

McCLOSKEY

BY OPIS, A DOW JONES COMPANY

Iron Ore marker price

Methodology and specifications
Effective February 2022

Contents

Introduction	2	Indian Sponge Iron marker	8
McCloskey publications	2	Vietnam HRC CFR	8
Inside Coal and Steel Raw Materials	2		
Methodology overview	2		
Basis of McCloskey coal methodology	2		
Judgment guidelines	3		
Market data application and thresholds	3		
Verification of transaction data	4		
Scrutiny of transactions	4		
Anomalous or suspicious market data	4		
Additional checks and analysis	5		
Comparative markets	5		
Corrections to markers	5		
Compliance and ethics	5		
Review of methodology	6		
Changes to methodology	6		
The market	6		
Transactional data	6		
Marker timing	7		
Weekly markers	7		
Trade window	7		
Iron Ore Markers	7		
China Fines (India 57%) CFR marker	7		
64% Pellet CFR North China	7		
62% Fines CFR North China	7		
65% Fines CFR North China	7		
62% Lump premium CFR North China	7		

Introduction

This statement of methodology for McCloskey by OPIS, a Dow Jones company's ["McCloskey"] coking coal price assessments reflects fundamental principles that form the foundation for McCloskey's coal price reporting service. This statement of methodology also includes detailed information on the formation of McCloskey's price assessments and the specifications for the various products assessed.

As coking coal markets change, McCloskey's methodology for assessing coking coal prices will continue to evolve.

The McCloskey coal price assessment services team is comprised of specialist reporters and analysts in London, Singapore, Melbourne, Sydney, New Delhi, and the United States. The McCloskey team undertakes price discovery of the physical iron ore markets on a daily basis according to the specifications outlined in this statement of methodology.

For questions regarding iron ore price assessments, please contact Marian Hookham at MHookham@opisnet.com. OPIS also has compliance staff independent of the editorial group. For more information, please contact OPIS Risk Management and Compliance Director at [OPIS Compliance Team@opisnet.com](mailto:OPIS_Compliance_Team@opisnet.com)

McCloskey publications

McCloskey publishes weekly iron ore market price assessments, market commentary, news, and analysis online through its market and business intelligence platform and in the following publications.

Inside Coal and Steel Raw Materials

Daily intelligence and price updates focusing on the global metallurgical coal markets.

Methodology overview

McCloskey produces physical price assessments, termed "markers," for the major traded global iron ore hub in China. These assessments are published on a Monday in Inside Coal & Steel Raw Materials, on the online platform.

All McCloskey markers share the following features and standards:

Basis of McCloskey coal methodology

McCloskey assesses the iron ore markets using a methodology that has been designed to reflect the way these markets trade. The principle purpose of the methodology is to produce price markers that are fair, consistent and reliable indicators of standard market values in the markets being assessed. As a result, the assessment locations, standard traded units, and other particulars of a marker are determined by industry conventions.

McCloskey uses the trading period deemed by McCloskey, in consultation with the industry, to be the most appropriate to capture market liquidity. In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements as set forth in this Iron Ore Marker Price Methodology and Specifications guide (the "Methodology").

McCloskey markers are informed by data received from active market participants including physical iron ore brokers. Market reporters engage with the industry by proactively polling participants for market data. McCloskey will accept market data from all credible market sources, including electronic trading platforms. McCloskey will accept market data by telephone, instant messenger, email or other means.

McCloskey encourages parties that submit market data to submit all of their market data that falls within the stated methodological criteria for the relevant marker. McCloskey

encourages all sources of market data to submit transaction data from back office functions. McCloskey will seek to ensure, so far as is able and is reasonable, that transaction data submitted are representative of all the submitter's actual physical concluded fixed-priced transactions.

Throughout all markets, McCloskey is constantly seeking to increase the number of companies willing to provide market data. Market reporters are mentored and encouraged to expand their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

Judgment guidelines

As part of the price reporting process, market reporters are required to use their professional judgment, to ensure the reliability of the data and marker compilation process. McCloskey has set forth guidelines throughout this Methodology to ensure that the use of judgment is consistent and fair. These guidelines can be found in the following sections of this Methodology:

- Anomalous or suspicious transactions
- Additional checks and analysis
- Comparative markets
- Transactions and survey weightings

McCloskey has developed a Global Price Reporting Manual that details the process for compiling each specific marker. In addition, McCloskey has developed a programme of training and oversight of market reporters that helps ensure uniformity in the application of judgment. The key elements of this programme include:

1. An initial course of training that explains and defines the parameters for the exercise of judgment
2. Suitably sourced staffing to ensure proper backup for sick days, vacations, etc.
3. Oversight of reporting teams by experienced market editors that are involved in daily mentoring and assisting in the application of judgment

4. A requirement that market editors sign-off on all markers.

Market data application and thresholds

The specifications defined in the methodology and data used to compile each marker is deemed to be the most representative for that market. McCloskey will utilize various types of market data in compiling its markers, including:

- Transactions
- Bids and offers
- Other market information

Transaction information is the preferred source of data for the markers. However, depending on the liquidity of the markets being assessed, other information can be and is used, such as bids and offers and other market information. This can be in combination with transactions, or can substitute transactions, depending on the market liquidity and specific market circumstances.

