

# **Risk Surveillance Activities**

## **Division of Clearing and Risk**

### **Risk Surveillance Branch**



**Market Risk Advisory Committee**  
**June 20, 2017**

# OVERVIEW

Division of  
Clearing and  
Risk

Risk  
Surveillance  
Branch



**Section 3(b) of the Commodity Exchange Act states that among the purposes of the Act are “to ensure the financial integrity of all transactions subject to this Act and the avoidance of systemic risk.”**

**The Risk Surveillance Branch (RSB) was established in 2005 expressly to support the Commission in fulfilling this objective.**

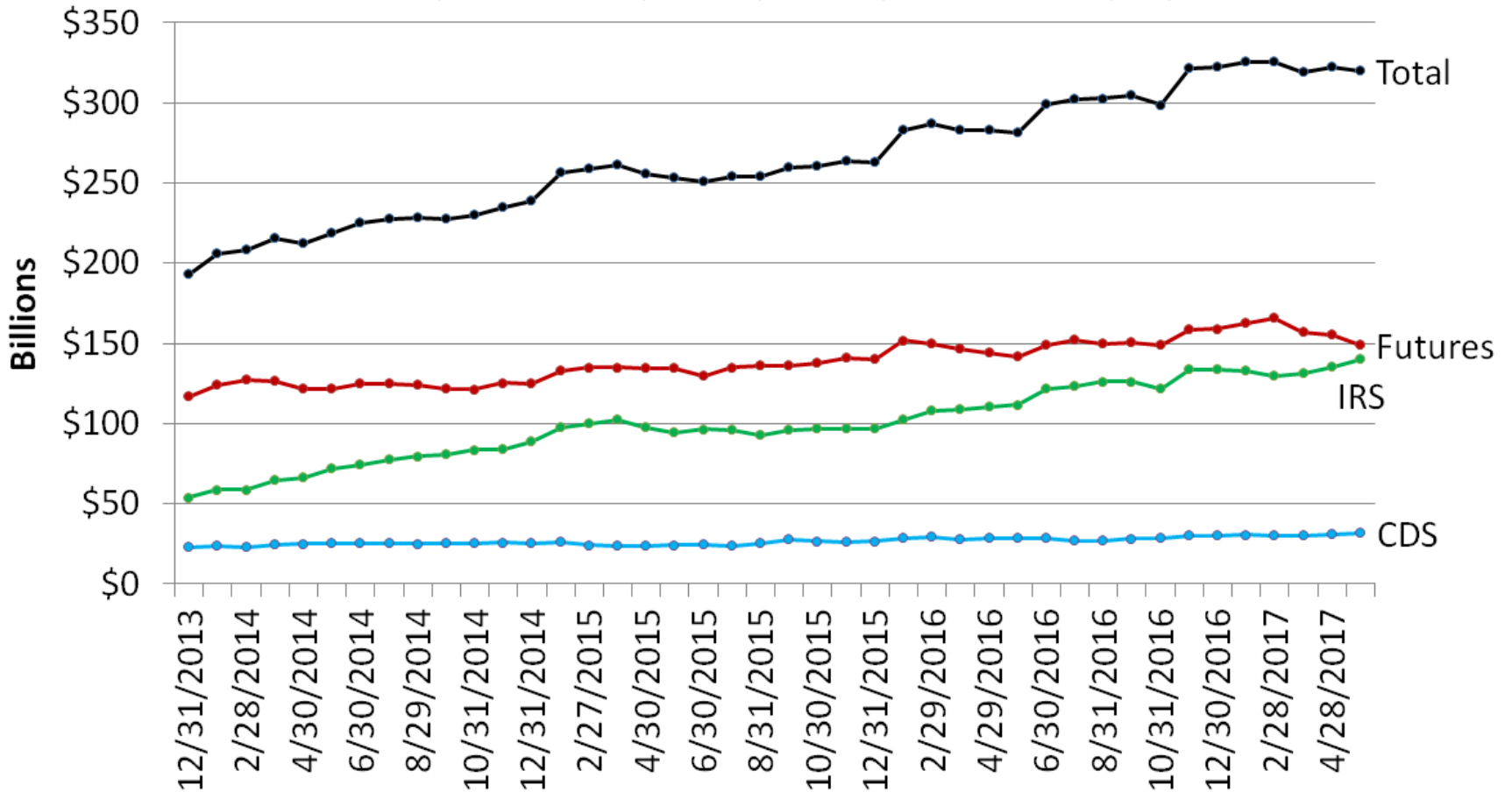
**RSB conducts independent assessments of the risks posed by market participants.**

