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LOW SULFUR FUEL OIL FUTURES

50Q&A

2020

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The Basics of LSFO



01 What is fuel oil?

Fuel oil is a type of refined oil. It is one of the heavier residual products from the refining of crude oil, after lighter components such as gasoline, kerosene, and diesel are first separated. Primarily the residue from the cracking and straight-run distillation of crude oil, fuel oil is characterized by its high viscosity as well as the significant amount of non-hydrocarbon compounds, resins, and asphaltenes. Fuel oil is principally used in oil refining and chemical, transport, construction, and metallurgy industries. In recent years, the consumption of fuel oil by boilers and power generation has dropped sharply, whereas the demand in the marine fuel market is rising steadily.

02 What are low sulfur fuel oil and high sulfur fuel oil?

In line with the national anti-pollution campaign to “make the sky blue again”, China has introduced a series of environmental policies in the past few years. In particular, in response to the environmental requirements of

the International Maritime Organization (IMO), China has begun setting up emission control areas (ECAs) since 2016 to strictly control air pollution from ships, complemented by a range of supporting measures to ensure the supply of compliant low sulfur marine fuel. Current international and national rules require ships engaged in international voyages to use fuel oil with sulfur content no higher than 0.50% m/m; but fuel with higher sulfur content is permitted for those equipped with exhaust gas cleaning systems or other devices that achieve equivalent or better emission reduction results).

Based on the level of sulfur content, marine residual fuels are classified into high sulfur fuel oil (HSFO), low sulfur fuel oil (LSFO), and ultra-low sulfur fuel oil (ULSFO). Sulfur content in HSFO reaches 3.50% m/m or even 4.50% m/m and above; that of LSFO and ULSFO is generally below 0.50% m/m and 0.10% m/m, respectively.

Shanghai Futures Exchange (SHFE) lists fuel oil futures contracts for RMG 380 marine fuel with a maximum sulfur content of 3.50% m/m. Shanghai International Energy Exchange (INE) lists LSFO futures contracts for low sulfur marine fuel with a maximum sulfur content of 0.50% m/m.

03 How is LSFO produced?

Marine heavy fuel oil is used by ship engines. It comprises different distillates from crude oil that are tested for their characteristics and then blended according to national standards or international specifications. But as the low sulfur era approaches, the existing production processes need to be changed. There are three principal ways to produce LSFO: (1) distillation of low sulfur crude oil; (2) mixing and blending low sulfur residual fuel with high sulfur heavy fuel; and (3) using processing facilities to lower the sulfur content of high sulfur residual fuel.

International Fuel Oil Market



04 What is the current state of global marine fuel production?

Fuel oil is mainly produced in the Middle East, Russia, South America, and China. The global annual output is around 500 million metric tons, of which 300 to 400 million metric tons are traded on the open market. Fuel oil supply has been declining in recent years. This is mainly due to falling production output resulting from the upgrade of refining facilities worldwide, which has enabled deeper and more refined processing of fuel oil and increased the capacity for secondary refining.

05 What is the current state of global marine fuel consumption?

Thanks to the advancement in shipbuilding technologies (especially those for large ships), low transport cost, and high carrying capacity, maritime transport is now the backbone of international trade, accounting for 80% of the global market. According to UNCTAD's *Review of Maritime Transport 2019*, the volume of global maritime

trade was 11 billion tons in 2018. Total world fleet capacity stood at 95,402 ships, amounting to 1.97 billion dead-weight tons (dwt) of capacity. The consumption of marine fuel has reached 280 million tons in recent years and is expected to rise to 300 million tons in 2020.

There are four major marine fuel markets in the world: Asia (Singapore, China, South Korea, and Japan), Europe's ARA (Amsterdam, Rotterdam, and Antwerp), the Mediterranean Sea region (Fujairah), and the Americas (US East Coast). Singapore is the largest among them by consumption volume, which reached 47.46 million metric tons in 2019, followed by Northern Europe and the Middle East. In 2018, Zhoushan, Zhejiang, became the largest bunkering hub in China and a global top-ten bunkering hub for the first time. In 2019, Zhoushan supplied 4.1027 million metric tons of bonded marine fuel, becoming the eighth largest bunkering hub in the world.

06 What is the current state of global fuel oil trade?

Globally, fuel oil is oversupplied in Europe, Russia, the Americas, and the Middle East. As the Asia-Pacific region becomes a new growth driver in the world economy amidst globalization, it also experiences the most severe – and still mounting – supply shortage. At present, the global shipment of fuel oil mainly follows three routes: from Europe to Singapore and the Gulf of Mexico, from the Middle East to Singapore and Northeast Asia, and from the Gulf of Mexico and Latin Americas (including Mexico, Venezuela, and Brazil) to Singapore and Northeast Asia.

