DCE
DALIAN COMMODITY EXCHANGE

# DCE Risk Management Approach

Surveillance Department

July 2020

*Building a Diversified, Open and World-class Derivatives Exchange*

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01 | DCE Risk management Framework

02 | DCE Risk Management Approach

# Main Risks of the Futures Market

## Legal Risk

Unexpected application of a law or regulation, usually resulting in a loss.

## General Business Risk

Risks related to the administration and operation of an FMI as a business enterprise.

## Credit Risk

A counterparty is unable to fully meet its financial obligations when due, or at any time in the future.

## Custody and Investment Risk

Risk related to hold and invest the assets that FMIs own and those they hold on behalf of their participants.

## Liquidity Risk

A counterparty will have insufficient funds to meet its financial obligations as and when expected.

## Operational Risk

Deficiencies in information systems or internal processes, human errors, management failures, will result in the reduction, deterioration, or breakdown of services provided by an FMI.

*Principles for Financial Market Infrastructures*

# DCE Risk Management Framework

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Risk Management Committee

- comprised of executives from futures companies, a person-in-charge of the exchange, and external lawyers.
- formulating key risk management principles of the exchange.

Risk Control Committee

Emergency Response Team

Surveillance Department

risk control, evaluation, and handling

Clearing Department

credit, liquidity, and settlement risk.

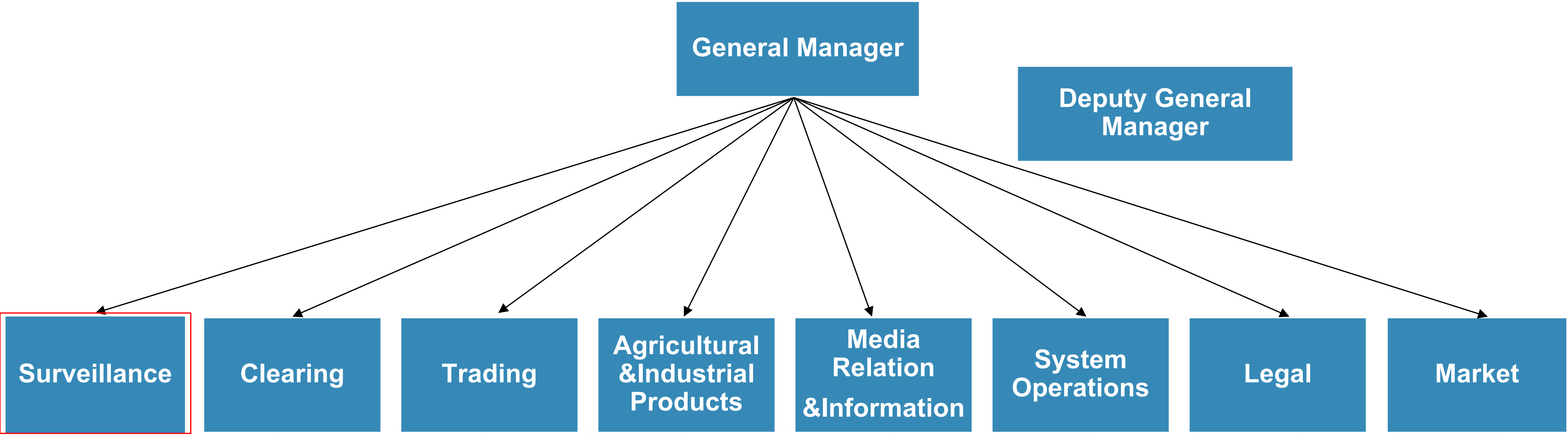
Industrial/Agricultural Product Departments

delivery risk

System Operations Department

operational risk

# DCE Risk Control Committee




*Risk Control Committee：Risk Analysis; Risk Management Decisions; Inter-department Coordination; Supervision and Management of risks*

# DCE Risk Assessment & Management

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**Surveillance Department**

- Risk Management
- Market Monitoring
- Investigation

**Risk Assessment & Management**

- The pre-trade risk prevention: **Margin, Price limit, Position Limit, Trading limit**
- The at-trade risk control: **Large position report**, Risk warning, Hedging and Arbitrage Management, Actual-controlled Account Management, Arbitrage trading management,
- The post-trade risk prevention: **Forced Liquidation, Mandatory Tear-up,** Abnormal Trading Handling, Violation Handling.