# RSB Responsibilities

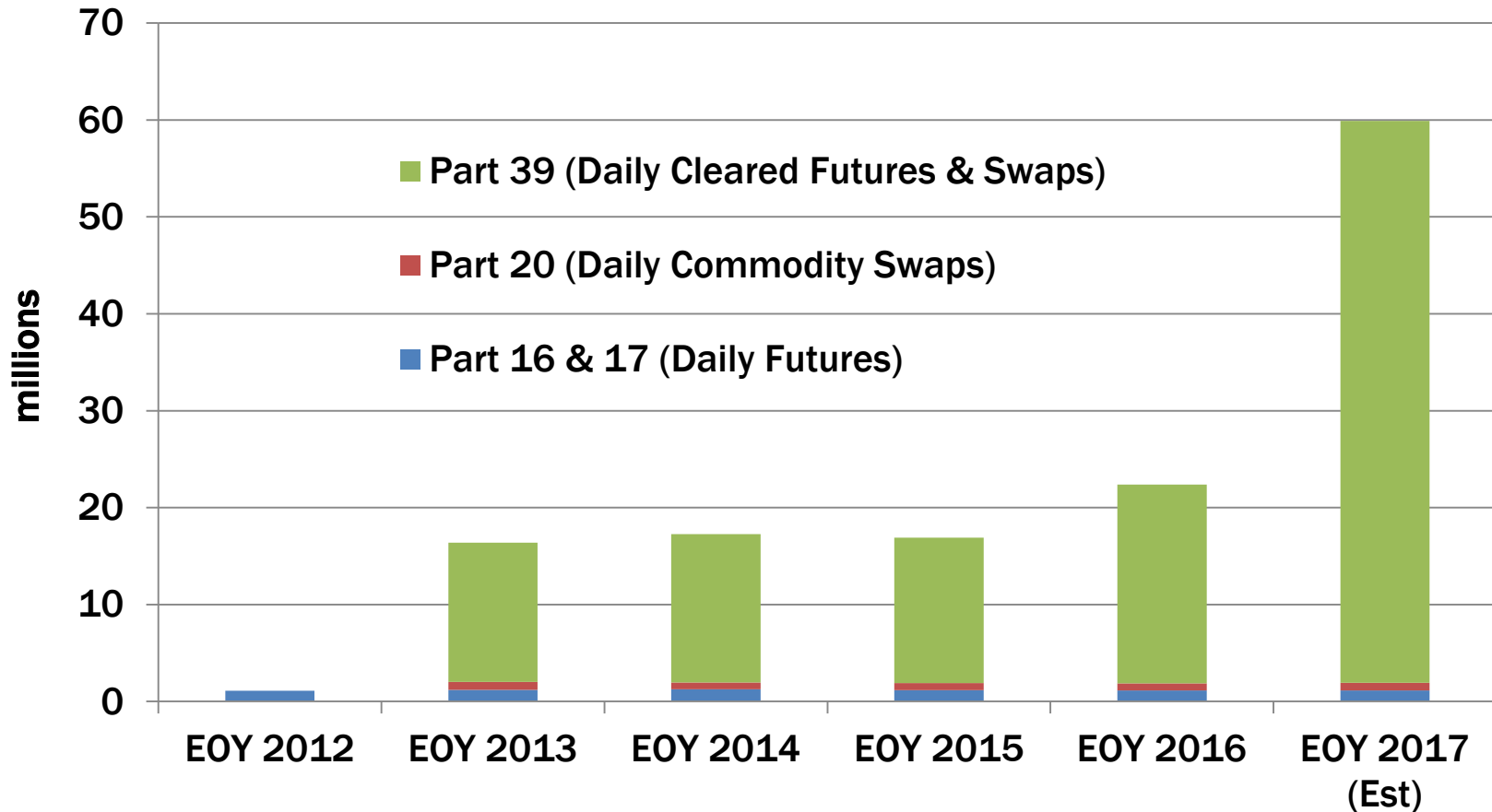
- **Futures & commodity swaps**
- **Credit Default Swaps (CDS) & equity swaps**
- **Data and systems**
- **1.73 & 23.609 reviews, and 1.12 notices**
  