07 Why is Singapore the world's largest fuel oil market?

Singapore is Asia's largest trading hub for fuel oil due to its advantageous geographical location, conducive port conditions, huge market demand, long-term commitment to its oil market, and the sophisticated and flexible financial framework. In fact, Singapore has attracted almost all multinational oil companies and global trading companies to its local fuel oil market. Moreover, fuel oil components produced in other parts of the world also converge in Singapore, where they are blended and then sold as refined oils.

Singapore is now the largest fuel oil blending center and crude oil trading hub in the Asia-Pacific region. Fuel oil is also one of the most active Platts-tracked oil products and one of the products with the largest trading volume in paper trading in Singapore.

08 What effects does IMO's 2020 global sulfur limit have on the marine fuel market?

As IMO's 2020 global sulfur limit comes into force, countries have taken active steps toward compliance, and upstream and downstream companies in the industry have also made preparations and plans. Research shows that there will be three major changes to the consumption of marine fuel:

(1) Switch to low sulfur fuel oil (less than 0.50% m/m in sulfur content) or marine gas oil (MGO). Low sulfur heavy marine fuel is all-in-all the most economical and widely used solution at present. While this fuel is more expensive to produce (and therefore more costly to run on), it can be

used in most ships today without additional or modified equipment.

(2) Installation of an exhaust gas cleaning system (“scrubber”) in ships, so that they can still use marine fuels with sulfur content no higher than 3.50% m/m. Ship owners need to weigh the savings from the use of cheaper high sulfur fuels against the investment in additional equipment and the issue of disposing of the wastewater and other desulfurization-related liquid wastes. At present, countries and regions including China, the United States, Singapore, Germany, Belgium, Norway, and United Arab Emirates have expressly prohibited ships on international voyages from discharging, in their territorial waters, washwater from open-loop scrubbers, while countries including Japan and South Africa still allow it.

(3) Conversion to alternative energies such as liquefied natural gas (LNG). While LNG is an option, currently there are very few ocean-going ships capable of using it as fuel. Furthermore, the lack of resupply facilities and the high cost of LNG are also challenges that need to be overcome.



China's Fuel Oil Market

09 How large is China's bonded marine fuel market?

Collectively, Chinese ports have consistently ranked first in the world in terms of cargo and container throughput. More recently, propelled by innovative measures, institutional support, and loosening policies, there has been a rapid growth in the supply of bonded marine fuel in China – now reaching 12 million metric tons a year. But Chinese ports still have enormous growth potential in this area, as together they have seven times the cargo volume of their Singaporean counterpart, but merely a quarter of the bunkering volume. For this reason, the Zhejiang Free-Trade Zone has been striving to build Zhoushan into the “Northeast Asia Bunkering Hub.” Meanwhile, the introduction of tax rebate for fuel oil exports is expected to wean China off its complete reliance on import marine fuel and encourage the domestic production and export of bonded marine fuel. This is expected to drive up the output of domestic refineries and, therefore, the size of China's bonded marine fuel market.

10 What are the production plans of domestic refineries for LSFO?

To promote green shipping globally and meet IMO's 2020 global sulfur limit, China's major oil companies have all introduced tailored production plans and solutions for LSFO. For example, in 2019, Sinopec announced that its annual production capacity for low sulfur heavy marine fuels would reach 10 million metric tons in 2020 and over 15 million metric tons by 2023. To meet this target, Sinopec has made changes to ten subsidiary refineries in the Bohai Sea Rim, Yangtze River Delta, and South China. Likewise, CNPC announced that it was preparing its refineries to produce a targeted four million metric tons of LSFO each year. As of April 2020, refineries operated by Sinopec, CNPC, CNOOC, and Sinochem as well as some of the independent refineries had successfully produced low sulfur heavy marine fuels that meet national standards.

11 What are the major policies governing fuel oil trades?

(1) Environmental policies

In recent years China has intensified the regulation of pollutant emission from ships. To promote green shipping, higher energy efficiency, and emission reduction, China has issued a series of implementation schemes and rules relating to pollution prevention and remediation, ECAs, and supply of LSFO. On October 23, 2019, China's Maritime Safety Administration issued the *Implementation Plan of 2020 Global Sulfur Cap for Marine Fuels* which provides that: (1) From January 1, 2020, international-route ships entering waters of the PRC must use fuel

oil with a sulfur content not exceeding 0.50% m/m; (2) From January 1, 2020, international-route ships entering China's inland ECAs must use fuel oil with a sulfur content not exceeding 0.10% m/m; (3) From March 1, 2020, international-route ships entering Chinese waters may not carry fuel oils with a sulfur content exceeding 0.50% m/m if they are for self-use. These requirements are waived for ships that use any apparatus, equipment, or alternative fuel that allows the ships to achieve the same or better (air pollutant) emission targets than otherwise required.

(2) Export and import policies

In China, fuel oil is usually imported by state-trading enterprises, but a certain quantity may be imported by nonstate trading enterprises. In the past few years, this import quota has been 16.20 million metric tons. The five major state-owned importers –CNPC, Sinopec, CNOOC, Zhuhai Zhenrong Corporation, and Sinochem – are not subject to any import cap.