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## 02 | DCE Risk Management Approach

- Margin
- Price Limit
- Position limit
- Trading limit
- Large Position Report
- Forced Position Liquidation
- Mandatory Tear-up

- **Margin**

# Margin

- **Pre-order check for margin sufficiency**
- **A percentage of the contract notional value instead of a fixed amount**
- **No distinction between the initial margin and the maintenance margin**
- **Adjust the trading margins based on the market conditions**
  - before long holiday
  - markets become more volatile
- **Margin methodology：HVaR, confidence level, look-back period**

# Margin

Notice on Adjustments to Price Limits and Trading Margins
during 2020 Dragon Boat Festival Holiday
Date：19 June 2020

To member entities:

From the settlement on June 23(Tuesday), 2020, the price limits of Iron Ore futures will be adjusted to10**%, the hedging trading margins and speculation trading margins will be adjusted to 10% and 11%,** respectively; …

After the trading is resumed on June 29, 2020 (Monday), the price limits and the trading margins of Iron Ore futures shall **remain unchanged** as the same standards during the Dragon Boat Festival Holiday.

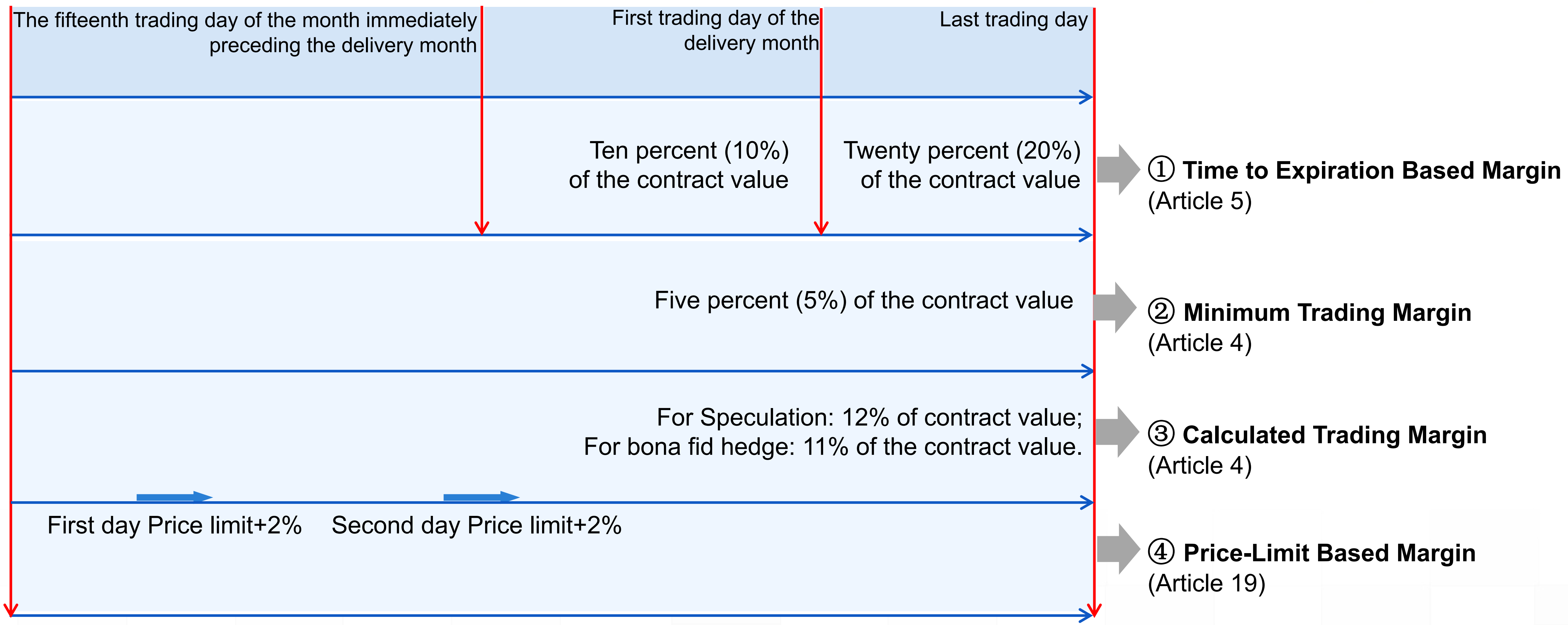
If the above adjusted price limits and the trading margins are not consistent with the existing ones, **the higher** one of the two shall prevail.