- **Interest Rate Swaps (IRS)**
- **Foreign exchange swaps (FX)**
- **Firm level risk surveillance**
- **Reporting**
- **Margin back testing**
  
- **Margin model reviews**
  
- **Systemic stress testing program**
- **SIMM™ (Standard Initial Margin Model) program development**

# Initial Margin Requirements

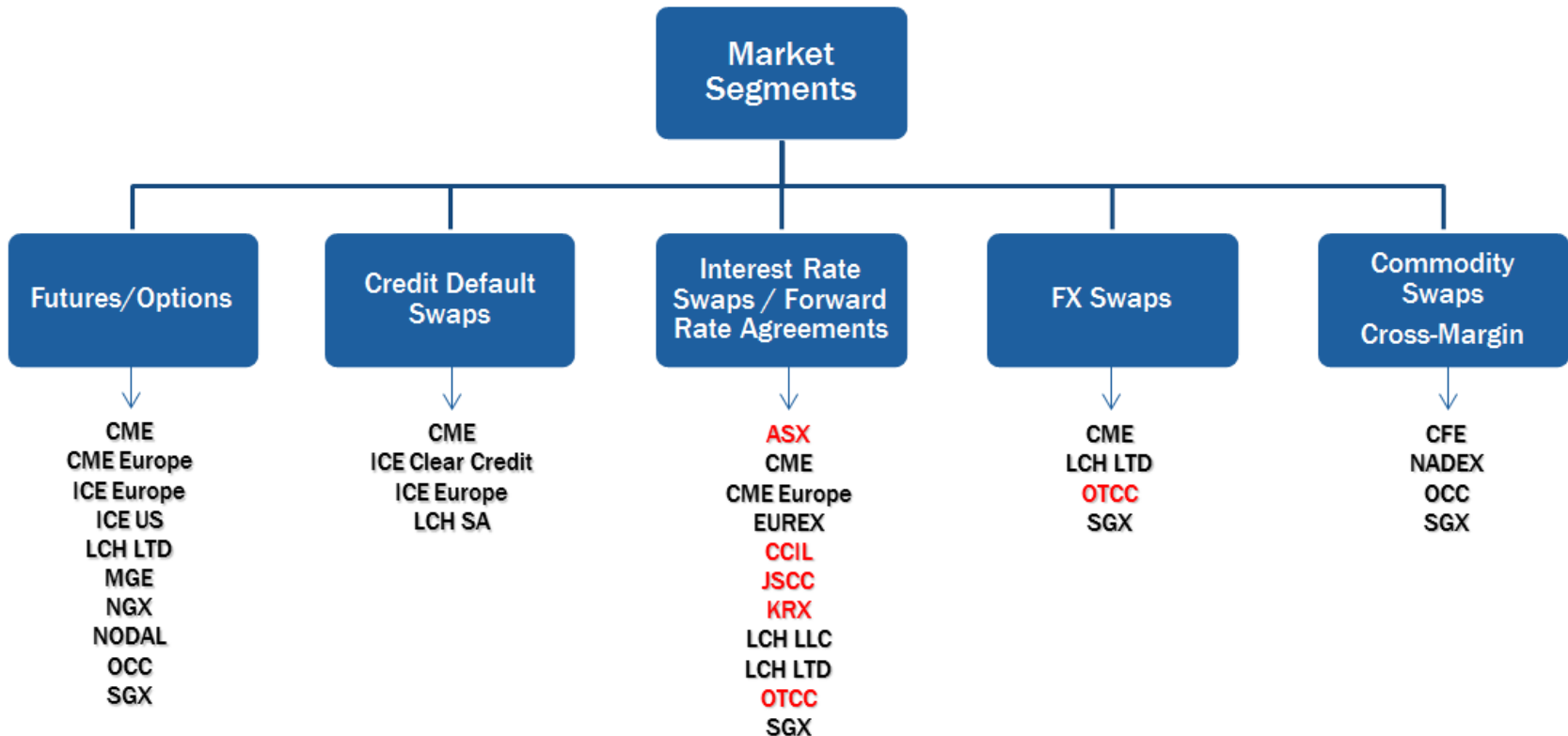
Month-end data include CME (futures, IRS, CDS), ICC (CDS),  
ICEU (futures, CDS), ICUS (futures) and LCH Ltd. (IRS)