Starting from February 1, 2020, China will refund (or exempt) the 13% VAT on fuel oil bunkered at Chinese coastal ports by international-route ships. According to this policy, the customs will issue an export declaration form for fuel oil (with the HS Code “27101922”) that enters a storage facility under export supervision for fueling international voyage ships. The taxpayer can then submit this form and other required materials to the tax authority to receive the tax rebate or exemption. Starting from May 1, 2020, China will include #5-#7 LSFO (sulfur content not exceeding 0.5% m/m and HS Code of 2710192210) into the catalog of goods subject to export license administration, so that an export quota will be imposed on these products.

(3) Policies for pilot free-trade zones

The Hangzhou Customs has introduced a series of regulatory innovations since 2017, including cross-

region direct supply, bunkering at moorings outside port areas, one-to-many bunkering, many-to-one bunkering, post-bunkering declaration, and shared public depot, etc. Furthermore, pilot free-trade zones in Zhejiang, Shandong, and Hebei have been approved to carry out blending operations for bonded oils of different tax numbers. In 2017, the authority to approve the sale of bonded fuel oil to international-route ships was delegated to the Zhejiang Free-Trade Zone. At the close of 2019, nine (9) companies have received such approval, which, combined with the five (5) national suppliers, brought the total number of qualified bonded fuel suppliers in Zhoushan to fourteen (14).



The Price Mechanism of Fuel Oil

12 How much does the price of fuel oil change?

The price of fuel oil fluctuates frequently and considerably. From 2010 to April 2020, the price of Singapore 380 CST fuel oil (in USD per metric ton) swung between \$743 and \$101; the annual price variation was as high as 156%. At the start of 2016, the Asian market had an oversupply of fuel oil that was expected to persist, pushing the spot price to the decade-low of \$130. Price then rebounded to \$500 in the fourth quarter of 2018, but fell again in 2019, to \$209, due to the China-US trade dispute and the transition from HSFO to LSFO. The price stayed at a low level until the end of 2019, when it was buoyed by a surge of interest in desulfurization equipment and secondary refining. As the price of LSFO rose with its market share, it has diverged from the pricing trend of 380 CST fuel oil, with spread reaching as high as \$327 per metric ton. At the start of 2020, demand for oil was decimated by the global outbreak of Covid-19. And as the OPEC+ talk on production cut failed, the price of fuel oil plummeted with the falling global crude oil price. In particular, prices of 380 CST and LSFO dived from \$350 and \$650 at the

beginning of the year to \$110 and \$170 at the end of April, respectively.

13 How does Platts assess the price of fuel oil?

Mean of Platts Singapore (MOPS) is a market reference price independently determined by Platts based on quotes in the paper and physical markets as well as trading results within the Platt's assessment window. This fixing process, occurring between 4:00-4:30 p.m. each day for oil products, can be viewed on the open trading information platform run by Platts, and the results from which will be displayed on the Platts Global Alert (PGA) page 190. Fuel oil is one of many products tracked on this platform, where admitted participants, including major oil companies and trading houses submit information on bids and offers. The platform is not intended for physical delivery of fuel oil, but rather to create a transparent market price.

14 How are HSFO and LSFO priced differently?

In China, HSFO is priced based on the quotes for Singapore 380 CST (3.50%), with reference to the price of fuel oil futures listed on SHFE. Currently there is no internationally accepted benchmark price for LSFO, mostly because of the impact of IMO's 2020 sulfur cap on both the output and demand of middle distillates. Before an active and widely accepted benchmark price for LSFO emerges, the market will mainly refer to the price of 10 ppm diesel, supplemented by available quotes for LSFO.

15 What are the differences in the price structures of domestic-trade fuel oil and bonded fuel oil?

Bonded fuel oil refers to the bonded marine fuel supplied to ships entering or exiting China on international voyages. It is exempt from import duty, VAT, and consumption tax during import and sales and is stored in specially designated tanks, under bonded supervision by customs authorities. The underlying assets of SHFE fuel oil futures and INE LSFO futures are both bonded fuel oil.

Domestic-trade fuel oil is used by inland river ships and ships traveling between domestic inland ports and domestic seaports, and is mainly supplied by domestic refineries and blended oil producers. If domestic-trade fuel oil is produced from the bonded variety, its price will be determined as follows:

$[(\text{MOPS} + \text{discount}) \times \text{exchange rate} \times (1 + \text{import duty rate}) + \text{consumption tax}] \times (1 + \text{VAT rate}) + \text{other expenses}$

Where the VAT rate is 13%, the import duty rate is 1%, and the consumption tax rate is 1.2 yuan per liter (about 1,218 yuan per metric ton) (current as of May 2020).

16 What are the factors that affect the price of fuel oil?

(1) Fluctuation of international crude oil price. Because fuel oil is produced from crude oil, its price is inextricably linked to the international crude oil price.

