Markers and Tradable Markers

1. ICE Brent Crude Futures

ICE Futures Europe introduced Brent markers as a way of enabling customers to manage their price risk more effectively in the physical markets throughout the trading day. By referencing an official marker price as set out by the Exchange, traders are able to manage their price risk more effectively by aligning both crude and product prices at the same point in the day. This can often help in reducing basis risk. The various markers and the timings of such markers are set out in the table below.

There are two tradable markers, one at 16:30 local time in Singapore and the other at 16:30 local time in London. The timing of both markers is to coincide with the Platts Market on Close window in Singapore and London. Many Asian and European physical crude and product prices are established at these times making the timing of these markers very important.

<table>
<thead>
<tr>
<th>Marker</th>
<th>London Time</th>
<th>Singapore Time</th>
<th>New York Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brent Singapore Minute Marker</td>
<td>08:29-08:30 GMT 09:29-09:30 BST</td>
<td>16:29 – 16:30</td>
<td></td>
</tr>
<tr>
<td>Brent London Minute Marker</td>
<td>16:29-16:30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: both markers are **tradable**

1. Brent Singapore Minute Marker timings are always GMT +8hrs
2. The US timing for the Brent London Minute Marker may differ due to changes from British GMT to BST and US EST to DST.

All temporary changes to trading hours, designated settlement periods and marker timings will be notified via an ICE Circular.

1.1 Tradable Brent Singapore Minute Marker

Trades may be executed at the price determined by the Exchange as the Brent Singapore Minute Marker ("Brent Singapore Minute Marker Trades")

| The Brent Singapore Minute Marker | This is established daily by the Exchange calculating the trade weighted average price of ICE Brent Crude Futures executed for the relevant contract month between 16:29 and 16:30 (Singapore time) |
| Brent Singapore Minute Marker Trades | These are trades executed at the price of the Brent Singapore Minute Marker |
| Trading Hours                     | Brent Singapore Minute Marker Trades can be executed up to the end of the calculation period i.e. up to 16:30 Singapore time |

1.2 Tradable Brent London Minute Marker

Trades may be executed at the price determined by the Exchange as the Brent London Minute Marker ("Brent London Minute Marker Trades")

| The Brent London Minute Marker | This is established daily by the Exchange calculating the trade weighted average price of ICE Brent Crude Futures executed for the relevant contract month between 16:29 and 16:30 (London time) |
| Brent London Minute Marker Trades | These are trades executed at the price of the Brent London Minute Marker |
| Trading Hours                  | Brent London Minute Marker Trades can be executed up to the end of the calculation period i.e. up to 16:30 London time |
1.3 Summary table

The tradable ranges above and below the marker price for the relevant contracts and calendar spreads are summarised below:

<table>
<thead>
<tr>
<th>Contract</th>
<th>Outright Contract Months</th>
<th>Ticks above or below the settlement price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brent Singapore Minute Marker</td>
<td>Front 4</td>
<td>+/- 5 ticks</td>
</tr>
<tr>
<td>Brent London Minute Marker</td>
<td>Front 4</td>
<td>+/- 5 ticks</td>
</tr>
</tbody>
</table>

2. ICE Low Sulphur Gasoil Futures

ICE Futures Europe provides two tradable markers for ICE Low Sulphur Gasoil Futures. The Singapore Minute Marker coincides with the timing of the Platts Market on Close window in Singapore at 16:30 local time. The US Minute Marker coincides with the timing of the settlement on the major oil markets for Brent and WTI. This creates a published reference price for Low Sulphur Gasoil so that they can be more accurately aligned with Brent and WTI. This is particularly important when trading crack spreads and arbitrages which price at 19:30 London time.

ICE Low Sulphur Gasoil Futures are used as the basis for all European derivative contract trades in the Middle Distillate complex. The contracts are also significant as pricing benchmarks for other middle distillate arbitrage movements between Asia, Europe and the US.