# Growth in RSB Data Consumption – number of records ingested



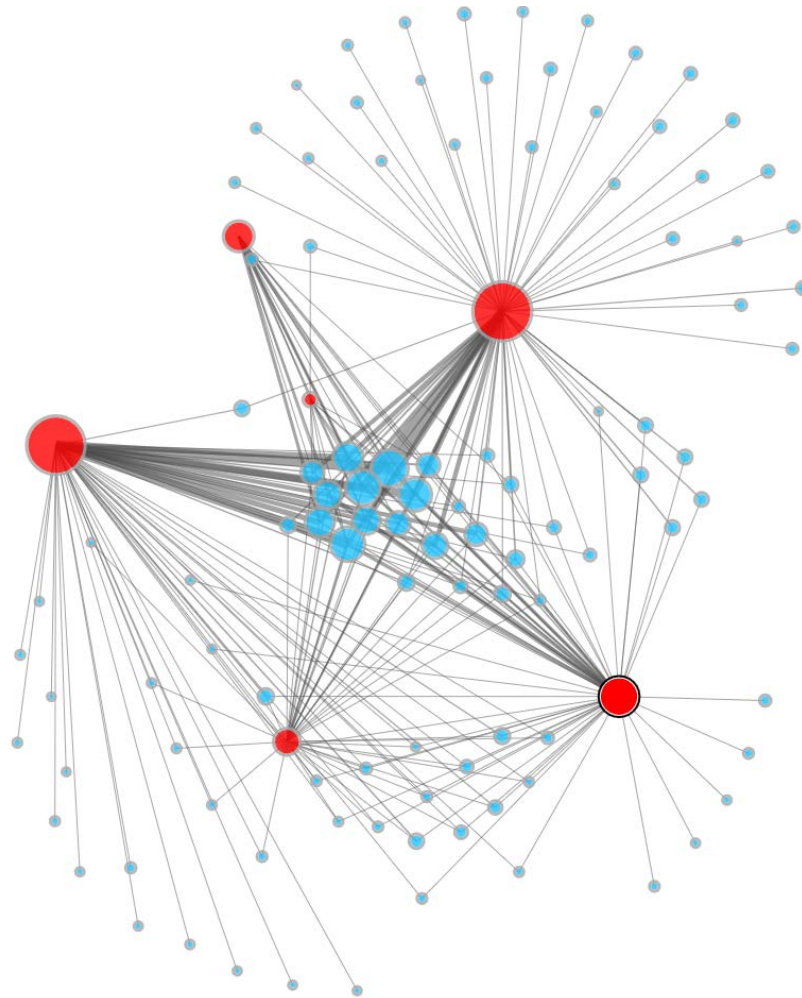
# Derivatives Clearing Organization (DCO) Reporting Under § 39.19



\*Items shown in red are either pending registration or exempt

# Initial Margin Requirements – All

Red = DCO, Blue = Clearing member (CM)





## **On a daily basis, RSB aims to:**

- **Identify positions that pose significant financial risk**
- **Estimate the magnitude of the risks**
- **Compare risks to assets**

# MONITORING CLEARED RISKS

Division of  
Clearing and  
Risk

Risk  
Surveillance  
Branch



# POSITION REPORTS

- Position risk summary reports generated per trader with the capability to aggregate like risk across DCOs (examples: Crude Oil, Natural Gas, Equities)
- Futures equivalent delta position reports identify largest positions in each contract and commodity group
- Reports to identify notable short option positions
- Inter and Intra commodity spread position reports

# STRESS TESTING

- Use a combination of proprietary and vendor risk management systems that interface
- Automated stress tests produce more than 5 million records daily
- Software has ad hoc stress testing capabilities, allowing analyst to create customized “worst case” scenario for an account
- All cleared swaps data at the beneficial owner level
- Ability to aggregate stress test results across DCOs and CMs, giving RSB the highest level of surveillance in the industry