(2) Global shipping market. As one of the biggest consumers of fuel oil, the shipping industry directly affects the demand for fuel oil and, by extension, the price.

In general, demand by the shipping industry is greatly influenced by international politics, regional economic development, and global trade flows.

(3) Supply and demand of the Singapore market.

Singapore is the world's largest fuel oil bunkering and trading hub. As a result, the size of arbitrage supply, sales volume, and inventory will all influence the price of fuel oil.

(4) Environmental policies. IMO's 2020 global sulfur limit is expected to significantly alter the consumption landscape of bonded marine fuel. The addition of desulfurization equipment and the wider use of LSFO, MGO, LNG, or other clean energy options would markedly increase the cost of fuel for ships, thus creating sharp price fluctuation. Future IMO and governmental policies on ship emissions are also likely to significantly affect the demand for fuel oil.

(5) Exchange rates. Internationally, fuel oil/diesel trades are denominated in US dollars, therefore changes in exchange rates against USD will inevitably influence the price of low sulfur fuel oil futures.

Design of LSFO Futures Contract



17

What was the background for the listing of LSFO futures?

Fuel oil is one of the relatively market-based commodities in China's oil market. The SHFE fuel oil futures was first launched in 2004. Following its introduction, it has seen orderly trading activities, facilitated hedging and price discovery, and served as a benchmark for both domestic and foreign physical fuel oil markets. Since 2009, changes to tax policies have brought dramatic changes to the consumption structure in the physical market, with bonded 380 CST marine fuel becoming the predominant product in demand. To align with this trend, in 2011 SHFE changed the deliverable grade of fuel oil futures from 180 CST fuel oil to 180 domestic-trade marine fuel, and, following another amendment to the futures contract in 2018, to RMG 380 bonded marine fuel. This most recent change has not only created a domestic pricing mechanism for bonded fuel oil, but also invigorated trading activities and brought many functional benefits, and was enthusiastically received by all market participants.

The IMO global sulfur limit which came into effect on January 1, 2020, is poised to transform the global marine fuel market. It will fundamentally improve the environment at ports, in sea, and around the globe; but it will also bring opportunities and challenges to oil refiners. To adapt to market changes and support the industry, INE has launched the internationally oriented LSFO futures, which will help create a rational pricing mechanism within the LSFO industry, enhance China's influence in the pricing of bonded marine fuel and the country's competitiveness in the global market, and promote the qualitative growth of the industry.

18 What are the general principles behind the design of LSFO futures contract?

INE's LSFO futures will be traded on the basis of "international platform, net pricing, bonded delivery, and RMB denomination" to fully engage overseas traders.

As yet another futures product in China accessible to foreign investors (i.e., "specified domestic (futures) product") after crude oil, iron ore, PTA, and TSR 20 futures, LSFO futures will be subject to the same set of policies for crude oil futures and TSR 20 futures. These policies include those of the Ministry of Finance, the State Administration of Taxation, the People's Bank of China (PBOC), the State Administration of Foreign Exchange (SAFE), the General Administration of Customs, and other relevant ministries and commissions on VAT, currency exchange, cross-border settlement, corporate and personal income tax, and customs supervision of bonded delivery for futures products.

19 What are the relations and differences between INE LSFO futures and SHFE fuel oil futures?

SHFE listed bonded 380 CST fuel oil futures on July 16, 2018. Since then, trading volume has been growing steadily and the product is fulfilling its functions. Because that product is traded on the basis of "net pricing and bonded delivery," the experience gained from operating that market can be readily transferred to the LSFO futures market. After the official implementation of IMO's 2020 global sulfur limit, LSFO has become a mainstream product internationally, whereas HSFO is still being used by ships with scrubbers as well as for power generation

and oil refining. Therefore, INE LSFO futures and SHFE fuel oil futures serve different markets and are mutually complementary. Together, they allow the two exchanges to cope with disruptive industry changes and the varying needs of industry clients. Following the listing of LSFO futures, SHFE will develop a plan for the transition from high sulfur to low sulfur fuel oil to ensure an orderly market.

20 What are the risk management measures for LSFO futures?

To ensure that “the futures market serves the real economy,” INE has conducted in-depth market research and analysis during the design and listing of LSFO futures. It has also evaluated the risks of the product in relation to trading, clearing, delivery, monitoring, and information technology, and formulated targeted risk management measures. Based on the characteristics of the LSFO physical and futures markets, INE has established clear risk management rules for LSFO futures – including trading margin, price limit, position limit, large trader reporting, forced liquidation, and risk warning – to ensure the smooth listing and trading of the product.

21 What fuel oil derivatives are there in the international market?

The Intercontinental Exchange (ICE), CME, and Singapore Exchange (SGX) all list Singapore fuel oil swaps which are cash-settled based on MOPS. These products cover 380 CST, 180 CST, and 0.5% marine fuels, as well as various types of calendar spread, viscosity spread, and crack spread. In 2019, SGX and Asia Pacific Exchange launched fuel oil, ABI Singapore LSFO, and LSFO futures contracts, among others.