http://www.dce.com.cn/DCE/TradingClearing/Business%20Parameters/Trading%20Parameters/index.html

# Margin

| | |
|---|---|
| Product | Iron Ore |
| Trading Unit | 100 MT/Lot |
| Price Quote Unit | CNY/MT |
| Minimum Tick Size | 0.5 CNY/MT |
| Daily Price Limit Range* | 4% of last settlement price |
| Contract Months | Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec |
| Trading Hours | 9:00 - 11:30 a.m., 1:30 - 3:00 p.m., Beijing Time, Monday to Friday, and other trading hours announced by DCE |
| Last Trading Day | The 10th trading day of the contract month |
| Last Delivery Day | The 3rd trading day after the last trading day |
| Deliverable Grades | Iron Ore Delivery Quality Standard of DCE (F/DCE I001-2017) |
| Delivery Point | The delivery warehouses and delivery locations of iron ore designated by DCE |
| Minimum Trading Margin* | 5% of the contract value |
| Delivery Form | Physical delivery |
| Ticker Symbol | I |
| Listed Exchange | DCE |

# Margin




**Effective margin rate=MAX ( ①,②,③,④ )**

# Margin

Date: July 2nd,2020

| Contract | Trading Margin Percentage | Trading Margin Amount(CNY/Lot) | Trading Margin Percentage | Trading Margin Amount(CNY/Lot) |
|---|---|---|---|---|
| | Speculation | Speculation | Hedging | Hedging |
| i2007 | 20% | 16,090 | 20% | 16,090 |
| i2008 | 11% | 8,508.5 | 10% | 7,735 |
| i2009 | 11% | 8,156.5 | 10% | 7,415 |
| i2010 | 11% | 7,942 | 10% | 7,220 |
| i2011 | 11% | 7,749.5 | 10% | 7,045 |
| i2012 | 11% | 7,573.5 | 10% | 6,885 |
| i2101 | 11% | 7,370 | 10% | 6,700 |
| i2102 | 11% | 7,238 | 10% | 6,580 |
| i2103 | 11% | 7,095 | 10% | 6,450 |
| i2104 | 11% | 6,996 | 10% | 6,360 |
| i2105 | 11% | 6,897 | 10% | 6,270 |
| i2106 | 11% | 6,842 | 10% | 6,220 |

http://www.dce.com.cn/DCE/TradingClearing/Business%20Parameters/Trading%20Parameters/index.html

- **Price Limit**

# Price Limit

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- Maximum price range permitted for a futures contract in each trading session
- Measured in percentage of the settlement price of the previous day
- The Minimum price limit are 6% for delivery month and 4% for all other months
- DCE adjusts price limits based on the market conditions
- When markets hit the price limit, the price limits will be expanded automatically on the next trading day

# Price Limit

Article 18

The one-direction non-continuous quotation under the price limit means,

with respect to a particular futures during the last five (5) minutes of the trading day,

there are only purchase (sell) orders at the trading limit price and no sell (purchase) orders at the trading limit price,

or all the sell (purchase) orders are instantly filled at the limit price without opening of the trading limit price.

## Example: Trading Snapshot 1

| Price | quantity | | | | Table 1 |
|---|---|---|---|---|---|
| 736 | 2000 | Bid level one | | | |
| 735.5 | 20 | Bid level two | | | |
| 735 | 10 | Bid level three | | | |
| 734.5 | 5 | Bid level four | | | |

limit up price

## Example: Trading Snapshot 2

| Price | quantity | | | | Table2 |
|---|---|---|---|---|---|
| 736 | 2000 | Bid level one | Ask level one | 736 | 100 |
| 735.5 | 20 | Bid level two | | | |
| 735 | 10 | Bid level three | | | |
| 734.5 | 5 | Bid level four | | | |

Instantly filled, no opening of the trading limit price

limit up price

| Price | quantity | | | | Table3 |
|---|---|---|---|---|---|
| 736 | 1900 | Bid level one | | | |
| 735.5 | 20 | Bid level two | | | |
| 735 | 10 | Bid level three | | | |
| 734.5 | 5 | Bid level four | | | |