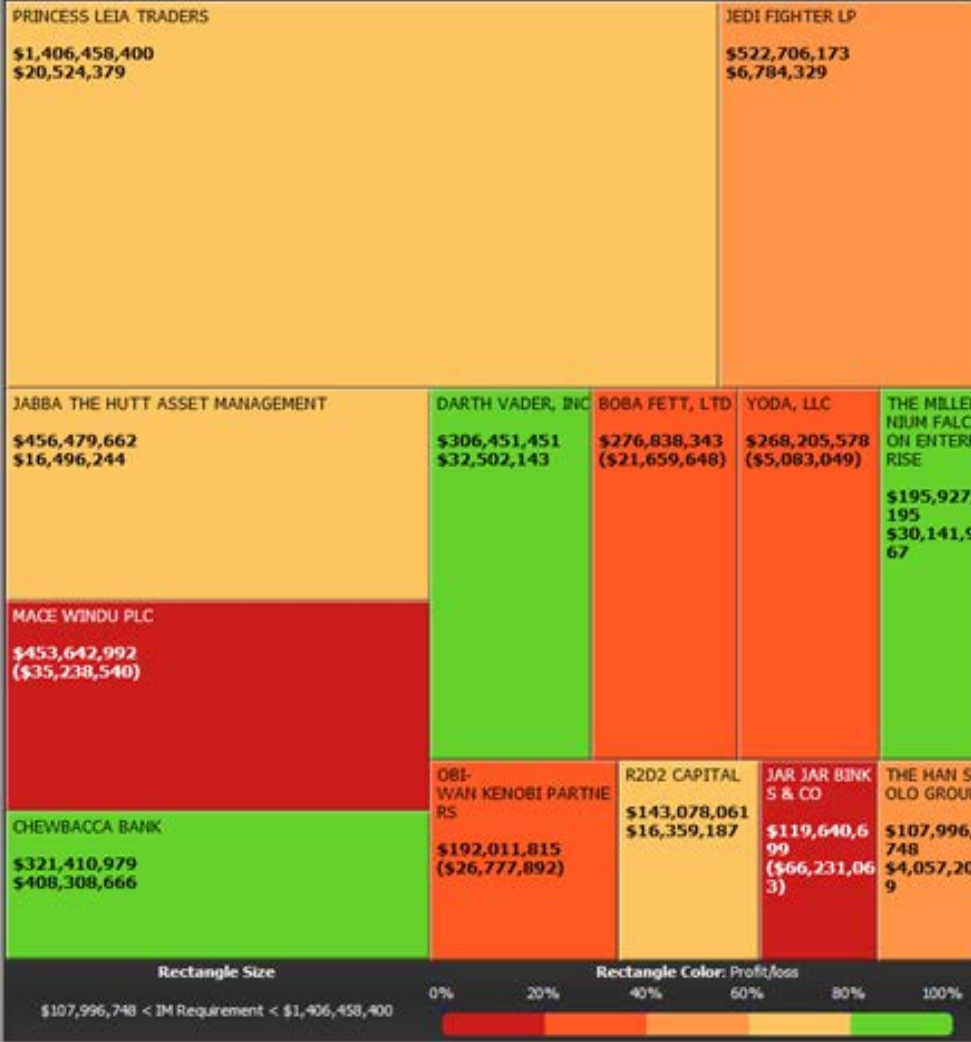
# STRESS TEST RESULTS

		Variation	Margin	unsec risk	ENC		
	scenario	----- million USD -----				unsec/ENC	Margin/ENC
trader 1	Hurricane Rita	-X	X	-X	X	-76%	115%
trader 2	US Credit Downgrade from AAA rating	-X	X	-X	X	-55%	254%
trader 3	Hurricane Rita	-X	X	-X	X	-31%	50%
trader 4	TARP Announced	-X	X	-X	X	-28%	55%
trader 5	TARP Announced	-X	X	-X	X	-25%	88%
trader 6	Hurricane Rita	-X	X	-X	X	-21%	20%
trader 7	AIG Bailout	-X	X	-X	X	-21%	134%
trader 8	Hurricane Rita	-X	X	-X	X	-20%	5%
trader 9	TARP Announced	-X	X	-X	X	-20%	25%
trader 10	AIG Bailout	-X	X	-X	X	-17%	22%