Trading Access to LSFO Futures



22 Why is the LSFO futures open to overseas traders?

Fuel oil is a highly international and market-driven product. Upstream and downstream companies in the industry all have strong awareness of risk control, fully understand the role of futures, and are keen to use domestic and foreign hedging tools. In China, maritime transport is the main method of freight shipping; there has been a rising domestic demand for bonded fuel oil, signaling further growth of the LSFO market. By developing an international LSFO futures market and creating an open and transparent pricing platform, INE provides clients around the world with additional risk management tools, further opens up the domestic futures market, supports the internationalization of renminbi and the Belt and Road Initiative, and promotes healthier industries. The introduction of LSFO futures also helps build Shanghai into an international financial and shipping center and transform China from a major maritime country to a globally influential one.

23 Can the system of one client with one trading code help distinguish trades among different sub-accounts of the same trading entity?

INE adopts the trading code system to prevent the aggregation or netting of multi-Clients' positions. Futures Firm Members (FF Members), Overseas Special Brokerage Participants (OSBPs), and Overseas Intermediaries must apply for a unique trading code for each of their clients. Special Institutional Clients that are required by Chinese laws, regulations, and applicable rules and measures to manage client assets under segregated accounts, may apply to INE for a trading code for each of the segregated accounts.

24 How can overseas institutions and individuals access and trade the INE LSFO futures?

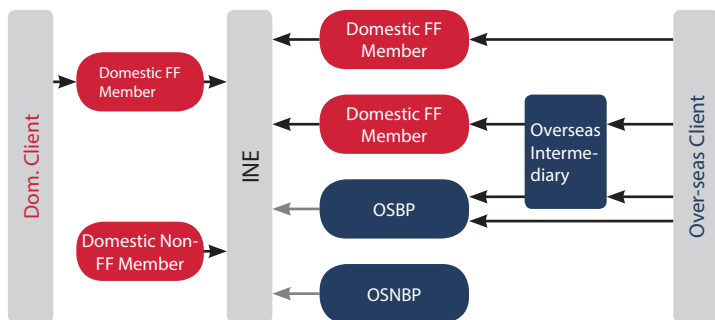
There are four ways to trade at INE:

Model 1: Overseas clients may trade through an FF Member of INE;

Model 2: An INE-recognized Overseas Intermediary may help overseas clients execute and clear trades through a carrying broker, either an FF Member or an OSBP of INE;

Model 3: An OSBP having direct trading access at INE may help overseas clients execute trades, which are cleared and settled through its carrying broker who must be an FF Member;

Model 4: Become an Overseas Special Non-Brokerage Participant (OSNBP) of INE, which can trade directly at INE but clearing and delivery must be conducted through a carrying broker who must be an FF Member.



Note: Black arrows indicate trading, clearing, and delivery. Grey arrows indicate direct access to trading at INE, but overseas special participants (OSPs) must participate in clearing and delivery through domestic FF Members.

25 What are the eligibility requirements for investors intending to trade LSFO futures?

Investors intending to trade China's LSFO futures shall meet the eligibility requirements under the *INE Futures Trading Participant Eligibility Management Rules* (referenced in the table below). In addition, an investor eligible to trade other listed products subject to the eligibility management rules of other trading venues in China may be exempted from certain requirements while applying for a trading code or LSFO trading access at INE. An institution that opens accounts for clients ("account-opening institution") is required to make full use of available information and assessment results. A client with trading access to crude oil futures or TSR 20 futures is automatically entitled to trading LSFO futures through the same account-opening institution. A client with trading access to options, other specified domestic products,

or financial futures may be exempted from the eligibility review while opening account at the same account-opening institution, and from the requirements on basic knowledge, trading experience, and capital while opening account at a different account-opening institution.

Type of Investors	Requirements
Institutional Investors	1. Having relevant business professionals who understand the essentials of futures trading and the rules of INE;
	2. Having recognized trading experiences and trading records in futures, options, and centrally cleared derivatives;
	3. Having a balance of no less than RMB 100,000 or its equivalent in foreign currency in its margin account for five consecutive business days before applying for the trading code or trading access;
	4. Having sound internal control and risk management systems;
	5. Having not been prohibited from entering the futures market or restricted in futures trading.
Individual Investors	1. Understanding the essentials of futures trading;
	2. Having recognized trading experiences and trading records in futures, options, and centrally cleared derivatives;
	3. Having a balance of no less than RMB 100,000 or its equivalent in foreign currency in its margin account for five consecutive business days before applying for the trading code or trading access;
	4. Having not been prohibited from entering the futures market or restricted in futures trading.

26 Does an overseas individual trader have to open an account at a bank in China to trade LSFO futures?

An overseas individual trader may trade LSFO futures at INE through a domestic FF Member or an overseas broker. In the case of a domestic FF Member, the overseas individual trader must open a dedicated futures settlement account at a Designated Depository Bank in China. In the case of an overseas broker, there is no need for the overseas individual trader to open such an account at a bank in China.