# Price Limit

- As price limit occurs, the price limit will be expanded automatically on the next trading day, and the trading margin will be increased as well

| | First Price Limit (Day One) | Second Price Limit (Day Two) | Third Price Limit (Day Three) |
|---|---|---|---|
| **Price Limit** | P1 | P2=P1+3% | P3=P2+2% |
| **Trading Margins** | M1 | M2=Max [M1，P2+2%] | M3=Max [M2，P3+2%] |

Example

| Iron Ore Futures | First Price Limit (Day One) | Second Price Limit (Day Two) | Third Price Limit (Day Three) |
|---|---|---|---|
| **Price Limit** | 10% | 13% | 15% |
| **Trading Margins** | 11% | Max [11%，13%+2%]=15% | Max [15%，15%+2%]=17% |

# Price Limit

Date: July 2nd, 2020

| Contract | Daily Price Limit Percentage | Limit Up(CNY) | Limit Down(CNY) |
|---|---|---|---|
| i2007 | 10% | 884.5 | 724.5 |
| i2008 | 10% | 850.5 | 696.5 |
| i2009 | 10% | 815.5 | 667.5 |
| i2010 | 10% | 794 | 650 |
| i2011 | 10% | 774.5 | 634.5 |
| i2012 | 10% | 757 | 620 |
| i2101 | 10% | 737 | 603 |
| i2102 | 10% | 723.5 | 592.5 |
| i2103 | 10% | 709.5 | 580.5 |
| i2104 | 10% | 699.5 | 572.5 |
| i2105 | 10% | 689.5 | 564.5 |
| i2106 | 10% | 684 | 560 |

http://www.dce.com.cn/DCE/TradingClearing/Business%20Parameters/Trading%20Parameters/index.html

- **Position Limit**

# Position Limit

- The position limit is to prevent the market order from being improperly affected by investors with oversized market share
- Position limit refers to the maximum amount of speculative position on a certain futures contract that may be held by the trading clients and it is calculated for each side of positions

### Positions for Each Side

keep both long and short positions for each client.

Each side checked against the position limit

**Example:** Client A long 40,000 lots, short 40,001 lots i2101 and the position limit is 40,000 lots.

Client A violate position limit.

### Clients

Applies only to the non-futures company members (house business only) and clients

No position limit fot futures company members and overseas brokers

**Note:** Futures company members are not allowed to carry house business and only serve clients.

### Actual Controlling Relationship

If a client effectively controls multiple trading accounts even though the accounts are not registered under the same owner, these accounts are considered to have actual controlling relationship accounts.

The client is obligated to report the relationship to the exchange.

Their positions are aggreated for position limit purposes.

