

Low Sulfur Fuel Oil Futures Contract of the Shanghai International Energy Exchange

(Be effective as of March 1, 2022)

Product	Low Sulfur Fuel Oil
Contract Size	10 metric tons/lot
Price Quotation	(RMB) Yuan/metric ton (no tax or duty included in the quotation)
Minimum Price Fluctuation	1 Yuan/metric ton
Daily Price Limits	±5% from the settlement price of the previous trading day
Delivery Months	January, February, March, April, May, June, July, August, September, October, November, and December
Trading Hours	9:00-11:30 a.m., 1:30-3:00 p.m. (Beijing Time), and other trading hours as prescribed by the Exchange
Last Trading Day	The last trading day of the month prior to the delivery month (postponed accordingly if it is a national holiday or weekend; the Shanghai International Energy Exchange is entitled to adjust the last trading day in accordance with the national holidays or weekends.)
Delivery Period	Five (5) consecutive trading days after the last trading day
Grades and Quality Specifications	Low sulfur marine fuel oil, refer to Appendix for detailed quality standards
Delivery Venues	Delivery Storage Facilities designated by the Shanghai International Energy Exchange
Minimum Trading Margin	8% of contract value
Settlement Type	Physical delivery
Product Symbol	LU
Listing Exchange	Shanghai International Energy Exchange

Appendix to Low Sulfur Fuel Oil Futures Contract of the Shanghai International Energy Exchange

I. Delivery Unit

The delivery unit of low sulfur fuel oil futures contract is 10 metric tons. The delivery quantity shall be integral multiple(s) of the delivery unit.

II. Quality Standards

Low sulfur marine fuel oil to be delivered shall meet the quality standards for low sulfur marine fuel oil set by the Shanghai International Energy Exchange (the “Exchange”). “Low sulfur marine fuel oil” refers to homogeneous hydrocarbon mixtures extracted from petroleum, with certain amount of additives permitted for performance and characteristics gains. Low sulfur marine fuel oil shall not contain any inorganic acid and used lubricating oil, nor any substance that may cause abnormal operations of ships, nor any artificially added additive or chemical waste that may endanger ship safety, adversely affect machine’s performance, or be harmful or increase air pollutions.

Specific rates of premium and discount will be separately prescribed and announced by the Exchange.

Quality Standards of Low Sulfur Fuel Oil of the Shanghai International Energy Exchange

Properties	Limit	Test Method
Kinematic viscosity (50 °C, mm ² /s)	380.0 max 100.00 min	ASTM D445
Density (15 °C, kg/m ³)	991.0 max 925.0 min	ASTM D1298
Calculated Carbon Aromaticity Index (CCAI)	870 max	ISO 8217:2017(E)
Sulfur content (m/m, %)	0.50 max	ASTM D4294
Flash point (closed cup) (°C)	60.0 min	ASTM D93
Hydrogen sulfide (mg/kg)	2.00 max	IP 570
Acid value (mg KOH/g)	2.5 max	ASTM D664
Total sediment (thermal aging test) (m/m, %)	0.10 max	ASTM D4870
Carbon residue (m/m, %)	18.00 max	ASTM D4530
Pour point (°C)	30 max	ASTM D97
Moisture (V/V, %)	0.50 max	ASTM D95
Ash content (m/m, %)	0.100 max	ASTM D482
Vanadium (mg/kg)	350 max	IP 501

Sodium (mg/kg)	100 max	IP 501
Aluminum + Silicon (mg/kg)	60 max	IP 501
Net calorific value (cal/g)	9,500 min	ASTM D240
Used lubricating oil (ULO) (mg/kg) Calcium and Zinc Calcium and phosphorus	Fuel oil should be free of ULO, which is deemed to be present if any of the following conditions is met: Ca > 30 and Zn > 15 or Ca > 30 and P > 15	IP 501
Compatibility (level)	No higher than spot No. 2	ASTM D4740
Cleanness (level)	No higher than spot No. 2	ASTM D4740
Styrene (mg/kg)	50 max	GB/T 6041
Phenol (mg/kg)	50 max	GB/T 6041

III. Designated Delivery Storage Facilities

Designated Delivery Storage Facilities will be separately announced by the Exchange.