27 If a Europe-registered investor participates in China's LSFO futures market through a European or US broker, is the investor required to report transactions to a trade depository as stipulated in the European Market Infrastructure Regulation (EMIR)?

At present, INE has completed the registration in Hong Kong and Singapore and has been approved as ATS and RMO respectively. Moving forward, it will continue to strengthen its cooperation with international markets.

Given the large number of countries in Europe as well as the dual regulation of EU and home-country authorities, European and US brokerage firms shall take special care in managing client eligibility and in conducting businesses according to local laws and regulations. Accordingly, futures firms that have partnered with European or US brokers shall well understand the overseas legal system (including the General Data Protection Regulation (GDPR)) in advance to maintain operational compliance.

28 Can a Non-FF Member trade on INE through one or more futures firms?

Article 37 of *INE Membership Management Rules* provides that “except otherwise approved by the Exchange, a Non-FF Member shall not open another account as a Client to engage in futures trading.” Therefore, a Non-FF Member corporate entity may not trade through a broker as a client.

29 Mutual funds offer many products such as ETF, which will attract more positions and liquidity for forward contracts. Is LSFO futures open to mutual funds?

Domestic mutual funds have been recognized as a type of Special Institutional Clients and, as such, can open special institutional client accounts to trade LSFO futures. For overseas mutual funds, the China Futures Market Monitoring Center (CFMMC) is now accepting account-opening applications from overseas Special Institutional Clients.

30 Does INE accept English documents in business activities and document signing? Does INE provide English versions of regulations, rules, notices, and circulars?

INE accepts feedbacks in English during rule-drafting and amendment, and bilingual (Chinese and English) documents during account opening as well as for other application materials related to Overseas Intermediaries and OSPs. According to Article 41 of the *INE Overseas Special Participant Management Rules*, all written materials submitted by OSPs to INE must have corresponding Chinese versions; in the event of any inconsistency between the two language copies, the Chinese version shall prevail. INE will try its best to provide both Chinese and English versions of laws, rules, notices, and circulars; but for legal texts, the Chinese version shall prevail.

31 For overseas clients, which overseas trading platforms have access to INE?

Currently, CQG, PATs, Bloomberg, Tradex, FIS, ATP, and Esunny have access to INE. INE actively works with major international trading platforms to further expand the range of options.



Clearing and Risk Management of LSFO Futures Trades

32 How are the daily settlement price and final settlement price of LSFO futures contract determined?

The daily settlement price of a LSFO futures contract is the volume-weighted average price of all trades in that contract executed on a trading day; the final settlement price is the arithmetic mean of the settlement prices of that contract on the last five trading days on which at least one trade in the contract has been executed. For other scenarios, please refer to Articles 34 and 35 of the *INE Clearing Rules*.

33 How to deal with foreign exchange conversion while trading LSFO futures?

LSFO futures are denominated and settled in RMB. Overseas traders and overseas brokers may post margin in RMB or directly in USD, but USD-denominated margin can be used for clearing purposes only after it is converted into RMB.

For overseas traders and overseas brokers, the purchase and sale of RMB must be based on the actual results of their trades in specified domestic products, and may only be performed for payments in connection with the trading of specified domestic products, such as the settlement of profits and losses, payment of transaction fees, making or receiving of delivery payment, and supplement the cash funds for clearing purpose.

34 How are the funds of overseas investors transferred in LSFO futures trading?

LSFO futures is classified as a specified domestic product. According to PBOC's Announcement [2015] No. 19 and SAFE's circular Huifa [2015] No. 35 and related Q&As, overseas traders and overseas brokers may transfer offshore RMB or USD to onshore bank accounts to trade LSFO futures. These funds will be deposited in segregated accounts, protected from unauthorized operations while in China, and may not be used for any purpose other than the trading of specified domestic products. Fund transfers shall comply with the scope of payments and receipts prescribed by relevant policies.

35 Will the positions held by subsidiaries of the same parent company be managed separately or aggregated and managed on a net basis?

Positions held by a group of clients, Non-FF Members, or OSNBPs that have actual control relationship with each other are aggregated in accordance with applicable rules.

Accordingly, the total positions held by a client under multiple trading codes through different FF Members, OSBPs, and Overseas Intermediaries may not exceed the position limit set by INE, where, for the purpose of position limit, each trader's positions are calculated on a single-counted basis (i.e., long only or short only) without netting. Additionally, Non-FF Members and OSNBPs are required to report accounts with actual control relationship to INE; while clients shall do so with CFMMC. INE obtains information about these accounts from CFMMC, and aggregates and manages relevant positions accordingly.