# Position Limit

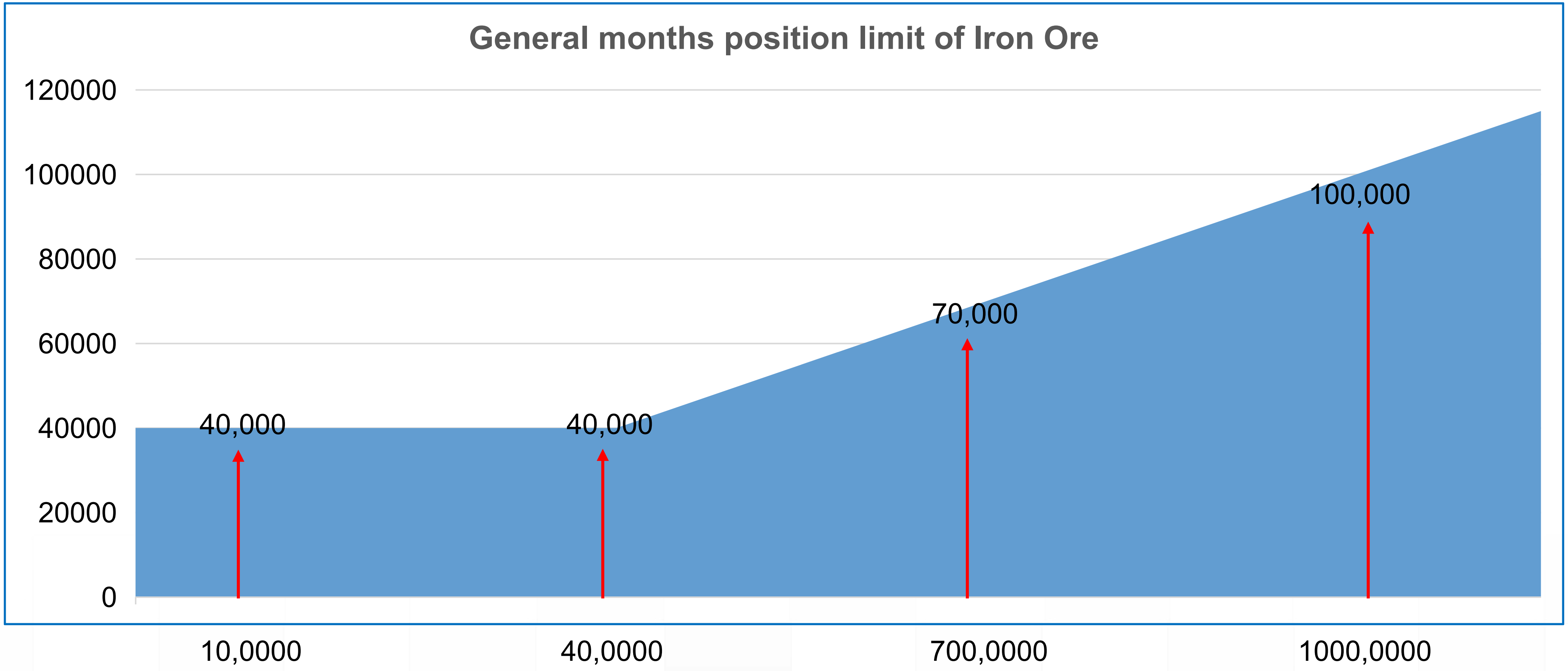
**Time gradients:** Different position limits are applied for different periods of trading. There are three level time gradients.

**The general months of the futures contract:** from the listing of the contract to the fourteenth trading day of the month immediately preceding the delivery month.

| Product | Unilateral Open Interest of Contract | Non-Futures Company Member | Client |
|---|---|---|---|
| Iron ore | Unilateral open interest ≤400,000 | 40,000 | 40,000 |
| | Unilateral open interest ＞400,000 | Unilateral open interest ×10% | Unilateral open interest ×10% |

| Product | Period | Non-Futures Company Member | Client |
|---|---|---|---|
| Iron ore | From the fifteenth trading day of the month immediately preceding the delivery month | 6,000 | 6,000 |
| | Delivery month | 2,000 | 2,000 |

