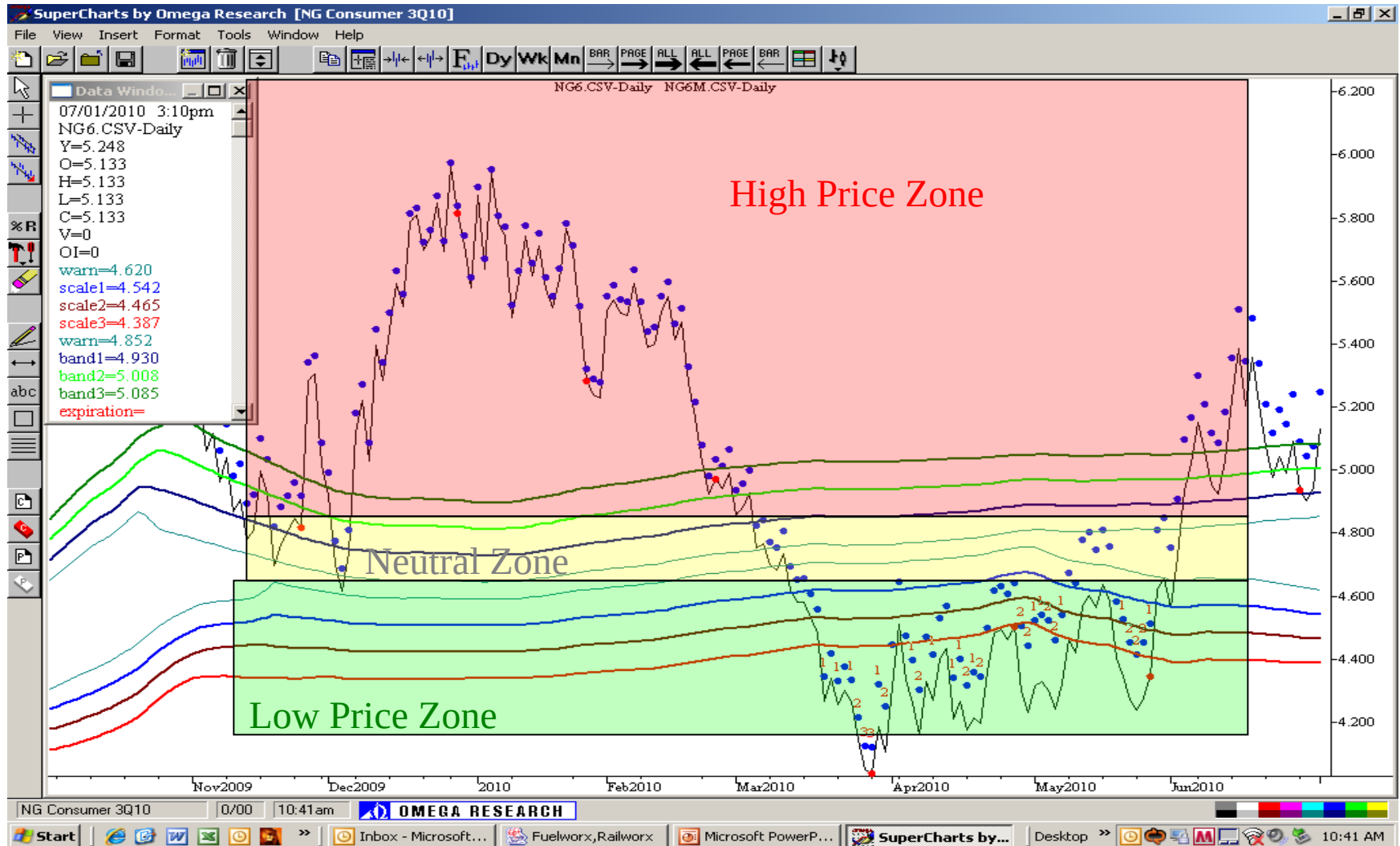
Commodities Hedged

- KCPL
 - Coal
 - Natural Gas
 - For generation
 - Started 2001
 - Oil
 - Iatan 2 steam blow
- GMO
 - Coal
 - Natural Gas
 - For generation
 - Started 2004
 - Purchased Power
 - cross-hedge with natural gas
 - Emission Allowances

Strategies Employed

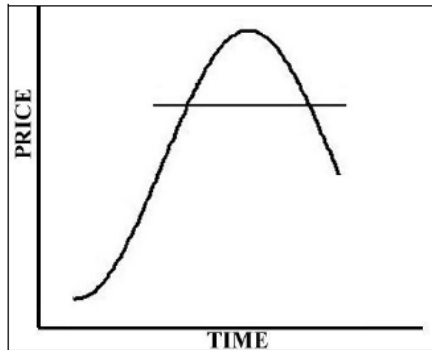
- Laddering
- Kase
 - HedgeModel
 - ezHedge
- Bollinger bands