Consequently, in most markets there will be a relatively higher rank given to transactions over bids and offers and other market information in the compilation process.

McCloskey does not establish strict thresholds based on a count of completed transactions. McCloskey does, however, use transaction levels to determine the weighting between weighted average of price transactions and other market information [see "Transactions and Survey Weightings" below]. A strict adherence to a transaction-based threshold could lead to unreliable and non-representative markers because of the varying logistics found in coal markets, which determine the typical size of the transaction.

In many markets, McCloskey has established minimum tonnage for transactions which will be accepted as market data. For those markers that are not used to settle derivatives, if the submitted data falls below the stated threshold for any reason, McCloskey will follow the

procedures outlined elsewhere in this document regarding the exercise of judgment in the price assessment process.

Verification of transaction data

Market reporters carefully evaluate all data gathered before it is used in the price compilation process. These data inputs include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of a marker. Specific to transactions and bids and offers, market reporters seek to verify and validate the price, volume, specifications, and location basis, and with regard just to transactions, the counterparties. Market reporters examine all the reported transactions to avoid duplication.

In order to promote transparency in the coal markets, McCloskey seeks to inform the market of any deals it identifies and significant movements of bids and offers through the Newswire service (daily), the McCloskey Fax (weekly) and through the other relevant McCloskey publications. For some assessments, full details of the transactions verified, including price, basis, delivery/loading period and volume information, are published and are accessible to subscribers. This allows subscribers to cross check and verify the deals against the prices.

Scrutiny of transactions

McCloskey has created guidelines that control the exercise of judgment by its market reporters. Market reporters are trained to identify anomalous or suspicious transactional data that merit further investigation to verify if they are bona fide data for inclusion in the index compilation process. If a transaction has been identified by a market reporter as anomalous or suspicious, it will be escalated to the markets editor. Further checks and analysis will be

conducted by the markets editor when an anomalous or suspicious transaction is identified for further examination.

Anomalous or suspicious market data

The following types of market data have been identified by McCloskey as potentially anomalous or suspicious:

- Transactions not transacted at arm's length, including deals between related parties or affiliates.
- Transaction prices that fall outside of the generally observed bids and offers that operated throughout the trading period.
- In the absence of observed bids and offers, transaction prices that deviate significantly from transactions seen for that trading period.
- Assessments of fair value that fall outside the reasonable parameters set by transactional information.
- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction [excluding EFP¹ and sleeve trades²].
- Transactions, bids and offers that deviate from the typical transaction volumes seen in that market.

Any other transaction details that appear to stray from the usual trading behaviour seen in that market, including, but not limited to:

- repeated trading activity in periods or pools of potentially low liquidity, such as the margins of the defined trading window (such as very early or very late deals);
- counterparties not typically seen, – divergent specifications and – unusual delivery locations;
- or specific delivery location in a port range that may have time specific issues affecting price;

¹ . An EFP deal is initially executed at a fixed price and is then broken down into two parts: one part being a physical deal done on an index basis, while a paper position of equivalent size is taken in the same direction as the physical deal. This is done in a way that adds up to the same as the

strike price and all elements of the EFP deal are executed at the same time.

² . Sleeve deals are deals executed using a third-party credit sleeve because the buyer and seller are unable to transact directly because of credit issues. The third-party credit sleeve is not exploiting an arbitrage opportunity.

- This will include transactions that are identified by other market participants as being, for any reason, potentially anomalous
- Discrepancy in transaction details reported by counterparties

Additional checks and analysis

The markets editor and market reporter(s) will undertake the following transactional and source analysis when a potentially anomalous or suspicious transaction is identified for further examination.

They will assess the following transaction-based factors:

- The nature of the linkage of the perceived anomalous or suspicious transaction to other possible transactions
- The differences between counterparties on transactional details
- The impact of other factors on price and/or volume, including scheduling and logistic issues, demurrage issues and credit issues

The markets editor will also assess the following source-based factors:

- Whether the explanation provided by the source for the outlying nature of the transaction is plausible
- The credibility of the sources³
- Whether the timing of the provision of information impacts the verification and validation process

Should this process determine that a transaction be excluded from the price assessment process, the markets editor will approve the exclusion and document the rationale. For markers used to settle derivatives, McCloskey has established internal procedures that involve escalating review within McCloskey management and, if necessary, notification and escalation of inquiry within the source's company.

