EnergyClear

Addressing The Challenges of OTC Clearing

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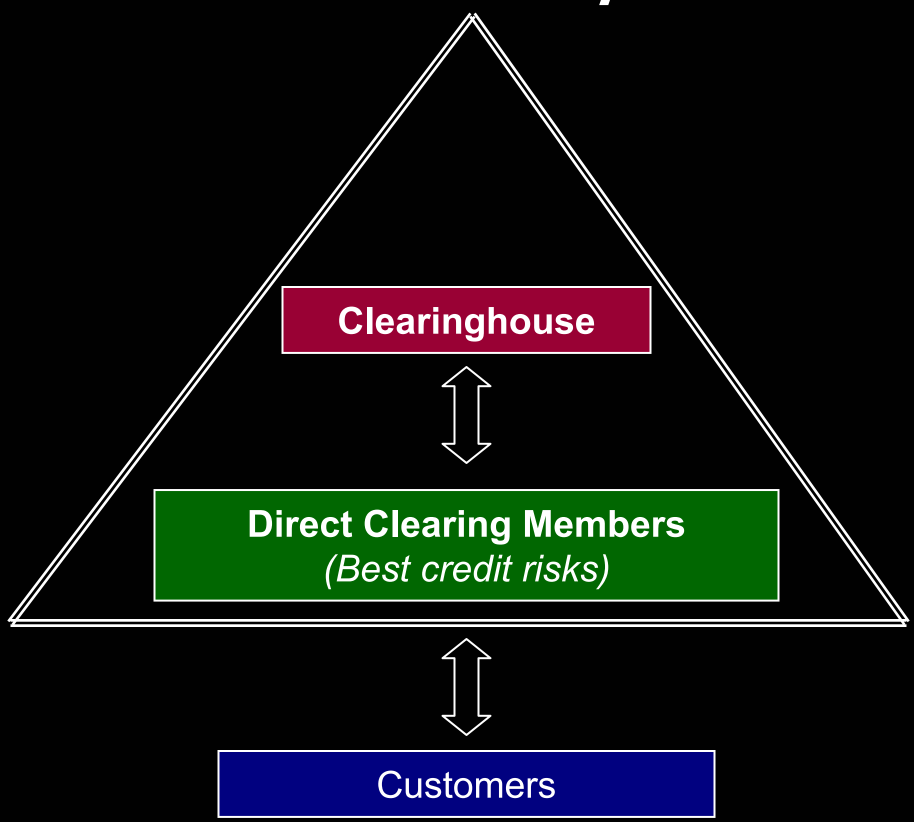
OTC clearing is proving a paradigm shift from traditional clearing

- Liquidity
- Delivery
- Who needs to be protected
- Need to protect structured deals
- Intersection of energy ratings stress and clearinghouse competition