<table>
<thead>
<tr>
<th>Marker</th>
<th>London Time</th>
<th>Singapore Time</th>
<th>New York Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Sulphur Gasoil Singapore Minute Marker</td>
<td>08:29-08:30 GMT 09:29-09:30 BST</td>
<td>16:29 – 16:30</td>
<td></td>
</tr>
<tr>
<td>Low Sulphur Gasoil US Minute Marker</td>
<td>19:29-19:30</td>
<td></td>
<td>14:29-14:30^2</td>
</tr>
</tbody>
</table>

Note: both markers are tradable
1. Low Sulphur Gasoil Singapore Minute Marker timings are always GMT +8hrs
2. The US timing for the Low Sulphur Gasoil US Minute Marker may differ due to changes from British GMT to BST and US EST to DST.

All temporary changes to trading hours, designated settlement periods and marker timings will be notified via an ICE Circular.

2.1 Tradable Low Sulphur Gasoil Singapore Minute Marker

Trades may be executed at the price determined by the Exchange as the Low Sulphur Gasoil Singapore Minute Marker (“Low Sulphur Gasoil Singapore Minute Marker Trades”)

<table>
<thead>
<tr>
<th>Low Sulphur Gasoil Singapore Minute Marker</th>
<th>This is established daily by the Exchange calculating the trade weighted average price of ICE Low Sulphur Gasoil Futures executed for the relevant contract month between 16:29 and 16:30 (Singapore time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Sulphur Gasoil Singapore Minute Marker Trades</td>
<td>These are trades executed at the price of the Low Sulphur Gasoil Singapore Minute Marker</td>
</tr>
<tr>
<td>Trading Hours</td>
<td>Low Sulphur Gasoil Singapore Minute Marker Trades can be executed up to the end of the calculation period i.e. up to 16:30 Singapore time</td>
</tr>
</tbody>
</table>
2.2 Tradable Low Sulphur Gasoil US Minute Marker

Trades may be executed at the price determined by the Exchange as the Low Sulphur Gasoil US Minute Marker ("Low Sulphur Gasoil US Minute Marker Trades")

<table>
<thead>
<tr>
<th>Low Sulphur Gasoil US Minute Marker</th>
<th>This is established daily by the Exchange calculating the trade weighted average price of ICE Low Sulphur Gasoil Futures executed for the relevant contract month between 14:29 and 14:30 (New York time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Sulphur Gasoil US Minute Marker Trades</td>
<td>These are trades executed at the price of the Low Sulphur Gasoil US Minute Marker</td>
</tr>
<tr>
<td>Trading Hours</td>
<td>Low Sulphur Gasoil US Minute Marker Trades can be executed up to the end of the calculation period i.e. up to 14:30 New York time</td>
</tr>
</tbody>
</table>

2.3 Summary table

The tradable ranges above and below the marker price for the relevant contracts and calendar spreads are summarised below:

<table>
<thead>
<tr>
<th>Contract</th>
<th>Outright Contract Months</th>
<th>Ticks above or below the settlement price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Sulphur Gasoil Futures Singapore Minute Marker</td>
<td>Front 3</td>
<td>+/- 2 ticks</td>
</tr>
<tr>
<td>Low Sulphur Gasoil Futures US Minute Marker</td>
<td>Front 3</td>
<td>+/- 2 ticks</td>
</tr>
</tbody>
</table>

3. ICE WTI Crude Futures

The ICE WTI Crude Futures contract has two non-tradable markers to coincide with the timing of the Platts Market on Close window in Singapore and London.

The Singapore and London Minute Markers for ICE WTI Crude Futures are established daily by the Exchange, for the front two contract months, calculating the trade weighted average price of ICE WTI Crude Futures executed for the relevant contract month between 16:29 and 16:30 Singapore and London times. Many Asian and European physical crude and product prices are established at these times making the timing of these markers very important. The various markers and the timings of such markers are set out in the table below.

<table>
<thead>
<tr>
<th>Marker</th>
<th>London Time</th>
<th>Singapore Time</th>
<th>New York Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTI Singapore Minute Marker</td>
<td>08:29 – 08:30 GMT 09:29 – 09:30 BST</td>
<td>16:29 – 16:30</td>
<td></td>
</tr>
<tr>
<td>WTI London Minute Marker</td>
<td>16:29 – 16:30</td>
<td></td>
<td>11:29 – 11:30</td>
</tr>
</tbody>
</table>

Note: these markers are non-tradable
1. WTI Singapore Minute Marker timings are always GMT +8hrs
2. The US timing for the WTI London Minute Marker may differ due to changes from British GMT to BST and US EST to DST.