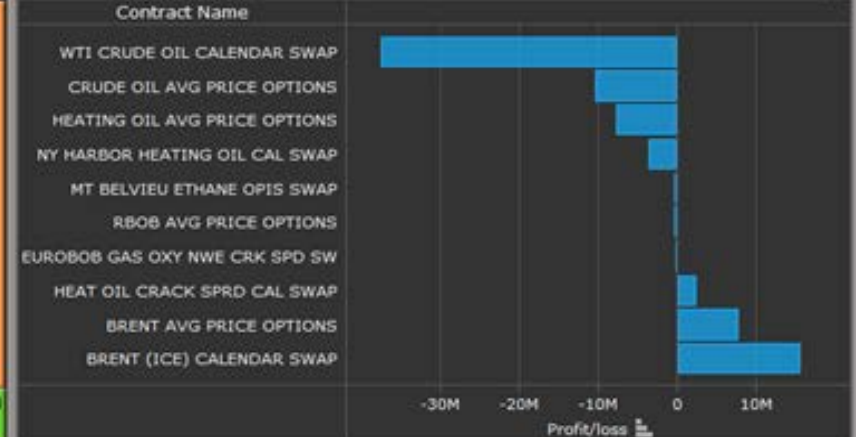
# DASHBOARD WITH HEAT-MAP & CHARTS

BY HISTORICAL OR HYPOTHETICAL STRESS SCENARIO

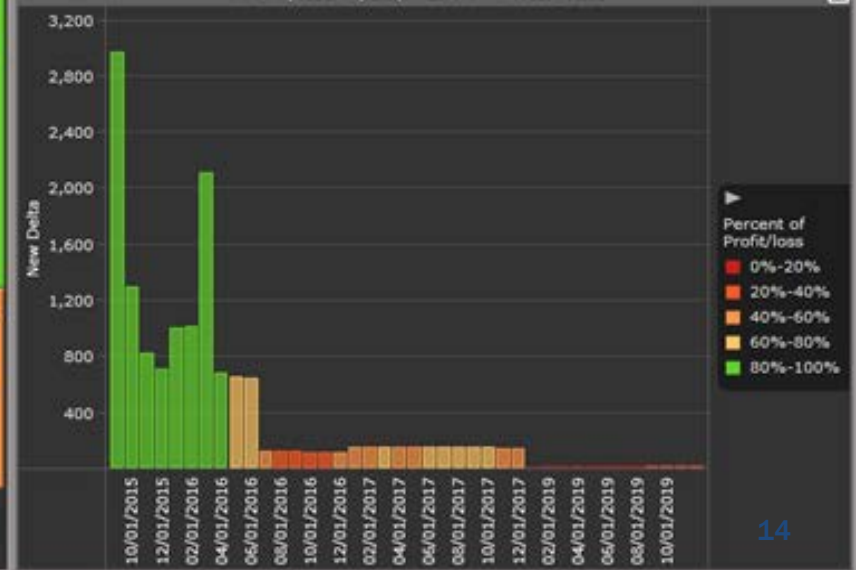
Trader P/L Heatmap By Margin Requirement



Profit/Loss by Contract



Profit/Loss By Expiration with Net Delta



# POSSIBLE ACTIONS IF RSB HAS POTENTIAL CONCERNS ABOUT A TRADER'S RISK

- **Contact the CM**
  - **If additional assets in the account appear adequate for the unique risk, RSB may require weekly reporting by the CM**
  - **If RSB continues to express concerns, CMs have:**
    - **required the trader to deposit additional margin**
    - **asked trader to liquidate or move some positions to another firm**
    - **acquired additional capital or lines of credit**
- **Contact the DCO, which may require the CM to post additional margin**
- **Contact the trader**
- **Work with other CFTC Divisions as appropriate**