# Position Limit

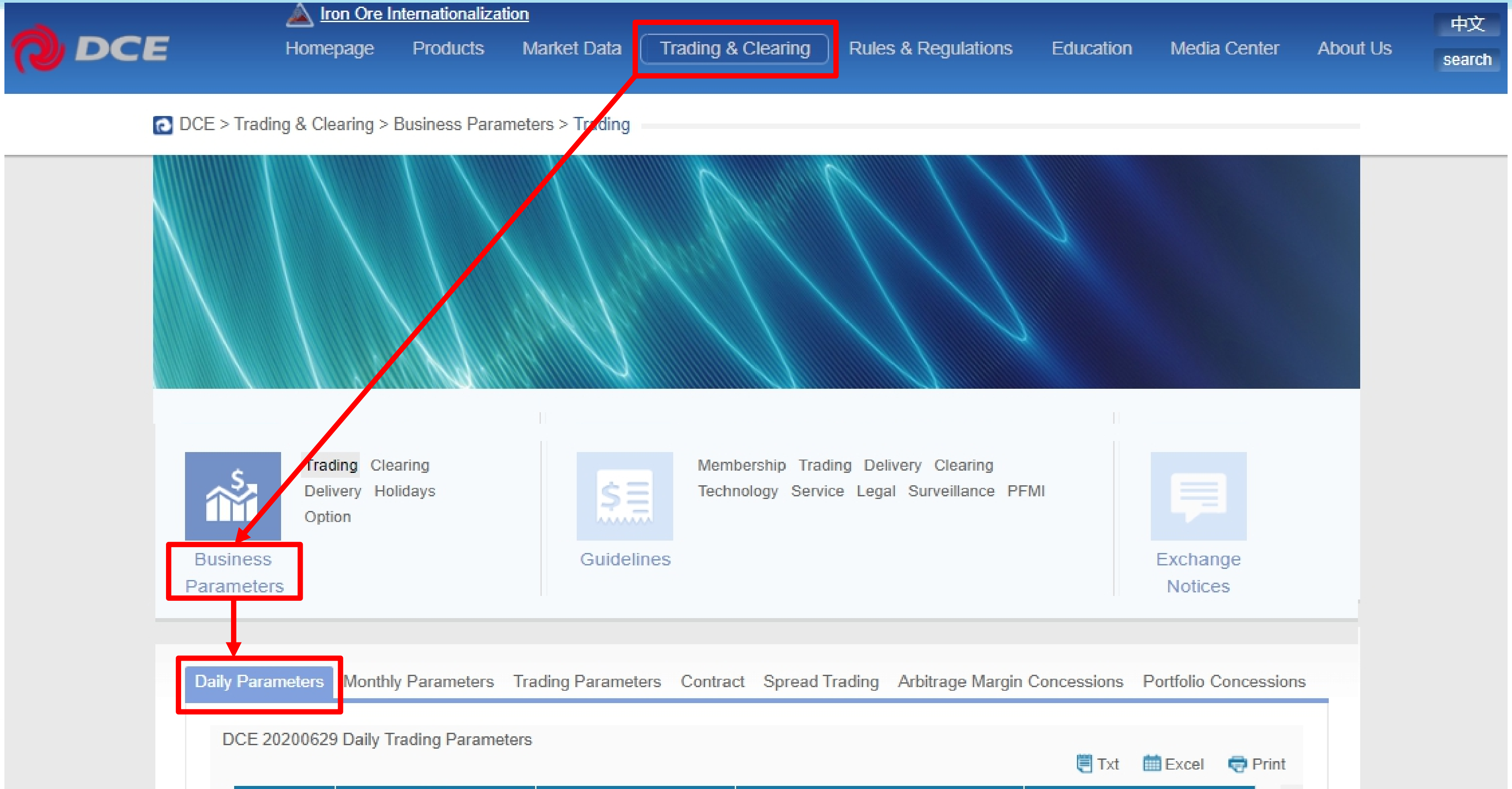


# Position Limit

Date: July 2nd, 2020

| Contract | Non-FCM Member Position Limit(Lot) | Client Position Limit(Lot) |
|---|---|---|
| i2007 | 2,000 | 2,000 |
| i2008 | 40,000 | 40,000 |
| i2009 | 77,002 | 77,002 |
| i2010 | 40,000 | 40,000 |
| i2011 | 40,000 | 40,000 |
| i2012 | 40,000 | 40,000 |
| i2101 | 40,000 | 40,000 |
| i2102 | 40,000 | 40,000 |
| i2103 | 40,000 | 40,000 |
| i2104 | 40,000 | 40,000 |
| i2105 | 40,000 | 40,000 |
| i2106 | 40,000 | 40,000 |

# Position Limit




| Contract | Trading Margin(Speculation) | | Trading Margin(Hedging) | | Daily Price Limit | | | Position Limit(Lot) | |
|---|---|---|---|---|---|---|---|---|---|
| | Percentage | Amount (CNY/Lot) | Percentage | Amount (CNY/Lot) | Percentage | Limit Up (CNY) | Limit Down (CNY) | Non-FCM Member | Non-Member |
| i2011 | 0.11 | 7,777 | 0.1 | 7,070 | 0.1 | 777.5 | 636.5 | 40,000 | 40,000 |
| i2012 | 0.11 | 7,595.5 | 0.1 | 6,905 | 0.1 | 759.5 | 621.5 | 40,000 | 40,000 |
| i2101 | 0.11 | 7,408.5 | 0.1 | 6,735 | 0.1 | 740.5 | 606.5 | 40,000 | 40,000 |
| i2102 | 0.11 | 7,282 | 0.1 | 6,620 | 0.1 | 728 | 596 | 40,000 | 40,000 |
| i2103 | 0.11 | 7,166.5 | 0.1 | 6,515 | 0.1 | 716.5 | 586.5 | 40,000 | 40,000 |
| i2104 | 0.11 | 6,996 | 0.1 | 6,360 | 0.1 | 699.5 | 572.5 | 40,000 | 40,000 |
| i2105 | 0.11 | 6,946.5 | 0.1 | 6,315 | 0.1 | 694.5 | 568.5 | 40,000 | 40,000 |
| i2106 | 0.11 | 6,842 | 0.1 | 6,220 | 0.1 | 684 | 560 | 40,000 | 40,000 |