Kase HedgeModel

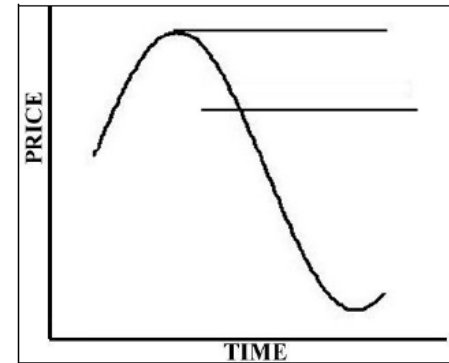


ezHedge Guided by Rules

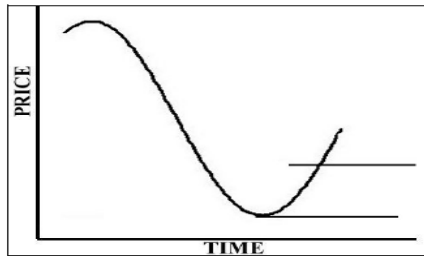
Rule One



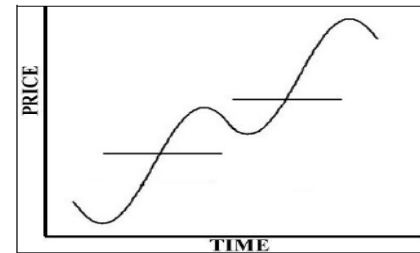
Rule Two



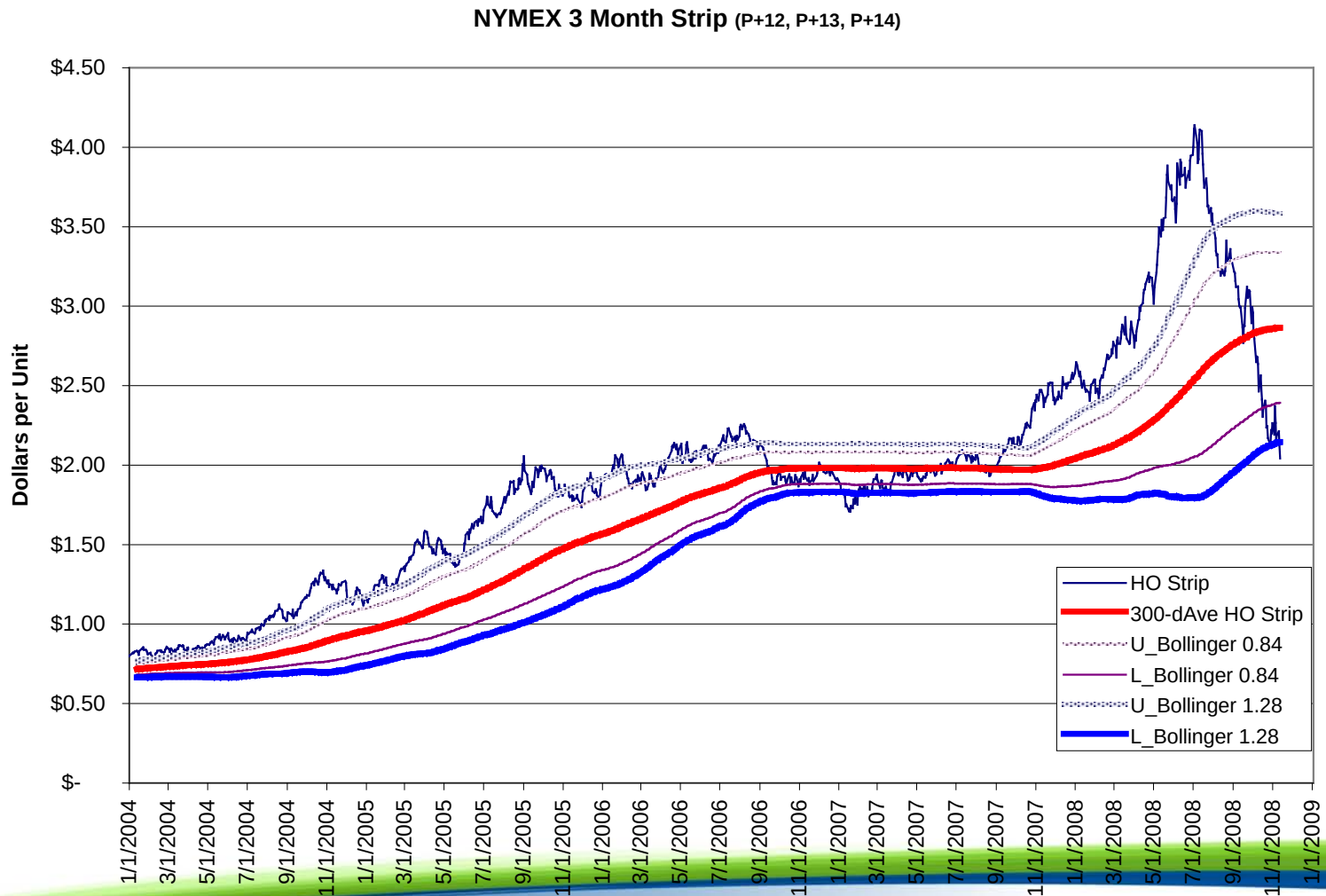
Rule Three



Rule Four



Bollinger Bands



Cases That Tried Hedging

- Kansas electric
 - 07-KCPE-905-RTS
- Missouri steam
 - HC-2010-0325
 - HC-2012-0259
- Missouri electric
 - EO-2011-0390 (initiated EW-2012-0101)

Joint Report - Recommendations

Case No. GW-2006-0110

- Amend Natural Gas Price Volatility Rule
 - Mandatory hedging
 - Prescribed hedging parameters
 - Provide MPSC with hedge plan
 - Receive timely comments on hedge plan
 - Recognize appropriate hedging mechanisms