# FIRM PROFILE

## "QUICK REPORT"

- Used to convey information on a firm to management, when prompted by:
  - Market events
  - Corporate events
  - Idiosyncratic risks
- Types of information
  - List of clearing relationships
  - Variation margin-to-initial margin percentage - Over the past 30 days, how many of firm's accounts breached margin?
  - Excess collateral held at CM or DCO
  - Firm's large customers
  - Firm financial information



# OTHER PROGRAMS AND PROJECTS

Division of  
Clearing and  
Risk

Risk  
Surveillance  
Branch



# MARGIN BACKTESTING PROGRAM

- Regulation 39.13 (g)(7) requires DCOs to conduct back testing to test adequacy of initial margin (IM).
- RSB oversight includes continuous monitoring of the adequacy of DCO margin levels and coverage. Objectives are to:
  - Assess adequacy of IM for benchmark products at major DCOs
  - Monitor performance of DCO risk management policies related to establishing IM

# SYSTEMIC STRESS TESTING

- CFTC's Supervisory Stress Test of Clearinghouses (SST) report issued November 2016
  - Each DCO achieved “cover-two”
  - CM risk was diversified among scenarios & across DCOs
- RSB working to automate credit SSTs, as part of a program
  - Will use positions from “part 39”
  - Futures portion to be automated in 2017
  - Swaps portion to be added in 2018
- RSB currently working to incorporate liquidity

# EXAMPLES OF SPECIAL PROJECTS

- **SGCCI - Analysis of Central Clearing Interdependencies**
- **CPMI-IOSCO Framework for Supervisory Stress Testing of Central Counterparties**
- **Client porting**
  - **Survey of clearing members**
  - **Database to link customers across clearing firms and DCOs**
- **Multi-CCP default exercise**

# MULTI-CCP DEFAULT EXERCISE (CONT'D)

- CME, Eurex & LCH drills began on April 24, 2017.
- BoE, BaFin, Bundesbank & CFTC are nearly finished with post drill interviews.
- Regulators will soon begin discussion of auction file format harmonization with CME, Eurex, ICE and LCH.
- 2018 plans for comprehensive porting exercise, encompassing the impact of the Supplemental Leverage Ratio.

# IN SUMMARY, RSB:

- receives a large amount of data
- is continually enhancing its ability to analyze these data
- conducts independent risk assessments
- sees more of the whole picture in derivatives markets than any other supervisory agency
  - customers across CMs & DCOs
  - CMs across DCOs
  - Cleared and uncleared

# REGULATION 1.73 REVIEW PROGRAM

Division of  
Clearing and  
Risk

Risk  
Surveillance  
Branch



# REGULATION OVERVIEW

- Establish risk limits
- Order screening
- Stress testing
  - House
  - Customer
- Evaluation of ability to fund variation payments
- Evaluation of ability to liquidate open positions
- Test lines of credit



# PLANNING AND INITIAL REVIEW

- **Planning (4-6 weeks prior to visit)**
  - **Contact clearing CM**
  - **Engagement letter**
  - **Record request**
  
- **Initial review (1-2 weeks prior to visit)**
  - **Preliminary review of requested records**
  - **Discussion with firm contact**
  - **Records analysis**
    - **Rejection log**
  - **Reperformance**
    - **Stress tests**

# FIELDWORK

- On-site review (1-2 days)
  - 2 to 3 RSB staff members per review
  - Meet with key personnel at clearing CM
  - Compare CM's stress results to CFTC values
  - Observe intraday risk analyst in action
  - Discuss accounts or traders that RSB deems risky

# REVIEW PROCESS

- **Exit interview**

- **Discuss each area of the review noting any areas of concern or issues of non-compliance**

- **Recommendations**

- **Solicit feedback from the clearing CM for ways to enhance the review process**

- **Report**

- **Note any issues of non-compliance**

# TYPICAL FINDINGS

- Interpretation margin adequacy evaluation
- Lapse coverage during overnight
- Liquidation analysis
- Documented procedures and maintaining records

# BENEFITS OF PROGRAM

- Unique view of positions across multiple DCOs
- Relationship building with day-to-day risk personnel at all clearing CMs
- Fieldwork enhances industry knowledge
- Affords the commission on-site analysis of the risk systems and procedures being used
- Clearing members have voiced support for review program
  - Mutualization of risk

**Questions?**