36 What are INE's rules for determining and approving the hedging quota for LSFO futures?

Hedging with LSFO futures requires prior approval from INE. If a trader believes that the regular position limit is too tight to meet its hedging needs, it may apply to INE for a hedging quota. INE determines and approves such quotas based on two factors: the applicant's bona fide production, trading, and consumption volume of physicals, and market conditions. An applicant shall submit the necessary supporting materials, such as its production plan, sales contract, or processing plan.

When a futures contract enters the nearby delivery months, INE will convert the hedging quota for regular months to hedging quota for nearby delivery months. Given market risk control in nearby delivery months, the adjusted quota after conversion will be the lower one of the previously approved hedging quota for regular months and the general position limit for the contract in nearby delivery months. If the adjusted quota is still not sufficient to cover its hedging needs, the trader may separately apply to INE for a higher hedging quota for nearby delivery months.

37 Can OSNBPs and overseas clients post foreign currency as margin collateral?

OSNBPs and overseas clients can use foreign currency as margin. If foreign currency is used, the CNY (RMB) central parity rate published by China Foreign Exchange Trade System (CFETS) on the current day will be used to calculate the market value of the foreign currency. At present, INE rules state that USD is the only foreign currency accepted as margin, at a haircut of 0.05.

Before the closing of market, the market value of foreign currency is provisionally determined by the CNY central parity rate published by CFETS on the previous trading day. This value will be revised and discounted during daily clearing according to the rules above.

38 Is it true that for OSNBPs and overseas clients, foreign currency can only be used as margin collateral, while all expenses, profits and losses resulting from futures trading must still be settled in RMB?

Yes.

As a specified domestic product, LSFO futures is subject to the following provisions of *PBOC's Announcement [2015] No. 19*:

“II. Domestic crude oil futures transactions shall be denominated and settled in RMB....

“IX. A foreign trader or foreign brokerage agency may directly use foreign [currency] as the margin, and the foreign [currency] margin may not be used as the

settlement fund for the clearing of crude oil futures transactions until it has been converted into RMB....

“XIII. This Announcement shall apply, *mutatis mutandis*, to the cross-border settlement of transactions in other specified domestic futures products approved by the China Securities Regulatory Commission.”

In addition, Article 23 of the INE Clearing Rules provides that: “the clearing currency at INE is RMB; subject to the approval of INE, foreign currencies and assets with stable value and high liquidity, such as standard warrants and treasury bonds, may be used as margin collateral”.

39 Does currency exchange for futures trading have to be completed at a Designated Depository Bank?

The purchase and sale of currencies for futures trading must be completed at a Designated Depository Bank. While exchanging currencies, a Member may check with multiple Designated Depository Banks and choose one that offers the best exchange rate.

40 For a trader who holds both long and short positions, is its trading margin based on the double-counted positions (longs and shorts), net positions, or the portfolio?

INE implements larger-side margining.

According to Article 28 of the *INE Clearing Rules*, INE may collect trading margin on only the long positions or only the short positions under the following circumstances:

(1) For a client holding both long and short positions in the same product and on the books of the same Member or OSBP, INE may collect trading margin solely from the side for which a larger amount of trading margin is required, except for any contract held after the closing of the 5th trading day prior to its last trading day;

(2) For a Non-FF Member or an OSNBP holding both long and short positions in the same product, INE may collect trading margin solely from the side for which a larger amount of trading margin is required, except for any contract held after the closing of the 5th trading day prior to its last trading day.

41

Articles 39 and 40 of the *INE Clearing Rules* state that, “If, after the completion of daily clearing, the clearing deposit balance of any internal ledger of a Member with the Exchange is lower than the prescribed minimum requirement, such clearing result shall be deemed as the Exchange’s margin call to the Member, and the gap between the two amounts shall be the amount of additional funds required by the margin call.... If a deficiency still exists, the Member shall make it up prior to the market opening of the next trading day.” What action will INE take, if a Member fails to make up for the difference following the margin call?

Article 40 of the *INE Clearing Rules* lists the actions INE will take in the event that a Member fails to meet the required clearing deposit balance on any internal ledger: if the balance is no less than zero, the corresponding Member or OSP will be prohibited from opening new positions; if the balance is lower than zero, INE will implement forced liquidation or take other necessary measures according to the *INE Risk Management Rules*.

42 Do funds arrive in real time after a Member makes a deposit or withdrawal?

A Member can submit funds transfer requests via the funds deposit/withdrawal menu in INE's Member Service System. This will transfer funds between the Member's dedicated fund account and INE's dedicated settlement account.

Funds deposits into INE's account are automatically processed by the system during trading hours and completed in real time. Funds withdrawals into Member accounts will be processed and completed after daily clearing and settlement on the same day.

43 Is it required for an overseas company that trades through a domestic futures firm to open a dedicated bank account for futures trading?

If an overseas trader or overseas broker directly engages a domestic futures firm for clearing (or trading and clearing) services, it must open a futures settlement account at a Designated Depository Bank that is qualified to offer margin depository services for overseas clients.