Comparative markets

There exist tight price correlations between certain coal markets and the premiums and discounts between these markets, which are constantly assessed and compared by market participants. By polling and entering into dialogue with the market, market reporters are able to quantify these relative values. Accordingly, in certain assessments when no relevant or insufficient market data exists, market reporters will make an assessment of market value using some or all of the following comparative metrics.

- Comparison to another market hub for the same quality of iron ore
- Comparison to a more actively traded but slightly different specification or quality in the same
- market hub
- Other metrics, such as demand and supply data

Corrections to markers

If warranted by the circumstances, McCloskey may publish corrections to markers after the publication date. McCloskey will typically correct material errors that arise from the improper entry of information, the erroneous calculation of market data, misreported information or the incorrect application of the stated methodology. However, McCloskey will not retroactively assess markers based solely on new information learned after the publication date of the relevant marker. Corrections to markers will be conducted in accordance with the Price Assessments Correction policy.

Compliance and ethics

McCloskey has implemented extensive compliance policies and procedures in accordance with the best practices of the price reporting industry. These include a comprehensive ethics policy that applies to all

³ . Sources will be deemed more credible if they (i) adhere to the reporting standards outlined in this Methodology; (ii) quickly respond to queries from market reporters; and (iii) have staff designated to respond to such queries.

the McCloskey Price Reporting staff. The Code of Ethics Manual is an expression of OPIS' intent to set out ideals for the ethical conduct of Price Reporting personnel in the performance of their iron ore price assessment activities.

Review of methodology

In order to ensure that they are representative of the market being assessed, McCloskey conducts reviews of its methodologies on both an internal and external basis. McCloskey conducts a formal review of all of its methodologies and attendant documents on at least an annual basis. Externally, McCloskey is in regular contact with market participants as such market participants are not only well-situated to know the particulars of the market, but have a vested interest in the implementation of accurate and relevant methodologies. When conducting its reviews, McCloskey will consider a myriad of factors, including, but not limited to, activity in the market, visibility of market data and current and anticipated industry usage of the marker.

If the review process recommends a material change to the methodology, or termination of an existing benchmark, the markets editor will submit a proposal to McCloskey Editorial management for review.

Changes to methodology

If either an internal or external review of a methodology results in a potential material change to the methodology or cessation of a benchmark, McCloskey will begin formal procedures for external consultation. Materiality is subject to professional judgment and takes into account the impact of the proposed change on the decision making of stakeholders. The Methodology Changes and Cessation Policy.

The Market

McCloskey markers assess physical business for delivery or loading largely over a prompt two calendar month period. To merit inclusion in the McCloskey assessment process, transactional

data and survey responses must meet standard specification guidelines. All international traded prices are assessed in US dollars and US cents per metric tonne.

McCloskey assesses iron ore markers on a weekly basis. The prices for physical deals for the McCloskey weekly iron ore markers are averaged over the week.

Transactional data

Fixed price trades which meet McCloskey Iron Ore marker specifications and within the trade window will be normalized to Marker's standard specification. Floating price trades which meet McCloskey Iron Ore marker specifications and within the trade window will be converted to the current month fixed price trades, based on the forward price curve, then to be normalized to the Marker's standard specification.

Bids/offers, evidential bids/offers which meet McCloskey Iron Ore marker specifications and within the trade window will be normalized to the Marker's standard specification. 'Evidential' bid/offer data is classified as offers lower than the previous day's transactional data's value in the week, or bids higher than the previous day's transactional data's value in the week.

McCloskey also undertakes a weekly survey of the market. McCloskey enters into a dialogue with the survey participants using the information McCloskey has built up in terms of deals done and bid and offer values over the week. Market participants are asked where they see the market in terms of deals done and bid/offer levels through the week and where they would assess the market.

Comparative markets will be considered in the absence of trades and bids/offers for the limited liquid marker.

The relative value ascribed to trades, bids and offers and survey depends on levels of activity across the week regarding the transactions. Judgment will be used to assign greater weightings to transactions and bids/offer information with surveys employed in the absence of the above.

Marker timing

Weekly markers

The cut off point for trades and survey numbers being accepted for inclusion in the formation of the Asian markers is 18:00, Singapore time, on Friday. Deals done after this time will not be included in the weekly markers compilation.

On days before major holidays the index trade and survey deadlines may be brought forward in line with market participants working schedules. These days are usually over the Christmas/New Year period. Market participants will be informed of any such changes to assessment times.

Trade window and monthly rollovers

Cargo delivered in 2-8 weeks from the date of the trade/assessment collection.