- **Trading Limit**

# Trading Limit

- The maximum amount of trading volume for a certain contract for members or clients specified by the exchange in a certain period.
- The limits only apply to the position opening quantity, but not the liquidation quantity. They only apply to speculative trading, but not hedging.
- The Exchange may set trading limits for specific trading types, for specific contracts, and for part or all members and clients, based on market conditions.

- Mainly aimed towards preventing excessive speculation.
- a difference between China's futures market and overseas markets.
- In case of trading limits violation, the Exchange may take:
  - telephone warning,
  - request of information reporting,
  - request of submitting a written promise,
  - being listed into a key regulatory list,
  - suspension of position opening for trading.

# Trading Limit

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Notice on Implementing Trading Limit Regulation on Iron Ore Futures Contracts

Date: 15 June 2020

To all member entities and related market participants:

It is decided upon discussion that starting from the trading on June 16, 2020 (the night trading session on June 15, 2020), the combined trading volume of opening long and short positions on all the iron ore futures contracts of any Non-Futures Company Members or clients is not allowed to exceed 30,000 lots on every single day.

The hedging trading volume and market-making trading volume of opening positions shall be exempted. Accounts involving actual control relationship shall be managed as one single account.

DCE will dynamically adjust the trading limit in accordance with market conditions.

| Contract | Open long | Close long | Open short | Close short |
|---|---|---|---|---|
| i2007 | | | | |
| i2008 | | | | |
| i2009 | 10,000 | 20,000 ① | | |
| i2010 | | | | |
| i2011 | | | | |
| i2012 | | | | |
| i2101 | 10,000 | 20,000 ② | | |
| i2102 | | | | |
| i2103 | | | | |
| i2104 | | | | |
| i2105 | 10,000 ③ | | 1 ④ | |
| i2106 | | | | |
| Total | 30,000 | 40,000 | 1 | |

Rejected

30001>30000

- **Large Position Report**

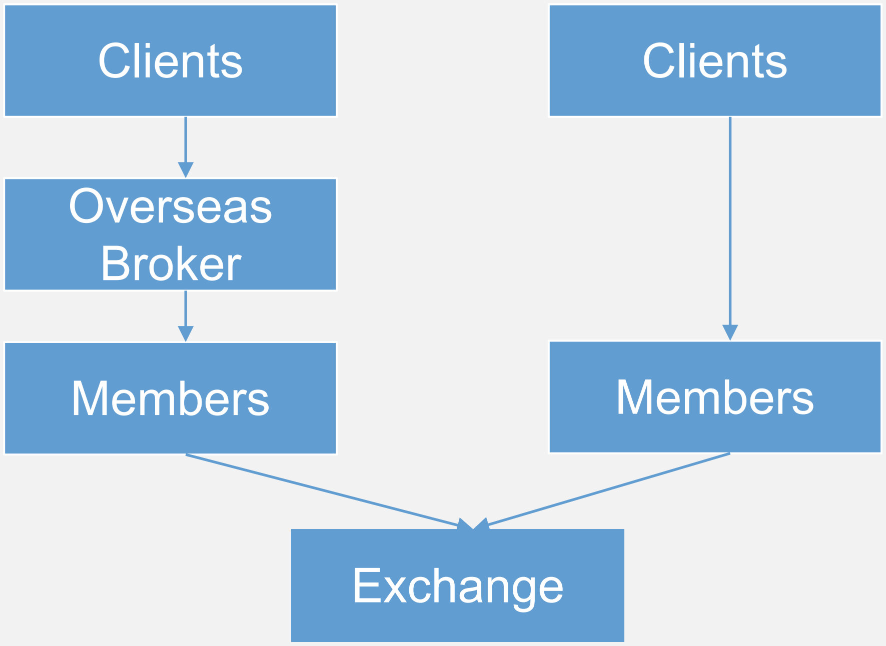
# Large Position Report

- **Threshold:** The reporting threshold shall be no less than 80% of the speculative position limit.
- **Contents:** The reporting shall contain funding information and position information.
- **Actual Controlling Relationship:** Actual-controlled accounts are treated as one account.
- **Time Requirement:** Non-futures company members or clients shall volunteer to report to the exchange before 15:00 on the next trading day if the position reaches the reporting limit of the exchange.
- **Other Issues:** If a client has more than one trading code at different futures companies, and if the total of the positions held under all the trading codes reaches reporting standards, DCE will notify all the relevant futures company members.