44 Can a domestic Non-FF Member open a foreign exchange account for trading LSFO futures?

The short answer is “no”.

According to SAFE circular Huifa [2015] No. 35, only overseas traders, overseas brokers, as well as futures firms and other institutions that are qualified to clear trades and are providing trading, clearing, and other related services to overseas traders and overseas brokers in relation to specified domestic products, may open a foreign exchange account for those purposes.



Delivery for LSFO Futures

45 How does delivery work for LSFO futures?

LSFO futures are physically delivered. LSFO futures contracts follow the standard delivery procedures upon expiration, and may be delivered through EFP before that. Furthermore, bonded delivery applies to LSFO, i.e. the delivery is for bonded LSFO that is stored in bonded oil tanks under customs' supervision at a Designated Delivery Storage Facility.

Standard delivery procedures refer to the process where, upon a contract's expiration, the buyer and the seller complete physical delivery via a transfer of the ownership of the corresponding bonded standard warrant (a document created in the Standard Warrant Management System and issued by the Designated Delivery Storage Facility in accordance with INE procedures that entitles the holder to take delivery of the specified commodity).

In short, the seller must complete the load-in of the underlying commodity and receive the warrant before a contract expires. Within the five delivery days following the expiration of the contract, the seller will submit the warrant, collect payment, and submit the tax invoice; the

buyer will make payment in exchange for the warrant and tax invoice; and INE will assign standard warrants based on available resources and settle payment, thereby completing the delivery process.

46 Where are delivery facilities for LSFO futures located?

The delivery facilities for commodity futures are generally located in major areas for the production, consumption, or distribution of the deliverables, with access to convenient transport options. For LSFO, the delivery facilities are situated in major import centers for fuel oil and major consumption areas for low sulfur marine fuel. In particular, China's Bohai Bay, Yangtze River Delta, the southeast coast, the Pearl River Delta, and Beibu Gulf all have bonded marine fuel hubs. Accordingly, the first delivery facilities for LSFO will be in the Zhejiang Free-Trade Zone in Zhoushan and the surrounding areas (Shanghai) to facilitate the physical delivery and price formation for bonded marine fuel. INE plans to gradually expand the scope of delivery areas in the future based on the current delivery and market demands, so as to provide domestic and foreign investors with more convenient delivery options and increase its global presence.

47 What are the main features of the delivery of LSFO futures?

(1) Bonded delivery. Clients who cannot issue or receive tax invoices cannot participate in the delivery of LSFO futures.

(2) No commodity registration required. Low sulfur marine fuel involved in physical delivery shall meet the quality standards specified by INE. Aside from the various

international and domestic quality standards for LSFO, INE additionally checks for cleanness, phenol and styrene contents, and, where mixed tank storage is involved, compatibility (checked before load-in), to ensure only high-quality deliverables enter the futures market.

(3) Bonded standard warrants are valid for six months from the next month of their creation. Upon expiration of a bonded standard warrant, the underlying commodities shall be converted to spot products.

(4) Minimum load-in and load-out quantity. The minimum load-in quantity for LSFO is 5,000 metric tons, the minimum load-out quantity is 1,000 metric tons, unless the load-in and load-out quantity otherwise agreed between the owner and the Designated Delivery Storage Facility.

48 How to transfer the standard warrants for LSFO futures?

Standard warrants for LSFO futures must undergo INE's settlement process before they can be transferred – please refer to *INE Delivery Rules* for details of this process. If clients of an OSBP or Overseas Intermediary plans to transfer standard warrants already settled at INE, they shall delegate the OSBP or Overseas Intermediary to do so on their behalf.

49 What documentations are required to create a warrant during the load-in of LSFO?

The originals and photocopies of the following should be provided: the inspection certificate issued by the Designated Inspection Agency, statement of origin, and other supporting documents including but not limited to

bill of lading, inspection certificate from the loading port, customs approval of load-in, inspection certificate for bonded blended marine fuel, and producer's product quality inspection report.

50 Why has INE added cleanness, compatibility, and phenol and styrene contents to the quality requirements for deliverable LSFO? Why is pre-load-in compatibility check required for mixed tank storage?

Because LSFO from multiple sources is likely to be stored in the same tank, cleanness, compatibility, and styrene and phenol requirements are added to prevent flocculation when a compliant oil product becomes mixed with a different type of light oil or heavy fuel oil and to exclude non-petroleum-based oil products.

Cleanness measures the number of suspended particles in LSFO and indicates the product's stability. Compatibility measures how compatible different oil products are with each other and indicates their tendency to form suspended particles when mixed. Together, cleanness and compatibility help identify risks such as overload of fuel supply system's centrifuges, clogging of filters, and formation of oil sludge. To determine whether non-petroleum-based hydrocarbons, chemical wastes, and other harmful components in blending materials are added in LSFO, phenol and styrene, two characteristic components, are also measured. For these reasons, LSFO deliverable at INE is additionally tested for cleanness, compatibility, and phenol and styrene contents.

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