All temporary changes to trading hours, designated settlement periods and marker timings will be notified via an ICE Circular.
4. ICE Heating Oil Futures

ICE Futures Europe introduced a marker for ICE Heating Oil in January 2012. The timing of the non-tradable ICE Heating Oil Futures 16:30 Marker also referred to as the London Minute Marker, at 16:30 local London time is to coincide with the Platts Market on Close window in London as well as the daily settlement for the ICE Low Sulphur Gasoil Futures. The ICE Heating Oil Futures 16:30 Marker is established daily by the Exchange, for the front two contract months, calculating the trade weighted average price of ICE Heating Oil Futures executed for the relevant contract month between 16:29 and 16:30 (London time).

<table>
<thead>
<tr>
<th>Marker</th>
<th>London Time</th>
<th>New York Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Oil London Minute Marker</td>
<td>16:29 – 16:30</td>
<td>11:29 – 11:30</td>
</tr>
</tbody>
</table>

Note: this marker is non-tradable
1. The US timing for the Heating Oil London Minute Marker may differ due to changes from British GMT to BST and US EST to DST.

All temporary changes to trading hours, designated settlement periods and marker timings will be notified via an ICE Circular.

5. ICE (RBOB) Gasoline Futures

ICE Futures Europe introduced a marker for ICE (RBOB) Gasoline in January 2012. The timing of the non-tradable ICE (RBOB) Gasoline Futures 16:30 Marker also referred to as the London Minute Marker, at 16:30 local London time is to coincide with the Platts Market on Close window in London as well as the daily settlement for ICE Low Sulphur Gasoil Futures. The ICE (RBOB) Gasoline Futures 16:30 Marker is established daily by the Exchange, for the front two contract months, calculating the trade weighted average price of ICE (RBOB) Gasoline Futures executed for the relevant contract month between 16:29 and 16:30 (London time).

<table>
<thead>
<tr>
<th>Marker</th>
<th>London Time</th>
<th>New York Time</th>
</tr>
</thead>
</table>

Note: this marker is non-tradable
1. The US timing for the (RBOB) Gasoline London Minute Marker may differ due to changes from British GMT to BST and US EST to DST. All temporary changes to trading hours, designated settlement periods and marker timings will be notified via an ICE Circular.

6. Amendments in Timings

Markers may, from time to time, be assessed by the Exchange at a different time if there is a modification in the timings of assessments for physical crude oil and products by Price Reporting Agencies. Customers will be notified by Circular of any changes to Minute Markers. For guidance, changes in price assessments by Price Reporting Agencies occur from time to time prior to a public holiday.
7. Marker Volume Thresholds

The Marker Volume Threshold used to establish the minimum volume of trades which needs to be completed during the relevant Marker period for the purposes of calculating prices by means of a trade weighted average calculation. The Marker Volume Thresholds are set on a contract by contract basis, and are subject to change, determined by the Exchange.

Table of Marker Volume Thresholds Futures Contracts

<table>
<thead>
<tr>
<th>Contract</th>
<th>Volume threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE Brent Singapore Minute Marker</td>
<td>500</td>
</tr>
<tr>
<td>ICE Brent London Minute Marker</td>
<td>500</td>
</tr>
<tr>
<td>ICE Low Sulphur Gasoil Singapore Minute Marker</td>
<td>200</td>
</tr>
<tr>
<td>ICE Low Sulphur Gasoil US Minute Marker</td>
<td>100</td>
</tr>
<tr>
<td>ICE WTI Singapore Minute Marker</td>
<td>100</td>
</tr>
<tr>
<td>ICE WTI London Minute Marker</td>
<td>100</td>
</tr>
<tr>
<td>ICE Heating Oil London Minute Marker</td>
<td>50</td>
</tr>
<tr>
<td>ICE (RBOB) Gasoline London Minute Marker</td>
<td>50</td>
</tr>
</tbody>
</table>

For details on Determination of Marker Prices, please refer to ‘Section 1: Trading’ of the ‘Trading Procedures’ chapter of the ICE Futures Europe Regulations found here:

https://www.theice.com/publicdocs/contractregs/185_XX_TRADING_PROCEDURES.pdf