- **Procedures:** The reporting procedure is as follows:

(i) The clients report directly through a futures company member;

(ii) The clients of overseas broker shall report through its overseas broker which then report through the futures company member. (The names of the clients of the overseas brokers will be kept confidential from the members.)



- **Forced Position Liquidation**

# Forced Position Liquidation

Article 41

Upon occurrence of any of the following circumstances to the Member or client,

the Exchange may carry out the forced position liquidation against its positions:

(1) the Member's clearing deposit are less than zero and fail to be fully paid up within the required period;

(2) the open interest held by the Non-Futures Company Member and the client exceeds their position limits;

(3) it is subject to the punishment of forced position liquidation imposed by the Exchange due to any violation;

(4) any circumstance under which the forced position liquidation shall be carried out on the basis of the Exchange's emergency measure(s);

(5) any other circumstance under which the forced position liquidation shall be carried out.

# Forced Position Liquidation

(1) the Member's clearing deposit are less than zero and fail to be fully paid up within the required period;

| Day One Settlement 4pm,<br><br>Clearing Member A's clearing deposition<0 | Night on day one<br>Morning on day two<br>Add funds to the account<br>→ | 1PM on Day Two<br><br>Clearing Member A's clearing deposition still less than zero | → | 1:30PM on Day Two<br><br>The exchange liquidates position automatically |
|---|---|---|---|---|

The forced position liquidation shall be carried out against all clients of the Member under the principle of equal ratio liquidation on the basis of the trading margin.

$$\textbf{Liquidation ratio} = \frac{\text{trading margin which shall be additionally paid by the Member}}{\text{Total amount of the Member's trading margins}} \times 100\%$$

$$\textbf{Trading margins to be released} = \text{total amount of the client's trading margins} \times \text{liquidation ratio}$$

# Forced Position Liquidation

(2) the open interest held by the Non-Futures Company Member and the client exceeds their position limits;

**Day One Market Close at 3PM**

Client A’s position > position limits

During the night trading session on day one and the morning session on day two, close out the over-limit positions by yourself or your clearing member

**1:30PM on Day Two**

The exchange liquidates the over-limit positions automatically

- The forced liquidation refers to the coercive measure of liquidation carried out by the Exchange against the relevant position in case the Member or client commit a violation.
- The trade price of the forced liquidation is formed through market trading.
- The order price of the forced liquidation is the relevant limit price.

- **Mandatory Tear-up**

# Mandatory Tear-up

In the event that the one-direction non-continuous price limit quotation in the same-direction occurs on the T+2 trading day as on the T+1 trading day with respect to a certain futures contract,…, the Exchange may decide to apply, and make public announcement on one or more of the following measures to the contract after the closing of the market on the T+2 trading day for the purpose of mitigating the market risk:

(1) increase of the trading margins;

(2) adjustment of the price limit range;

(3) suspension of opening a new position for all or part of the Members;

(4) limited withdrawal of funds;

(5) close-out within designated time limit;

(6) forced position liquidation; and

(7) mandatory partial tear-up after the closing of the market on the T+2 trading day.

# Mandatory Tear-up

Successively reaching price limits for the same direction for three times, and with one-sided non-continuous quotation.

The clients who have satisfied the loss conditions and post liquidation orders at the limit price.

The exchange will match the qualified profitable clients with the qualified losing clients. The liquidation is conducted at the relevant limit price.

- The mandatory partial tear-up is one of the last risk mitigation measures when the price of a contract successively reaches price limits in the same direction for three times.
- The Exchange shall pubic a Notice to investors if decied to do so.
- Since the launch of Iron Ore futures in 2013, DCE has never utilized the mandatory partial tear-up against any futures contracts.

# Thank You!

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