Scope of Protections of Clearing Systems

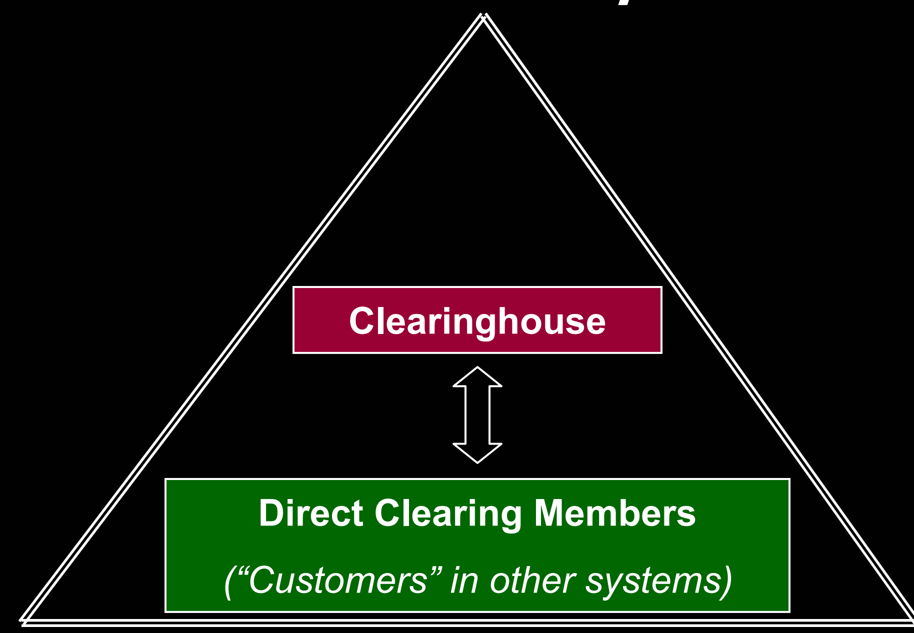
Classical Model

Based on "exclusive" membership



OTC Model

Based on "inclusive" membership



OTC Risk Philosophy

- Industry developed risk procedures
- Real Time Collateral Checks
    - SPAN Initial Margin vs. Net Open Position
- Market Monitoring – real time updates

Risk = one-day market move exposure on net open positions at 99.5% VaR

Margin Development
Statistical and Quant. Analyses

- Initial Margins
  - Monte-Carlo Historical Simulation 99.5% VaR
  - SPAN Scenario Analysis
  - Non-trading points
    - * volatility factor
    - * liquidity factor
- Daily Variation Margin
  - 5 p.m. margin call – 9 a.m. payment
    - * volatility/event intra-day margin calls
    - * alters MEC treasury practices

ECC Membership Categories
Helping to Promote Recovery

Member Categories	Qualification	Requirements
I & II	• At least $2 million working capital • At least BBB+ or BBB by 2 rating agencies	• Normal margin and guarantee rules • Variation paid to/from daily
III & IV	• Less than $2 million working capital • Rated BBB- by 2 or 1 rating agencies	• Guarantee fund 1.5 times Cat. I • Initial margin 1.5 times Cat. I • Variation paid to ECC up to twice daily
V (Recovery)	• Less than $2 million working capital • No rating agency rating necessary	• End-of-day position must be fully balanced • Guarantee fund 2 times Cat. I • Initial margin 2 times Cat. I • Variation paid to ECC up to 3 times daily • Intra-day trades fully collateralized • Subject to R/T collateral check • Strict delivery procedures

Product and Position Limits
Extra Safety Nets to Protect Members

- Product Limits
  - 2500 MW per month
  - 10 BCF per month (1.3 conversion factor)
  - Trading above limits requires FULL collateralization

- Position Limits
  - Credit Rating: weighted average
  - Capital Adequacy: leveraged net working capital

Default Resources

Securing Energy Market and MEC Member Interests

- Variation Daily Margin

- Initial Margin

- Minimum $2.5 MM guaranty fund

- Minimum $20 MM parent guarantee

- Committed $100 mil bank line of credit

ECC Cleared Energy Products

- 21 gas financial forward
  - 24 monthly tenors
  - 36 months calendar strips
- 3 power financial forward
  - 18 month tenor
- 9 power physical forwards
  - 18 month tenor

Flexible addition of new products

OTC clearing & Ratings Comfort

- As per BIS: How does a member, or a clearinghouse, liquidate an OTC position if the contract isn't liquid at that point in time at a price the clearinghouse can afford? Do we "Guarantee" or "Protect" OTC trades?

- If a position can't be liquidated, what comfort can rating agencies get about how companies with those positions will be *<u>predictably</u>* handled by clearing system?

OTC Delivery: A Unique Challenge

- Delivery of energy products different from those of traditional exchange-traded commodities: *ex. time frame*

- How can a delivery counterparty collect *LD* in a failure to deliver power?

- Are clearinghouse “delivery margins” covering OTC energy deliveries/receives ever going to be enough to give comfort to rating agencies?

OTC Clearing of Structured Deals

- Many energy OTC trades are structured deals and don’t easily fit into a classical clearing model
- What level of protection is needed by counterparts in structured deals?
- Can a traditional clearing system provide it, and do so in a way to have it viewed favorably by ratings agencies?

On behalf on EnergyClear

Thank You