Iron Ore markers

China Fines (India 57%) CFR marker

The China Fines (India 57%) CFR marker is a weekly marker assessing the price of 57% Fe content Iron Ore fines shipped from the east coast of India to North China (basis Qingdao Port). Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following quality parameters:

Fe content: 57% [56%-57%]

Silica: 5% [Max 6%]

Alumina: 4.5% [Max 6%]

Phosphorus: 0.07% [Max 0.1%]

Sulfur: 0.04% [Max 0.06%]

Moisture: 11% [Max 12%]

The minimum cargo size is 40,000 t.

64% Pellet CFR North China

The 64% Pellets CFR North China marker is a weekly marker assessing the price of 64% Fe content Iron Ore Pellets basis Qingdao Port, North China. Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following quality parameters:

Fe content: 64% [63.5%-65%]

Silica: 4% [Max 5%]

Alumina: 2.25% [Max 3.5%]

Phosphorus: 0.07% [Max 0.09%]

Sulfur: 0.01% [Max 0.03%]

Cold Crushing Strength: 240 daN

Size: Max 5% < 5mm

The minimum cargo size is 40,000 t.

62% Fines CFR North China

The 62% Fines CFR North China marker is a weekly marker assessing the price of 62% Fe content Iron Ore fines basis Qingdao Port, North China. Prices are assessed in US dollar per dry metric tonne (dmt).

This marker reflects the following quality parameters:

Fe content: 62% [60%-63.5%]

Silica: 4% [Max 7%]

Alumina: 2.25% [Max 4%]

Phosphorus: 0.09% [Max 0.1%]

Sulfur: 0.02% [Max 0.08%]

Moisture: 8%

The minimum cargo size is 40,000t

62% Lump premium CFR North China

The 62% Lump premium marker is a weekly marker assessing the Lump premium on the 62% Fe fines marker. Prices are assessed in US cent per dry metric tonne unit (¢/dmtu) and on CFR North China basis.

This marker reflects the following quality parameters:

Fe content: 62% [60%-63.5%]

Silica: 3.5% [Max 7%]

Alumina: 1.5% [Max 4%]
Phosphorus: 0.08% [Max 0.1%]
Sulfur: 0.02% [Max 0.08%]
Moisture: 4%
Size: Max 15% <6.3mm, max20%>31.5mm

The minimum cargo size is 40,00 t

Indian Sponge Iron marker

The sponge iron price ex-works Durgapur (India) is a weekly marker assessing the price of sponge iron lump produced by using iron ore and thermal coal as inputs and sold to domestic consumers. The price does not include any local taxes. The minimum cargo size is 100 t. Prices are assessed in Indian rupees per tonne (t). The prices are converted to US dollar equivalent by referring to the official exchange rate published by the Reserve Bank of India.

This marker reflects the following quality parameters:

Fe content (metallic): 80% [78%-82%]
Fe content (total): 90% [88%-92%]
Sulphur: 0.03%-0.05%
Phosphorus: 0.05%-0.10%
Carbon: 0.1%-0.25%
Non-magnetics: 1% max

Vietnam HRC CFR

The hot-rolled coil (HRC) CFR Vietnam price is a weekly marker assessing the delivered price of HRC steel product into Vietnam. Prices are assessed in US dollars per metric tonne (t).

This marker reflects the widely accepted SAE1006 quality parameter which sets the quality of cold rollinggrade steel used for making automobile, equipment, and white good panels.

Specifications are as follows:

Width: up to 20mm
Thickness: 2-3mm
Minimum cargo size: 5,000t

Contacts

John Howland
Vice President, OPIS
jhowland@opisnet.com

Marian Hookham
Director
mhookham@opisnet.com

Prasenjit Bhattacharya
Associate Director
pbhattacha@opisnet.com

Andrew Thompson
Manager, Coal Markers
athompson@opisnet.com

Christiana Bello
OPIS Risk Management and Compliance Director
OPIS.Compliance.Team@opisnet.com

OPIS Customer Care

energycs@opisnet.com
International: +1 301 284 2000
North America: +1 888 301 2645
[Toll- free within the U.S.]

Disclaimer

The information contained in this report is confidential. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of McCloskey or any of its affiliates ("McCloskey") is strictly prohibited. McCloskey owns all McCloskey logos and trade names contained in this report that are subject to license. Opinions, statements, estimates, and projections in this report (including other media) are solely those of the individual author(s) at the time of writing and do not necessarily reflect the opinions of McCloskey. Neither McCloskey nor the author(s) has any obligation to update this report in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. McCloskey makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this

report, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, McCloskey shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by McCloskey should not be understood to be an endorsement of that website or the site's owners (or their products/services). McCloskey is not responsible for either the content or output of external websites. © 2022 Dow Jones Energy Limited. All rights reserved and all intellectual property rights are retained by McCloskey.